
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, 2017
Commission file number 001-14905

BERKSHIRE HATHAWAY INC.

(Exact name of Registrant as specified in its charter)

Delaware
State or other jurisdiction of
incorporation or organization

3555 Farnam Street, Omaha, Nebraska
(Address of principal executive office)

47-0813844
(I.R.S. Employer
Identification Number)

68131
(Zip Code)

Registrant's telephone number, including area code (402) 346-1400

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

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Class A common stock, \$5.00 Par Value	New York Stock Exchange
Class B common stock, \$0.0033 Par Value	New York Stock Exchange

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, 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 and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulations S-T during the preceding 12 months. Yes ☒ No ☐

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

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

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

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

State the aggregate market value of the voting stock held by non-affiliates of the Registrant as of June 30, 2017: \$327,898,000,000*

Indicate number of shares outstanding of each of the Registrant's classes of common stock:

February 13, 2018—Class A common stock, \$5 par value	748,745 shares
February 13, 2018—Class B common stock, \$0.0033 par value	1,344,332,039 shares

DOCUMENTS INCORPORATED BY REFERENCE

<u>Document</u>	<u>Incorporated In</u>
Proxy Statement for Registrant's Annual Meeting to be held May 5, 2018	Part III

* This aggregate value is computed at the last sale price of the common stock on June 30, 2017. It does not include the value of Class A common stock (312,306 shares) and Class B common stock (64,664,309 shares) held by Directors and Executive Officers of the Registrant and members of their immediate families, some of whom may not constitute "affiliates" for purpose of the Securities Exchange Act of 1934.

Table of Contents

Page No.

Part I

Item 1.	Business Description	K-1
Item 1A.	Risk Factors	K-22
Item 1B.	Unresolved Staff Comments	K-25
Item 2.	Description of Properties	K-25
Item 3.	Legal Proceedings	K-29
Item 4.	Mine Safety Disclosures	K-29

Part II

Item 5.	Market for Registrant's Common Equity, Related Security Holder Matters and Issuer Purchases of Equity Securities	K-30
Item 6.	Selected Financial Data	K-31
Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	K-32
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	K-60
Item 8.	Financial Statements and Supplementary Data	K-61
	Consolidated Balance Sheets—	
	December 31, 2017 and December 31, 2016	K-62
	Consolidated Statements of Earnings—	
	Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-64
	Consolidated Statements of Comprehensive Income—	
	Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-65
	Consolidated Statements of Changes in Shareholders' Equity—	
	Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-65
	Consolidated Statements of Cash Flows—	
	Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-66
	Notes to Consolidated Financial Statements	K-67
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	K-104
Item 9A.	Controls and Procedures	K-104
Item 9B.	Other Information	K-104

Part III

Item 10.	Directors, Executive Officers and Corporate Governance	K-104
Item 11.	Executive Compensation	K-104
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	K-104
Item 13.	Certain Relationships and Related Transactions and Director Independence	K-104
Item 14.	Principal Accountant Fees and Services	K-104

Part IV

Item 15.	Exhibits and Financial Statement Schedules	K-105
	Exhibit Index	K-108
	Signatures	K-109

Part I

Item 1. Business Description

Berkshire Hathaway Inc. (“Berkshire,” “Company” or “Registrant”) is a holding company owning subsidiaries engaged in a number of diverse business activities. The most important of these are insurance businesses conducted on both a primary basis and a reinsurance basis, a freight rail transportation business and a group of utility and energy generation and distribution businesses. Berkshire also owns and operates a large number of other businesses engaged in a variety of activities, as identified herein. Berkshire is domiciled in the state of Delaware, and its corporate headquarters are located in Omaha, Nebraska.

Berkshire’s operating businesses are managed on an unusually decentralized basis. There are essentially no centralized or integrated business functions (such as sales, marketing, purchasing, legal or human resources) and there is minimal involvement by Berkshire’s corporate headquarters in the day-to-day business activities of the operating businesses. Berkshire’s corporate senior management team participates in and is ultimately responsible for significant capital allocation decisions, investment activities and the selection of the Chief Executive to head each of the operating businesses. It also is responsible for establishing and monitoring Berkshire’s corporate governance practices, including, but not limited to, communicating the appropriate “tone at the top” messages to its employees and associates, monitoring governance efforts, including those at the operating businesses, and participating in the resolution of governance-related issues as needed.

Berkshire and its consolidated subsidiaries employ approximately 377,000 people worldwide.

Insurance and Reinsurance Businesses

Berkshire’s insurance and reinsurance business activities are conducted through numerous domestic and foreign-based insurance entities. Berkshire’s insurance businesses provide insurance and reinsurance of property and casualty risks and also reinsure life, accident and health risks worldwide.

In direct or primary insurance activities, the insurer assumes the risk of loss from persons or organizations that are directly subject to the risks. Such risks may relate to property, casualty (or liability), life, accident, health, financial or other perils that may arise from an insurable event. In reinsurance activities, the reinsurer assumes defined portions of risks that other direct insurers or reinsurers have assumed in their own insuring activities.

Reinsurance contracts are normally classified as treaty or facultative contracts. Treaty reinsurance refers to reinsurance coverage for all or a portion of a specified group or class of risks ceded by the direct insurer, while facultative reinsurance involves coverage of specific individual underlying risks. Reinsurance contracts are further classified as quota-share or excess. Under quota-share (proportional or pro-rata) reinsurance, the reinsurer shares proportionally in the original premiums and losses of the direct insurer or reinsurer. Excess (or non-proportional) reinsurance provides for the indemnification of the direct insurer or reinsurer for all or a portion of the loss in excess of an agreed upon amount or “retention.” Both quota-share and excess reinsurance contracts may provide for aggregate limits of indemnification.

Insurance and reinsurance are generally subject to regulatory oversight throughout the world. Except for regulatory considerations, there are virtually no barriers to entry into the insurance and reinsurance industry. Competitors may be domestic or foreign, as well as licensed or unlicensed. The number of competitors within the industry is not known. Insurers and reinsurers compete on the basis of reliability, financial strength and stability, financial ratings, underwriting consistency, service, business ethics, price, performance, capacity, policy terms and coverage conditions.

Insurers based in the United States (“U.S.”) are subject to regulation by their states of domicile and by those states in which they are licensed to write policies on an admitted basis. The primary focus of regulation is to assure that insurers are financially solvent and that policyholder interests are otherwise protected. States establish minimum capital levels for insurance companies and establish guidelines for permissible business and investment activities. States have the authority to suspend or revoke a company’s authority to do business as conditions warrant. States regulate the payment of dividends by insurance companies to their shareholders and other transactions with affiliates. Dividends, capital distributions and other transactions of extraordinary amounts are subject to prior regulatory approval.

Insurers may market, sell and service insurance policies in the states where they are licensed. These insurers are referred to as admitted insurers. Admitted insurers are generally required to obtain regulatory approval of their policy forms and premium rates. Non-admitted insurance markets have developed to provide insurance that is otherwise unavailable through admitted insurers. Non-admitted insurance, often referred to as “excess and surplus” lines, is procured by either state-licensed surplus lines brokers who place risks with insurers not licensed in that state or by the insured party’s direct procurement from non-admitted insurers. Non-admitted insurance is subject to considerably less regulation with respect to policy rates and forms. Reinsurers are normally not required to obtain regulatory approval of premium rates or reinsurance contracts.

The insurance regulators of every state participate in the National Association of Insurance Commissioners (“NAIC”). The NAIC adopts forms, instructions and accounting procedures for use by U.S. insurers and reinsurers in preparing and filing annual statutory financial statements. However, an insurer’s state of domicile has ultimate authority over these matters. In addition to its activities relating to the annual statement, the NAIC develops or adopts statutory accounting principles, model laws, regulations and programs for use by its members. Such matters deal with regulatory oversight of solvency, risk management, compliance with financial regulation standards and risk-based capital reporting requirements.

Berkshire’s insurance companies maintain capital strength at exceptionally high levels, which differentiates them from their competitors. Collectively, the combined statutory surplus of Berkshire’s U.S. based insurers was approximately \$170 billion at December 31, 2017. Berkshire’s major insurance subsidiaries are rated AA+ by Standard & Poor’s and A++ (superior) by A.M. Best with respect to their financial condition and claims paying ability.

The Terrorism Risk Insurance Act of 2002 established within the Department of the Treasury a Terrorism Insurance Program (“Program”) for commercial property and casualty insurers by providing federal reinsurance of insured terrorism losses. The Program currently extends to December 31, 2020 through other Acts, most recently the Terrorism Risk Insurance Program Reauthorization Act of 2015 (the “2015 TRIA Reauthorization”). Hereinafter these Acts are collectively referred to as TRIA. Under TRIA, the Department of the Treasury is charged with certifying “acts of terrorism.” During 2018, coverage under TRIA will occur if the industry insured loss for certified events occurring during the calendar year exceeds \$160 million. Under the 2015 TRIA Reauthorization, the level of insured losses for certified events occurring during the calendar year required to trigger coverage under TRIA will increase annually by \$20 million per year until the level of insured losses required to trigger coverage reaches \$200 million in 2020. To be eligible for federal reinsurance, insurers must make available insurance coverage for acts of terrorism, by providing policyholders with clear and conspicuous notice of the amount of premium that will be charged for this coverage and of the federal share of any insured losses resulting from any act of terrorism. Assumed reinsurance is specifically excluded from TRIA participation. TRIA currently also excludes certain forms of direct insurance (such as personal and commercial auto, burglary, theft, surety and certain professional liability lines). Reinsurers are not required to offer terrorism coverage and are not eligible for federal reinsurance of terrorism losses.

During 2018, in the event of a certified act of terrorism, the federal government will reimburse insurers (conditioned on their satisfaction of policyholder notification requirements) for 82% of their insured losses in excess of an insurance group’s deductible. Under the 2015 TRIA Reauthorization, the federal government’s reimbursement obligation will be reduced annually by 1% per year until the level of reimbursement is reduced to 80% in 2020. Under the Program, the deductible is 20% of the aggregate direct subject earned premium for relevant commercial lines of business in the immediately preceding calendar year. The aggregate deductible in 2018 for Berkshire’s insurance group is expected to approximate \$1.1 billion. There is also an aggregate limit of \$100 billion on the amount of the federal government coverage for each TRIA year.

Regulation of the insurance industry outside of the United States is subject to the laws and regulations of each country in which an insurer has operations or writes premiums. Some jurisdictions impose comprehensive regulatory requirements on insurance businesses, such as in the United Kingdom, where insurers are subject to regulation by the Prudential Regulation Authority and the Financial Conduct Authority and in Germany where insurers are subject to regulation by the Federal Financial Supervisory Authority (BaFin). Other jurisdictions may impose fewer requirements. In certain foreign countries, reinsurers are also required to be licensed by governmental authorities. These licenses may be subject to modification, suspension or revocation dependent on such factors as amount and types of insurance liabilities and minimum capital and solvency tests. The violation of regulatory requirements may result in fines, censures and/or criminal sanctions in various jurisdictions.

Berkshire’s insurance underwriting operations include the following groups: (1) GEICO, (2) Berkshire Hathaway Reinsurance Group and (3) Berkshire Hathaway Primary Group. Except for retroactive reinsurance and periodic payment annuity products that generate significant amounts of up-front premiums along with estimated claims expected to be paid over very long periods of time (creating “float,” see Investments section below), Berkshire expects to achieve a net underwriting profit over time and to reject inadequately priced risks. Underwriting profit is defined as earned premiums less associated incurred losses, loss adjustment expenses and underwriting and policy acquisition expenses. Underwriting profit does not include investment income earned from investments. Berkshire’s insurance businesses employ approximately 47,000 people. Additional information related to each of Berkshire’s underwriting groups follows.

GEICO—GEICO is headquartered in Chevy Chase, Maryland and its insurance subsidiaries consist of: Government Employees Insurance Company, GEICO General Insurance Company, GEICO Indemnity Company, GEICO Casualty Company, GEICO Advantage Insurance Company, GEICO Choice Insurance Company, GEICO Secure Insurance Company, GEICO County Mutual Insurance Company and GEICO Marine Insurance Company. These companies primarily offer private passenger automobile insurance to individuals in all 50 states and the District of Columbia. In addition, GEICO insures motorcycles, all-terrain vehicles, recreational vehicles, boats and small commercial fleets and acts as an agent for other insurers who offer homeowners, renters, boat, life and identity

management insurance to individuals who desire insurance coverages other than those offered by GEICO. GEICO markets its policies primarily through direct response methods in which applications for insurance are submitted directly to the companies via the Internet or by telephone.

The automobile insurance business is highly competitive in the areas of price and service. Some insurance companies may exacerbate price competition by selling their products for a period of time at less than adequate rates. GEICO will not knowingly follow that strategy. GEICO competes for private passenger automobile insurance customers in the preferred, standard and non-standard risk markets with other companies that sell directly to the customer as well as with companies that use agency sales forces, including State Farm, Allstate (including Esurance), Progressive and USAA. As a result of an aggressive advertising campaign and competitive rates, voluntary policies-in-force have increased about 41% over the past five years. According to most recently published A.M. Best data for 2016, the five largest automobile insurers had a combined market share in 2016 of approximately 55%, with GEICO's market share being second largest at approximately 11.9%. Since the publication of that data, management estimates that GEICO's current market share has grown to approximately 12.8%. Seasonal variations in GEICO's insurance business are not significant. However, extraordinary weather conditions or other factors may have a significant effect upon the frequency or severity of automobile claims.

Private passenger auto insurance is strictly regulated by state insurance departments. As a result, it is difficult for insurance companies to differentiate their products. Competition for private passenger automobile insurance, which is substantial, tends to focus on price and level of customer service provided. GEICO's cost-efficient direct response marketing methods and emphasis on customer satisfaction enable it to offer competitive rates and value to its customers. GEICO primarily uses its own claims staff to manage and settle claims. The name and reputation of GEICO is a material asset and management protects it and other service marks through appropriate registrations.

Berkshire Hathaway Reinsurance Group—Berkshire's combined global reinsurance business, referred to as the Berkshire Hathaway Reinsurance Group ("BHRG"), offers a wide range of coverages on property, casualty, life and health risks to insurers and reinsurers worldwide. Reinsurance business is written through National Indemnity Company ("NICO"), domiciled in Nebraska, its subsidiaries and various other insurance subsidiaries wholly owned by Berkshire (collectively, the "NICO Group") and General Reinsurance Corporation ("GRC"), domiciled in Delaware, and its subsidiaries (collectively the "General Re Group"). BHRG's underwriting operations in the U.S. are headquartered in Stamford, Connecticut and it also conducts business activities globally in 23 countries.

The type and volume of business written is dependent on market conditions, including prevailing premium rates and coverage terms. The level of underwriting activities often fluctuates significantly from year to year depending on the perceived level of price adequacy in specific insurance and reinsurance markets as well as from the timing of particularly large reinsurance transactions.

Property/casualty

The NICO Group offers traditional property/casualty reinsurance on both an excess-of-loss and a quota-share basis, catastrophe excess-of-loss treaty and facultative reinsurance, and primary insurance on an excess-of-loss basis for large or unusual risks for clients worldwide. The NICO Group periodically participates in underwriting placements with major brokers in the London Market through Berkshire Hathaway Insurance International, Ltd., based in Great Britain. Business is written through intermediary brokers or directly with the insured or reinsured. NICO also occasionally writes retroactive reinsurance contracts, which cover past loss events arising from property and casualty contracts written by ceding insurers and reinsurers.

The type and volume of business written by the NICO Group may vary significantly from period to period resulting from changes in perceived premium rate adequacy and from unique or large transactions. A significant portion of NICO Group's annual reinsurance premium volume currently derives from a 10-year, 20% quota-share agreement with Insurance Australia Group Limited ("IAG") that became effective July 1, 2015. IAG is a multi-line insurer in Australia, New Zealand and other Asia Pacific countries.

The General Re Group conducts a global property and casualty reinsurance business. Contracts are written on both a quota-share and excess basis for multiple lines of business. Contracts are primarily in the form of treaties, and to a lesser degree, on a facultative basis.

General Re Group's business in North America is primarily conducted through GRC, which is licensed in the District of Columbia and all states, except Hawaii, where it is an accredited reinsurer. Operations in North America are conducted from its headquarters in Stamford, Connecticut and through 13 branch offices in the U.S. and Canada. Reinsurance activities are primarily marketed directly to clients without involving a broker or intermediary.

In North America, the General Re Group also includes General Star National Insurance Company, General Star Indemnity Company and Genesis Insurance Company, which underwrite a broad array of specialty and surplus lines and property, casualty and professional liability coverages through a select group of wholesale brokers, manage general underwriters and program administrators, and offer solutions for the unique needs of public entity, commercial and captive customers.

General Re Group's international reinsurance business is conducted on a direct basis through General Reinsurance AG ("GRAG") and through several other subsidiaries and branches in 17 countries. International business is also written through brokers, primarily via Faraday, a wholly-owned subsidiary. Faraday owns the managing agent of Syndicate 435 at Lloyd's and provides capacity and participates in 100% of the results of Syndicate 435.

Retroactive reinsurance

Retroactive reinsurance contracts indemnify ceding companies against the adverse development of claims arising from loss events that have already occurred under property and casualty policies issued in prior years. Coverages under such contracts are provided on an excess basis (above a stated retention) or for losses payable immediately after the inception of the contract. Contracts are normally subject to aggregate limits of indemnification and are occasionally exceptionally large in amount. Significant amounts of asbestos, environmental and latent injury claims may arise under these contracts.

For instance, in January 2017, NICO entered into a retroactive reinsurance agreement with various subsidiaries of American International Group, Inc. (collectively, "AIG"). Under the agreement, NICO agreed to indemnify AIG for 80% of up to \$25 billion in excess of \$25 billion retained by AIG, of losses and allocated loss adjustment expenses with respect to certain commercial insurance loss events occurring in years prior to 2016.

In 2014, NICO entered into a reinsurance contract with Liberty Mutual Insurance Company ("LMIC"). Under the agreement, NICO reinsures substantially all of LMIC's unpaid losses and allocated loss adjustment expense liabilities related to (a) asbestos and environmental claims from policies incepting prior to January 1, 2005, and (b) workers' compensation claims occurrences arising prior to January 1, 2014, subject to an aggregate retention of approximately \$12.5 billion and subject to an aggregate limit of \$6.5 billion.

The concept of time-value-of-money is an important element in establishing retroactive reinsurance contract prices and terms, since the payment of losses are often expected to occur over decades. Expected ultimate losses payable under these policies are normally expected to exceed premiums, thus producing underwriting losses. This business is accepted, in part, because of the large amounts of policyholder funds generated for investment, the economic benefit of which will be reflected through investment results in future periods.

Life/health

The General Re Group also conducts a global life and health reinsurance business. In the U.S. and internationally, the General Re Group writes life, disability, supplemental health, critical illness and long-term care coverages. The life/health business is marketed on a direct basis. In 2017, approximately 33% of life/health net premiums were written in the United States, 23% in Western Europe and the remaining 44% throughout the rest of the world.

Additionally, Berkshire Hathaway Life Insurance Company of Nebraska ("BHLN"), a subsidiary of NICO, writes reinsurance covering various forms of traditional life insurance exposures. BHLN and its affiliates have also periodically reinsured certain guaranteed minimum death, income, and similar benefit coverages on closed-blocks of variable annuity reinsurance contracts.

Periodic payment annuity

BHLN writes periodic payment annuity insurance policies and reinsures existing annuity-like obligations. Under these policies, BHLN receives upfront premiums and agrees in the future to make periodic payments that often extend for decades. These policies, generally relate to the settlement of underlying personal injury or workers' compensation cases of other insurers, and are known as structured settlements. Similar to retroactive reinsurance contracts, time-value-of-money concepts are an important factor in establishing such premiums and underwriting losses are expected from the periodic accretion of time-value discounted liabilities.

Berkshire Hathaway Primary Group—The Berkshire Hathaway Primary Group ("BH Primary") is a collection of independently managed primary insurers that provide a wide variety of insurance coverages to policyholders located principally in the United States. These various operations are discussed below.

NICO and certain affiliates ("NICO Primary") underwrite motor vehicle and general liability insurance to commercial enterprises on both an admitted and excess and surplus basis. This business is written nationwide primarily through insurance agents and brokers and is based in Omaha, Nebraska.

The “Berkshire Hathaway Homestate Companies” (“BHHC”) is a group of insurers offering workers’ compensation, commercial auto and commercial property coverages. BHHC has developed a national reach, with the ability to provide first-dollar and small to large deductible workers’ compensation coverage to employers in all states, except those where coverage is available only through state-operated workers’ compensation funds. BHHC serves a diverse client base. The BHHC business is generated primarily through independent agents and brokers.

Berkshire Hathaway Specialty Insurance (“BH Specialty”) was formed in April 2013. BH Specialty provides primary and excess commercial property, casualty, healthcare professional liability, executive and professional lines, surety and travel insurance and other insurance. BH Specialty writes business on both an excess and surplus lines basis and an admitted basis in the U.S., and on a locally admitted basis outside the U.S. BH Specialty is based in Boston, Massachusetts, with regional offices currently in several cities in the U.S. and international offices in Australia, New Zealand, Hong Kong, Singapore, Canada, Germany, United Kingdom and Macau. BH Specialty currently intends to further expand its operations. BH Specialty writes business through wholesale and retail insurance brokers, as well as managing general agents.

MedPro Group (“MedPro”) is a national leader in offering customized healthcare liability insurance, claims, patient safety and risk solutions to physicians, surgeons, dentists and other healthcare professionals, as well as hospitals, senior care and other healthcare facilities. MedPro has provided insurance coverage to protect healthcare providers against losses since 1899. Its insurance policies are distributed primarily through a nationwide network of appointed agents and brokers. MedPro recently began offering coverage options to healthcare providers in the United Kingdom, France and Singapore, as well as insurance and reinsurance options related to student health insurance programs.

U.S. Investment Corporation (“USIC”) and its subsidiaries are specialty insurers that underwrite commercial, professional and personal lines insurance on an admitted and excess and surplus basis. Policies are marketed in all 50 states and the District of Columbia through wholesale and retail insurance agents. USIC companies also underwrite and market a wide variety of specialty insurance products.

Applied Underwriters, Inc. (“Applied”) is a provider of payroll and insurance services to small and mid-sized employers. Applied, through its subsidiaries principally markets a product that bundles workers’ compensation and other employment related insurance coverages and business services into a seamless package that is designed to remove the burden of administrative and regulatory requirements faced by small to mid-sized employers.

The Berkshire Hathaway GUARD Insurance Companies provide commercial property and casualty insurance coverage to small and mid-sized businesses and are based in Wilkes-Barre, Pennsylvania. Policies are offered through independent agents. Central States Indemnity Company of Omaha, based in Omaha, Nebraska, primarily writes Medicare Supplement insurance and credit insurance.

Investments of insurance businesses—Berkshire’s insurance subsidiaries hold significant levels of invested assets. Invested assets derive from shareholder capital as well as funds provided from policyholders through insurance and reinsurance business (“float”). Float is the approximate amount of net policyholder funds generated through underwriting activities that is available for investment. The major components of float are unpaid losses and loss adjustment expenses, life, annuity and health benefit liabilities, unearned premiums and other policyholder liabilities less premium and reinsurance receivables, deferred policy acquisition costs and deferred charges on reinsurance contracts. On a consolidated basis, float has grown from approximately \$70 billion at the end of 2011 to approximately \$114 billion at the end of 2017, primarily through internal growth. From 2013 through 2016, Berkshire’s cost of float was negative, as its insurance businesses produced net underwriting gains. The cost of average float was approximately 3% in 2017, primarily attributable to sizable catastrophe losses and foreign currency exchange rate losses relating to non-U.S. Dollar denominated reinsurance liabilities.

Investments of insurance subsidiaries include a very large portfolio of publicly-traded equity securities, which are concentrated in relatively few issuers, as well as fixed maturity securities and cash and short-term investments. Investment portfolios are primarily managed by Berkshire’s corporate senior management group. Generally, there are no targeted allocations by investment type or attempts to match investment asset and insurance liability durations. However, investment portfolios have historically included a much greater proportion of equity securities than is customary in the insurance industry.

Railroad Business—Burlington Northern Santa Fe

Burlington Northern Santa Fe, LLC (“BNSF”) is based in Fort Worth, Texas, and through BNSF Railway Company operates one of the largest railroad systems in North America. BNSF had approximately 41,000 employees at the end of 2017.

In serving the Midwest, Pacific Northwest, Western, Southwestern and Southeastern regions and ports of the United States, BNSF transports a range of products and commodities derived from manufacturing, agricultural and natural resource industries. Over half of freight revenues are covered by contractual agreements of varying durations, while the balance is subject to common carrier published prices or quotations offered by BNSF. BNSF's financial performance is influenced by, among other things, general and industry economic conditions at the international, national and regional levels. BNSF's primary routes, including trackage rights, allow it to access major cities and ports in the western and southern United States as well as parts of Canada and Mexico. In addition to major cities and ports, BNSF efficiently serves many smaller markets by working closely with approximately 200 shortline railroads. BNSF has also entered into marketing agreements with other rail carriers, expanding the marketing reach for each railroad and their customers. For the year ending December 31, 2017, approximately 35% of freight revenues were derived from consumer products, 25% from industrial products, 21% from agricultural products and 19% from coal.

Regulatory Matters

BNSF is subject to federal, state and local laws and regulations generally applicable to all of its businesses. Rail operations are subject to the regulatory jurisdiction of the Surface Transportation Board ("STB") of the United States Department of Transportation ("DOT"), the Federal Railroad Administration of the DOT, the Occupational Safety and Health Administration ("OSHA"), as well as other federal and state regulatory agencies and Canadian regulatory agencies for operations in Canada. The STB has jurisdiction over disputes and complaints involving certain rates, routes and services, the sale or abandonment of rail lines, applications for line extensions and construction, and the merger with or acquisition of control of rail common carriers. The outcome of STB proceedings can affect the profitability of BNSF's business.

The DOT and OSHA have jurisdiction under several federal statutes over a number of safety and health aspects of rail operations, including the transportation of hazardous materials. State agencies regulate some aspects of rail operations with respect to health and safety in areas not otherwise preempted by federal law. BNSF Railway is required to transport these materials to the extent of its common carrier obligation.

Environmental Matters

BNSF's rail operations, as well as those of its competitors, are also subject to extensive federal, state and local environmental regulation covering discharges to water, air emissions, toxic substances and the generation, handling, storage, transportation and disposal of waste and hazardous materials. Such regulations effectively increase the costs and liabilities associated with rail operations. Environmental risks are also inherent in rail operations, which frequently involve transporting chemicals and other hazardous materials.

Many of BNSF's land holdings are or were used for industrial or transportation-related purposes or leased to commercial or industrial companies whose activities may have resulted in discharges onto the property. As a result, BNSF is subject to, and will from time to time continue to be subject to, environmental cleanup and enforcement actions. In particular, the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), also known as the Superfund law, generally imposes joint and several liabilities for the cleanup and enforcement costs on current and former owners and operators of a site, without regard to fault or the legality of the original conduct. Accordingly, BNSF may be responsible under CERCLA and other federal and state statutes for all or part of the costs to clean up sites at which certain substances may have been released by BNSF, its current lessees, former owners or lessees of properties, or other third parties. BNSF may also be subject to claims by third parties for investigation, cleanup, restoration or other environmental costs under environmental statutes or common law with respect to properties they own that have been impacted by BNSF operations.

Competition

The business environment in which BNSF operates is highly competitive. Depending on the specific market, deregulated motor carriers and other railroads, as well as river barges, ships and pipelines in certain markets, may exert pressure on price and service levels. The presence of advanced, high service truck lines with expedited delivery, subsidized infrastructure and minimal empty mileage continues to affect the market for non-bulk, time-sensitive freight. The potential expansion of longer combination vehicles could further encroach upon markets traditionally served by railroads. In order to remain competitive, BNSF and other railroads seek to develop and implement operating efficiencies to improve productivity.

As railroads streamline, rationalize and otherwise enhance their franchises, competition among rail carriers intensifies. BNSF's primary rail competitor in the Western region of the United States is the Union Pacific Railroad Company. Other Class I railroads and numerous regional railroads and motor carriers also operate in parts of the same territories served by BNSF. Based on weekly reporting by the Association of American Railroads, BNSF's share of the western United States rail traffic in 2017 was approximately 50.9%.

Utilities and Energy Businesses—Berkshire Hathaway Energy

Berkshire currently owns 90.2% of the outstanding common stock of Berkshire Hathaway Energy Company (“BHE”). BHE is a global energy company with subsidiaries that generate, transmit, store, distribute and supply energy. BHE’s locally managed businesses are organized as separate operating units. BHE’s domestic regulated energy interests are comprised of four regulated utility companies serving approximately 4.9 million retail customers, two interstate natural gas pipeline companies with approximately 16,400 miles of pipeline and a design capacity of approximately 8.1 billion cubic feet of natural gas per day and ownership interests in electricity transmission businesses. BHE’s Great Britain electricity distribution subsidiaries serve about 3.9 million electricity end-users and its electricity transmission-only business in Alberta, Canada serves approximately 85% of Alberta, Canada’s population. BHE’s interests also include a diversified portfolio of independent power projects, the second-largest residential real estate brokerage firm in the United States, and one of the largest residential real estate brokerage franchise networks in the United States. BHE employs approximately 23,000 people in connection with its various operations.

General Matters

PacifiCorp is a regulated electric utility company headquartered in Oregon, serving electric customers in portions of Utah, Oregon, Wyoming, Washington, Idaho and California. The combined service territory’s diverse regional economy ranges from rural, agricultural and mining areas to urban, manufacturing and government service centers. No single segment of the economy dominates the combined service territory, which helps mitigate PacifiCorp’s exposure to economic fluctuations. In addition to retail sales (electricity sold to end-use customers), PacifiCorp sells electricity on a wholesale basis to other electricity retailers and wholesalers.

MidAmerican Energy Company (“MEC”) is a regulated electric and natural gas utility company headquartered in Iowa, serving electric and natural gas customers primarily in Iowa and also in portions of Illinois, South Dakota and Nebraska. MEC has a diverse retail customer base consisting of urban and rural residential customers and a variety of commercial and industrial customers. In addition to retail sales and natural gas transportation, MEC sells electricity principally to markets operated by regional transmission organizations and natural gas on a wholesale basis.

NV Energy, Inc. (“NV Energy”), acquired by BHE on December 19, 2013, is an energy holding company headquartered in Nevada, primarily consisting of two regulated utility subsidiaries, Nevada Power Company (“Nevada Power”) and Sierra Pacific Power Company (“Sierra Pacific”) (collectively, the “Nevada Utilities”). Nevada Power serves retail electric customers in southern Nevada and Sierra Pacific serves retail electric and natural gas customers in northern Nevada. The Nevada Utilities’ combined service territory’s economy includes gaming, mining, recreation, warehousing, manufacturing and governmental services. In addition to retail sales and natural gas transportation, the Nevada Utilities sell electricity and natural gas on a wholesale basis.

As vertically integrated utilities, BHE’s domestic utilities own approximately 27,500 net megawatts of generation capacity in operation and under construction. There are seasonal variations in these businesses that are principally related to the use of electricity for air conditioning and natural gas for heating. Typically, regulated electric revenues are higher in the summer months, while regulated natural gas revenues are higher in the winter months.

The Great Britain distribution companies consist of Northern Powergrid (Northeast) Limited and Northern Powergrid (Yorkshire) plc, which own a substantial electricity distribution network that delivers electricity to end-users in northeast England in an area covering approximately 10,000 square miles. The distribution companies primarily charge supply companies regulated tariffs for the use of their distribution systems.

BHE acquired AltaLink L.P. (“AltaLink”) on December 1, 2014. AltaLink is a regulated electric transmission-only utility company headquartered in Calgary, Alberta. AltaLink connects generation plants to major load centers, cities and large industrial plants throughout its 87,000 square mile service territory.

The natural gas pipelines consist of Northern Natural Gas Company (“Northern Natural”) and Kern River Gas Transmission Company (“Kern River”). Northern Natural, based in Nebraska, owns the largest interstate natural gas pipeline system in the United States, as measured by pipeline miles, reaching from west Texas to Michigan’s Upper Peninsula. Northern Natural’s pipeline system consists of approximately 14,700 miles of natural gas pipelines. Northern Natural’s extensive pipeline system, which is interconnected with many interstate and intrastate pipelines in the national grid system, has access to supplies from multiple major supply basins and provides transportation services to utilities and numerous other customers. Northern Natural also operates three underground natural gas storage facilities and two liquefied natural gas storage peaking units. Northern Natural’s pipeline system experiences significant seasonal swings in demand and revenue, with the highest demand typically occurring during the months of November through March.

Kern River, based in Utah, owns an interstate natural gas pipeline system that consists of approximately 1,700 miles and extends from supply areas in the Rocky Mountains to consuming markets in Utah, Nevada and California. Kern River transports natural gas for electric and natural gas distribution utilities, major oil and natural gas companies or affiliates of such companies, electric generating companies, energy marketing and trading companies, and financial institutions.

BHE Renewables is based in Iowa and owns interests in independent power projects having approximately 4,300 net megawatts of generation capacity that are in service or under construction in California, Illinois, Texas, Nebraska, New York, Arizona, Minnesota, Kansas, Hawaii and the Philippines. These independent power projects sell power generated primarily from solar, wind, geothermal and hydro sources under long-term contracts. Additionally, BHE Renewables has invested approximately \$1 billion in seven wind projects sponsored by third parties, commonly referred to as tax equity investments.

Regulatory Matters

PacifiCorp, MEC and the Nevada Utilities are subject to comprehensive regulation by various federal, state and local agencies. The Federal Energy Regulatory Commission ("FERC") is an independent agency with broad authority to implement provisions of the Federal Power Act, the Natural Gas Act, the Energy Policy Act of 2005 and other federal statutes. The FERC regulates rates for wholesale sales of electricity; transmission of electricity, including pricing and regional planning for the expansion of transmission systems; electric system reliability; utility holding companies; accounting and records retention; securities issuances; construction and operation of hydroelectric facilities; and other matters. The FERC also has the enforcement authority to assess civil penalties of up to \$1.2 million per day per violation of rules, regulations and orders issued under the Federal Power Act. MEC is also subject to regulation by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act of 1954, as amended, with respect to its 25% ownership of the Quad Cities Nuclear Station.

With certain limited exceptions, BHE's domestic utilities have an exclusive right to serve retail customers within their service territories and, in turn, have an obligation to provide service to those customers. In some jurisdictions, certain classes of customers may choose to purchase all or a portion of their energy from alternative energy suppliers, and in some jurisdictions retail customers can generate all or a portion of their own energy. Historically, state regulatory commissions have established retail electric and natural gas rates on a cost-of-service basis, which are designed to allow a utility an opportunity to recover what each state regulatory commission deems to be the utility's reasonable costs of providing services, including a fair opportunity to earn a reasonable return on its investments based on its cost of debt and equity. The retail electric rates of PacifiCorp, MEC and the Nevada Utilities are generally based on the cost of providing traditional bundled services, including generation, transmission and distribution services.

Northern Powergrid (Northeast) and Northern Powergrid (Yorkshire) each charge fees for the use of their distribution systems that are controlled by a formula prescribed by the British electricity regulatory body, the Gas and Electricity Markets Authority. The current eight-year price control period runs from April 1, 2015 through March 31, 2023.

AltaLink is regulated by the Alberta Utilities Commission ("AUC"), pursuant to the Electric Utilities Act (Alberta), the Public Utilities Act (Alberta), the Alberta Utilities Commission Act (Alberta) and the Hydro and Electric Energy Act (Alberta). The AUC is an independent quasi-judicial agency with broad authority that may impact many of AltaLink's activities, including its tariffs, rates, construction, operations and financing. Under the Electric Utilities Act, AltaLink prepares and files applications with the AUC for approval of tariffs to be paid by the Alberta Electric System Operator ("AESO") for the use of its transmission facilities, and the terms and conditions governing the use of those facilities. The AESO is the independent system operator in Alberta, Canada that oversees Alberta's integrated electrical system ("AIES") and wholesale electricity market. The AESO is responsible for directing the safe, reliable and economic operation of the AIES, including long-term transmission system planning.

The natural gas pipelines are subject to regulation by various federal, state and local agencies. The natural gas pipeline and storage operations of Northern Natural and Kern River are regulated by the FERC pursuant to the Natural Gas Act and the Natural Gas Policy Act of 1978. Under this authority, the FERC regulates, among other items, (a) rates, charges, terms and conditions of service and (b) the construction and operation of interstate pipelines, storage and related facilities, including the extension, expansion or abandonment of such facilities. Interstate natural gas pipeline companies are also subject to regulations administered by the Office of Pipeline Safety within the Pipeline and Hazardous Materials Safety Administration, an agency within the DOT. Federal pipeline safety regulations are issued pursuant to the Natural Gas Pipeline Safety Act of 1968, as amended, which establishes safety requirements in the design, construction, operation and maintenance of interstate natural gas pipeline facilities.

Environmental Matters

BHE and its energy businesses are subject to federal, state, local and foreign laws and regulations regarding air and water quality, renewable portfolio standards, emissions performance standards, climate change, coal combustion byproduct disposal, hazardous and solid waste disposal, protected species and other environmental matters that have the potential to impact current and future operations. In addition to imposing continuing compliance obligations, these laws and regulations, such as the Federal Clean Air Act, provide regulators with the authority to levy substantial penalties for noncompliance, including fines, injunctive relief and other sanctions.

The Federal Clean Air Act, as well as state laws and regulations impacting air emissions, provides a framework for protecting and improving the nation's air quality and controlling sources of air emissions. These laws and regulations continue to be promulgated and implemented and will impact the operation of BHE's generating facilities and require them to reduce emissions at those facilities to comply with the requirements.

Renewable portfolio standards have been established by certain state governments and generally require electricity providers to obtain a minimum percentage of their power from renewable energy resources by a certain date. Utah, Oregon, Washington, California, Iowa and Nevada have adopted renewable portfolio standards. In addition, the potential adoption of state or federal clean energy standards, which include low-carbon, non-carbon and renewable electricity generating resources, may also impact electricity generators and natural gas providers.

In December 2015, an international agreement was negotiated by 195 nations to create a universal framework for coordinated action on climate change in what is referred to as the Paris Agreement. The Paris Agreement reaffirms the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees Celsius; establishes commitments by all parties to make nationally determined contributions and pursue domestic measures aimed at achieving the commitments; commits all countries to submit emissions inventories and report regularly on their emissions and progress made in implementing and achieving their nationally determined commitments; and commits all countries to submit new commitments every five years, with the expectation that the commitments will get more aggressive. In the context of the Paris Agreement, the United States agreed to reduce greenhouse gas emissions 26% to 28% by 2025 from 2005 levels. The Paris Agreement formally entered into force November 4, 2016.

Supporting the United States' commitment under the Paris Agreement was the Clean Power Plan, which was finalized by the U.S. Environmental Protection Agency ("EPA") in August 2015. The Clean Power Plan established the Best System of Emission Reduction for fossil-fueled power plants to include: (a) heat rate improvements; (b) increased utilization of existing combined-cycle natural gas-fueled generating facilities; and (c) increased deployment of new and incremental non-carbon generation placed in service after 2012. The final Clean Power Plan compliance obligations were scheduled to begin in 2022, and extend through 2030, when fully implemented, the rule was intended to achieve an overall reduction in carbon dioxide emissions from existing fossil-fueled electric generating units of 32% below 2005 levels.

On June 1, 2017, President Trump announced that the United States would begin the process of withdrawing from the Paris Agreement. Under the terms of the Paris Agreement, withdrawal cannot occur until four years after entry into force, making the United States withdrawal effective in November 2020. The EPA issued a proposal to repeal the Clean Power Plan on October 10, 2017, which has not yet been finalized. On December 28, 2017, the EPA issued an Advance Notice of Proposed Rulemaking regarding the Clean Power Plan to solicit comment from the public as the agency considers proposing a future rule establishing emission guidelines for greenhouse gas emissions from existing electric generating units. The full impacts of the EPA's recent efforts to repeal the Clean Power Plan are not expected to have a material impact on BHE and its energy subsidiaries. Increasingly, states are adopting legislation and regulations to reduce greenhouse gas emissions, and local governments and consumers are seeking increasing amounts of clean and renewable energy.

BHE and its energy subsidiaries continue to focus on delivering reliable, affordable, safe and clean energy to its customers and on actions to mitigate greenhouse gas emissions. For example, as of December 31, 2017, BHE has invested \$21 billion in solar, wind, geothermal and biomass generation.

Non-Energy Businesses

HomeServices of America, Inc. ("HomeServices") is the second-largest residential real estate brokerage firm in the United States. In addition to providing traditional residential real estate brokerage services, HomeServices offers other integrated real estate services, including mortgage originations and mortgage banking, title and closing services, property and casualty insurance, home warranties, relocation services and other home-related services. It operates under 42 brand names with nearly 41,000 real estate agents in nearly 840 brokerage offices in 30 states and the District of Columbia.

In October 2012, HomeServices acquired a 66.7% interest in one of the largest residential real estate brokerage franchise networks in the United States, which offers and sells independently owned and operated residential real estate brokerage franchises. HomeServices' franchise network currently includes over 365 franchisees in over 1,500 brokerage offices in 47 states with over 48,000 real estate agents under three brand names. In exchange for certain fees, HomeServices provides the right to use the Berkshire Hathaway HomeServices, Prudential or Real Living brand names and other related service marks, as well as providing orientation programs, training and consultation services, advertising programs and other services.

HomeServices' principal sources of revenue are dependent on residential real estate sales, which are generally higher in the second and third quarters of each year. This business is highly competitive and subject to the general real estate market conditions.

Manufacturing Businesses

Berkshire's numerous and diverse manufacturing businesses are grouped into three categories: (1) industrial products, (2) building products and (3) consumer products. Berkshire's industrial products businesses manufacture specialty chemicals, metal cutting tools, components for aerospace and power generation applications and a variety of other products primarily for industrial use. The building products group produces flooring products, insulation, roofing and engineered products, building and engineered components, paint and coatings and bricks and masonry products that are primarily used in building and construction applications. The consumer products group manufactures recreational vehicles, alkaline batteries, various apparel products, jewelry and custom picture framing products. Information concerning the major activities of these three groups follows.

Industrial products

Lubrizol Corporation

The Lubrizol Corporation ("Lubrizol") is a specialty chemical company that produces and supplies technologies for the global transportation, industrial and consumer markets. Lubrizol currently operates in two business sectors: (1) Lubrizol Additives, which includes engine additives, driveline additives and industrial specialties products; and (2) Lubrizol Advanced Materials, which includes personal and home care, engineered polymers, performance coatings and life science solutions.

Lubrizol Additives products are used in a broad range of applications including engine oils, transmission fluids, gear oils, specialty driveline lubricants, fuel additives, metalworking fluids, compressor lubricants and greases for transportation and industrial applications. Lubrizol's Advanced Materials products are used in several different types of applications including over-the-counter pharmaceutical products, performance coatings, personal care products, sporting goods and plumbing and fire sprinkler systems. Lubrizol is an industry leader in many of the markets in which it competes. Lubrizol's principal lubricant additives competitors are Infineum International Ltd., Chevron Oronite Company and Afton Chemical Corporation. The advanced materials industry is highly fragmented with a variety of competitors in each product line.

From a base of approximately 3,200 patents, Lubrizol uses its technological leadership position in product development and formulation expertise to improve the quality, value and performance of its products, as well as to help minimize the environmental impact of those products. Lubrizol uses many specialty and commodity chemical raw materials in its manufacturing processes and uses base oil in processing and blending additives. Raw materials are primarily feedstocks derived from petroleum and petrochemicals and, generally, are obtainable from several sources. The materials that Lubrizol chooses to purchase from a single source typically are subject to long-term supply contracts to ensure supply reliability. Lubrizol operates facilities in 31 countries (including production facilities in 17 countries and laboratories in 14 countries).

Lubrizol markets its products worldwide through a direct sales organization and sales agents and distributors. Lubrizol's customers principally consist of major global and regional oil companies and industrial and consumer products companies that are located in more than 120 countries. Some of its largest customers also may be suppliers. In 2017, no single customer accounted for more than 10% of Lubrizol's consolidated revenues. Lubrizol continues to implement a multi-year phased investment plan to upgrade operations, ensure compliance with health, safety and environmental requirements and increase global manufacturing capacity.

Lubrizol is subject to foreign, federal, state and local laws to protect the environment and limit manufacturing waste and emissions. The company believes that its policies, practices and procedures are designed to limit the risk of environmental damage and consequent financial liability. Nevertheless, the operation of manufacturing plants entails ongoing environmental risks, and significant costs or liabilities could be incurred in the future.

IMC International Metalworking Companies

IMC International Metalworking Companies ("IMC") is one of the world's three largest multinational manufacturers of consumable precision carbide metal cutting tools for applications in a broad range of industrial end markets. IMC's principal brand names include *ISCAR®*, *TaeguTec®*, *Ingersoll®*, *Tungaloy®*, *Unitac®*, *UOP®*, *It.te.di®*, *Tool—Flo®* and *Outiltec®*. IMC's principal manufacturing facilities are located in Israel, United States, Germany, Italy, France, Switzerland, South Korea, China, India, Japan and Brazil.

IMC has five primary product lines: milling tools, gripping tools, turning/thread tools, drilling tools and tooling. The main products are split within each product line between consumable cemented tungsten carbide inserts and steel tool holders. Inserts comprise the vast majority of sales and earnings. Metal cutting inserts are used by industrial manufacturers to cut metals and are consumed during their use in cutting applications. IMC manufactures hundreds of types of highly engineered inserts within each product line that are tailored to maximize productivity and meet the technical requirements of customers. IMC's staff of scientists and engineers continuously develop and innovate products that address end user needs and requirements.

IMC's global sales and marketing network operates in virtually every major manufacturing center around the world staffed with highly skilled engineers and technical personnel. IMC's customer base is very diverse, with its primary customers being large, multinational businesses in the automotive, aerospace, engineering and machinery industries. IMC operates a regional central warehouse system with locations in Israel, United States, Belgium, Korea, Japan and Brazil. Additional small quantities of products are maintained at local IMC offices in order to provide on-time customer support and inventory management.

IMC competes in the metal cutting tools segment of the global metalworking tools market. The segment includes hundreds of participants who range from small, private manufacturers of specialized products for niche applications and markets to larger, global multinational businesses (such as Sandvik and Kennametal, Inc.) with a wide assortment of products and extensive distribution networks. Other manufacturing companies such as Kyocera, Mitsubishi, Sumitomo, Ceratizit and Korloy also play a significant role in the cutting tool market.

Precision Castparts

Berkshire acquired Precision Castparts Corp. ("PCC") on January 29, 2016. PCC manufactures complex metal components and products, provides high-quality investment castings, forgings, fasteners/fastener systems and aerostructures for critical aerospace and power and energy applications. PCC also provides seamless pipe for coal-fired, industrial gas turbine ("IGT") and nuclear power plants; downhole casing and tubing, fittings and various mill forms in a variety of nickel and steel alloys for severe-service oil and gas environments; investment castings and forgings for general industrial, armament, medical and other applications; nickel and titanium alloys in all standard mill forms from large ingots and billets to plate, foil, sheet, strip, tubing, bar, rod, extruded shapes, rod-in-coil, wire and welding consumables, as well as cobalt alloys, for the aerospace, chemical processing, oil and gas, pollution control and other industries; revert management solutions; fasteners for automotive and general industrial markets; specialty alloys for the investment casting and forging industries; heat treating and destructive testing services for the investment cast products and forging industries; refiner plates and other products for the pulp and paper industry; grinder pumps and affiliated components for low-pressure sewer systems; critical auxiliary equipment and gas monitoring systems for the power generation industry; and metalworking tools for the fastener market and other applications.

Investment casting technology involves a multi-step process that uses ceramic molds in the manufacture of metal components with more complex shapes, closer tolerances and finer surface finishes than parts manufactured using other methods. PCC uses this process to manufacture products for aircraft engines, IGT's and other aeroderivative engines, airframes, medical implants, armament, unmanned aerial vehicles and other industrial applications. PCC also manufactures high temperature carbon and ceramic composite components, including ceramic matrix composites, for use in next-generation aerospace engines.

PCC uses forging processes to manufacture components for the aerospace and power generation markets, including seamless pipe for coal-fired, industrial gas turbine and nuclear power plants, and downhole casings and tubing pipe for severe service oil and gas markets. PCC manufactures high-performance, nickel-based alloys used to produce forged components for aerospace and non-aerospace applications in such markets as oil and gas, chemical processing and pollution control. The titanium products are used to manufacture components for the commercial and military aerospace, power generation, energy, and industrial end markets.

PCC is also a leading developer and manufacturer of highly engineered fasteners, fastener systems, aerostructures and precision components, primarily for critical aerospace applications. These products are produced for the aerospace and power and energy markets, as well as for construction, automotive, heavy truck, farm machinery, mining and construction equipment, shipbuilding, machine tools, medical equipment, appliances and recreation markets.

The majority of sales are generated from purchase orders or demand schedules pursuant to long-term agreements. Contractual terms may provide for termination by the customer subject to payment for work performed. PCC typically does not experience significant order cancellations, although periodically it receives requests for delays in delivery schedules.

PCC is subject to substantial competition in all of its markets. Components and similar products may be produced by competitors using either the same types of manufacturing processes or other forms of manufacturing. Although PCC believes its manufacturing processes, technology and experience provide advantages to its customers, such as high quality, competitive prices and physical properties that often meet more stringent demands, alternative forms of manufacturing can be used to produce many of the same components and products. Despite intense competition, PCC is a leading supplier in most of its principal markets. Several factors, including long-standing customer relationships, technical expertise, state-of-the-art facilities and dedicated employees, aid PCC in maintaining competitive advantages.

A number of raw materials in its products, including certain metals such as nickel, titanium, cobalt, tantalum and molybdenum, are found in only a few parts of the world. These metals are required for the alloys used in manufactured products. The availability and costs of these metals may be influenced by private or governmental cartels, changes in world politics, labor relations between the metal producers and their work forces, and/or unstable governments in exporting nations and inflation.

Mammon Holdings

Berkshire currently owns 99.75% of Mammon Holdings, Inc. ("Mammon"), a holding company comprised of three autonomous companies consisting of Mammon Engineered Components Company ("Engineered Components"), Mammon Retail Technologies Company ("Retail Technologies") and Mammon Energy Services Company ("Energy Services"). Energy Services includes the transportation equipment manufacturing, repair, and leasing businesses (UTLX Company), which is discussed in the Finance and Financial Products businesses section of this Item. Engineered Components, Retail Technologies and the Engineered Wire and Cable sector of Energy Services comprise "Mammon manufacturing". Mammon manufacturing operates approximately 400 manufacturing, distribution, and service facilities, which are located primarily in the United States as well as in 23 other countries worldwide.

Engineered Components:

Plumbing, Industrial & Automotive Components supplies copper, aluminum, and stainless steel tubing and fittings for the plumbing, HVAC/R, and aerospace markets, aluminum and brass forgings for many commercial and industrial applications, adhesives primarily for automotive and aerospace applications, clutches, engine mounts, and related components for the light-duty vehicle aftermarket; and precision molded plastic components for safety, electrical, and fluid transfer applications in the automotive market.

Electrical Products produces electrical building wire for residential, commercial, and industrial buildings, portable lighting equipment for mining and safety markets and overhead electrification equipment for mass transit systems.

Metal Services provides specialty metal pipe, tubing, beams and related value-added services to a broad range of industries.

Construction Fasteners & Safety Products supplies fasteners and hand and arm protective wear to the construction, industrial and other markets.

Highway Technologies serves the heavy-duty highway transportation industry with trailers, truck and trailer components including fifth wheel coupling solutions, wheel-end products, undercarriage products, and fenders, as well as truck modification services.

Retail Technologies:

Retail Food Technologies and *Restaurant & Catering Technologies* supplies commercial food preparation and holding equipment for restaurants, fast food chains, hotels and caterers.

Beverage Technologies produces beverage dispensing and cooling equipment for foodservice retailers as well as on-shelf management systems for single-serve beverages and pre-tooled stock solutions for in-store applications.

Water Technologies manufactures and markets residential water softening, purification, and refrigeration filtration systems, treatment systems for industrial markets including power generation, oil and gas, chemical, and pulp and paper, gear drives for irrigation systems and cooling towers and air-cooled heat exchangers.

Retail Solutions provides retail environment design services, marketing programs, in-store digital merchandising, display fixtures, shopping, material handling, and security carts as well as automation equipment for many industries, and consumer products sold through retail channels, including work and garden gloves, air compressors and extension cords.

The Engineered Wire & Cable sector supplies electrical and electronic wire and cable for energy related markets and other industries.

Other industrial products

CTB International Corp. (“CTB”), headquartered in Milford, Indiana, is a leading global designer, manufacturer and marketer of a wide range of agricultural systems and solutions for preserving grain, producing poultry, pigs and eggs, and for processing poultry, fish, vegetables and other foods. CTB operates from facilities located around the globe and supports customers through a worldwide network of independent distributors and dealers.

CTB competes with a variety of manufacturers and suppliers, many of which offer only a limited number of the products offered by CTB and two of which offer products across many of CTB’s product lines. Competition is based on the price, value, reputation, quality and design of the products offered and the customer service provided by distributors, dealers and manufacturers of the products. CTB’s leading brand names, distribution network, diversified product line, product support and high-quality products enable it to compete effectively. CTB manufactures its products primarily from galvanized steel, steel wire, stainless steel and polymer materials and supplies of these materials have been sufficient in recent years.

In 2014, Berkshire acquired a global supplier of pipeline flow improver products from Phillips 66. The business, headquartered in Houston, Texas, was named Phillips Specialty Products, Inc. at the time of the acquisition and is currently named LiquidPower Specialty Products Inc. (“LSPPI”). LSPPI specializes in maximizing the flow potential of pipelines, increasing operational flexibility and throughput capacity. The Scott Fetzer companies are a group of businesses that manufacture, distribute, service and finance a wide variety of products for residential, industrial and institutional use.

Berkshire’s industrial products manufacturers employ approximately 72,000 persons.

Building Products

Shaw Industries

Shaw Industries Group, Inc. (“Shaw”), headquartered in Dalton, Georgia, is a leading carpet manufacturer based on both revenue and volume of production. Shaw designs and manufactures over 3,800 styles of tufted carpet, wood and resilient flooring for residential and commercial use under about 30 brand and trade names and under certain private labels. Shaw also provides project management and installation services. Shaw’s manufacturing operations are fully integrated from the processing of raw materials used to make fiber through the finishing of carpet. Shaw also manufactures or distributes a variety of hardwood, vinyl and laminate floor products (“hard surfaces”). In 2016, Shaw acquired USFloors, Inc., which is a leading innovator and marketer of wood-plastic composite luxury vinyl tile flooring, as well as cork, bamboo and hardwood products. Shaw’s carpet and hard surface products are sold in a broad range of patterns, colors and textures. Shaw operates Shaw Sports Turf and Southwest Greens International, LLC, which provide synthetic sports turf, golf greens and landscape turf products.

Shaw products are sold wholesale to over 34,000 retailers, distributors and commercial users throughout the United States, Canada and Mexico and are also exported to various overseas markets. Shaw’s wholesale products are marketed domestically by over 2,700 salaried and commissioned sales personnel directly to retailers and distributors and to large national accounts. Shaw’s seven carpet, seven hard surface and two sample full-service distribution facilities and 25 redistribution centers, along with centralized management information systems, enable it to provide prompt and efficient delivery of its products to both its retail customers and wholesale distributors.

Substantially all carpet manufactured by Shaw is tufted carpet made from nylon, polypropylene and polyester. In the tufting process, yarn is inserted by multiple needles into a synthetic backing, forming loops, which may be cut or left uncut, depending on the desired texture or construction. During 2017, Shaw processed approximately 99% of its requirements for carpet yarn in its own yarn processing facilities. The availability of raw materials continues to be good but costs are impacted by petro-chemical and natural gas price changes. Raw material cost changes are periodically factored into selling prices to customers.

The floor covering industry is highly competitive with more than 100 companies engaged in the manufacture and sale of carpet in the United States and numerous manufacturers engaged in hard surface floor covering production and sales. According to industry estimates, carpet accounts for approximately 50% of the total United States consumption of all flooring types. The principal competitive measures within the floor covering industry are quality, style, price and service.

Johns Manville

Johns Manville (“JM”) is a leading manufacturer and marketer of premium-quality products for building, mechanical and industrial insulation, commercial roofing and roof insulation, as well as engineered fibers and nonwovens for commercial, industrial and residential applications. JM serves markets that include building, flooring, interiors, aerospace, automotive and transportation, air handling, appliance, HVAC, pipe insulation, filtration, waterproofing and wind energy. Fiberglass is the basic material in a majority of JM’s products, although JM also manufactures a significant portion of its products with other materials to satisfy the broader needs of its customers. Raw materials are readily available in sufficient quantities from various sources for JM to maintain and expand its current production levels. JM regards its patents and licenses as valuable, however it does not consider any of its businesses to be materially dependent on any single patent or license. JM is headquartered in Denver, Colorado, and operates 43 manufacturing facilities in North America, Europe and China and conducts research and development at its technical center in Littleton, Colorado and at other facilities in the U.S. and Europe.

Fiberglass is made from earthen raw materials and recycled glass, together with proprietary organic and acrylic-based formaldehyde-free agents to bind many of its glass fibers. JM’s products also contain materials other than fiberglass, including various chemical and petro-chemical-based materials used in roofing and other specialized products. JM uses recycled material when available and suitable to satisfy the broader needs of its customers. The raw materials used in these various products are readily available in sufficient quantities from various sources to maintain and expand its current production levels.

JM’s operations are subject to a variety of federal, state and local environmental laws and regulations. These laws and regulations regulate the discharge of materials into the air, land and water and govern the use and disposal of hazardous substances. The most relevant of the federal laws are the Federal Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation and Liability Act of 1980, which are administered by the EPA. In 2015, the EPA revised the hazardous air pollutant rules for the wool fiberglass and mineral wool manufacturing industries. While the new rules implement new emission standards, they are not expected to require material expenditures to meet the compliance dates in 2018.

JM sells its products through a wide variety of channels including contractors, distributors, retailers, manufacturers and fabricators. JM operates in a highly competitive market, with competitors comprised primarily of several large global and national manufacturers and smaller regional manufacturers. JM holds leadership positions in the key markets that it serves. JM’s products compete primarily on the basis of value, product differentiation and customization and breadth of product line. Sales of JM’s products are moderately seasonal due to increases in construction activity that typically occur in the second and third quarters of the calendar year. JM is seeing a trend in customer purchasing decisions being influenced by the sustainable and energy efficient attributes of its products, services and operations.

MiTek Industries, Inc.

MiTek Industries, Inc. (“MiTek”), based in Chesterfield, Missouri, operates in three separate markets: residential, commercial and industrial. MiTek operates worldwide with sales in over 100 countries and with manufacturing facilities and/or sales/engineering offices located in 21 countries. MiTek has completed a number of bolt-on acquisitions in the past five years, intended to diversify product offerings and reduce the impact of the cyclical global housing markets.

In the residential market, MiTek is a leading supplier of engineered connector products, construction hardware, engineering software and services and computer-driven manufacturing machinery to the truss component market of the building components industry. MiTek’s primary customers are component manufacturers who manufacture prefabricated roof and floor trusses and wall panels for the residential building market. MiTek also sells construction hardware to commercial distributors and do-it-yourself retail stores under the MiTek Builders Products name.

MiTek’s commercial market business includes products and services sold to the commercial construction industry. Product offerings include curtain wall systems (Benson Industries, Inc.), anchoring systems for masonry and stone (Hohmann & Barnard, Inc.), light gauge steel framing products (Aegis Metal Framing Division of MiTek USA, Inc.), engineering services for a proprietary high-performance steel frame connection (SidePlate Systems, Inc.) and a comprehensive range of round, rectangular, oval and spiral ductwork for the ventilation market (M&M Manufacturing, Inc. and Snappy ADP, Inc.).

MiTek’s industrial market business includes: automated machinery for the battery manufacturing industry (TBS Engineering, Ltd.), highly customized air handling systems sold to commercial, institutional and industrial markets (TMI Climate Solutions, Inc.), design and supply of Nuclear Safety Related HVAC systems and components (Ellis & Watts Global Industries, Inc.), energy recovery and dehumidification systems for commercial applications (Heat-Pipe Technology, Inc.) and pre-engineered and pre-fabricated custom structural mezzanines and platforms for distribution and manufacturing facilities (Cubic Designs, Inc. and Mezzanine International, Ltd.).

A significant raw material used by MiTek is hot dipped galvanized sheet steel. While supplies are presently adequate, variations in supply have historically occurred, producing significant variations in cost and availability.

Benjamin Moore

Benjamin Moore & Co. (“Benjamin Moore”), headquartered in Montvale, New Jersey, is a leading formulator, manufacturer and retailer of a broad range of architectural coatings, available principally in the United States and Canada. Products include water-based and solvent-based general-purpose coatings (paints, stains and clear finishes) for use by the consumers, contractors and industrial and commercial users. Products are marketed under various registered brand names, including, but not limited to: *Aura*®, *Natura*®, *Regal Select*®, *Ultra Spec*®, *ben*®, *Eco Spec*®, *Coronado*®, *Corotech*®, *Insul-x*®, *Lenmar*®, *Super Kote*®, *Arborcoat*®, *Super Hide*®, *Century*®, *Ultra Spec*®, *SCUFF-X*® and *Notable*™.

Benjamin Moore relies primarily on an independent dealer network for distribution of its products. Benjamin Moore’s distribution network includes over 3,300 independent retailers currently representing over 5,000 storefronts in the United States and Canada. The independent dealer channel offers a broad array of products including *Benjamin Moore*®, *Coronado*® and *Insul-x*® brands and other competitor coatings, wall coverings, window treatments and sundries. In addition, Benjamin Moore operates an on-line “pick up in store” program, which allows consumers to place orders via an e-commerce site or for national accounts and government agencies via its customer information center. These orders may be picked up at the customer’s nearest dealer.

Benjamin Moore competes with numerous manufacturers, distributors and paint, coatings and related products retailers. Product quality, product innovation, breadth of product line, technical expertise, service and price determine the competitive advantage. Competitors include other paint and decorating stores, mass merchandisers, home centers, independent hardware stores, hardware chains and manufacturer-operated direct outlets, such as Sherwin-Williams Company, PPG Industries, Inc., The Valspar Corporation, The Home Depot, Inc. and Lowe’s Companies.

The most significant raw materials in Benjamin Moore products are titanium dioxide, solvents, and epoxy and other resins. Historically, these materials have been generally available, with pricing and availability subject to fluctuation.

Acme Brick

Acme Brick Company (“Acme”) headquartered in Fort Worth, Texas, manufactures and distributes clay bricks (*Acme Brick*®), concrete block (*Featherlite*) and cut limestone (*Texas Quarries*). In addition, Acme and its subsidiaries distribute a number of other building products of other manufacturers, including floor and wall tile, wood flooring and other masonry products. Products are sold primarily in the South Central and South Eastern United States through company-operated sales offices. Acme distributes products primarily to homebuilders and masonry and general contractors.

Acme and its affiliates operate 25 clay brick manufacturing facilities at 21 sites located in eight states, six concrete block facilities in Texas and two stone fabrication facilities located in Texas and Alabama. In addition, Acme and its subsidiaries operate a glass block fabrication facility, a concrete bagging facility and a stone burnishing facility, all located in Texas. The demand for Acme’s products is seasonal, with higher sales in the warmer weather months, and is subject to the level of construction activity, which is cyclical. Acme also owns and leases properties and mineral rights that supply raw materials used in many of its manufactured products. Acme’s raw materials supply is believed to be adequate.

The brick industry is subject to the EPA’s Maximum Achievable Control Technology Rule (MACT Rule) finalized in October of 2015 with a deadline for compliance of December 31, 2018. Key elements of the MACT Rule include emission limits established for certain hazardous air pollutants and acidic gases. The MACT Rule also establishes work practices for “periodic” kilns, including using a designed firing time and temperature for each product, labeling maximum loads, keeping a log of each load, and developing and implementing inspection and maintenance procedures. While many of Acme’s facilities are in compliance, additional capital expenditures may be required to bring other facilities into compliance by the deadline.

Berkshire’s building products manufacturers employ approximately 39,000 people.

Consumer Products

Apparel

Fruit of the Loom (“FOL”) is headquartered in Bowling Green, Kentucky. FOL is primarily a manufacturer and distributor of basic apparel, underwear, casualwear, athletic apparel and hardgoods. Products, under the *Fruit of the Loom*® and *JERZEES*® labels are primarily sold in the mass merchandise, mid-tier chains and wholesale markets. In the Vanity Fair Brands product line, *Vassarette*® and *Curvation*® are sold in the mass merchandise market, while *Vanity Fair*® and *Lily of France*® products are sold to mid-tier chains and department stores. FOL also markets and sells athletic uniforms, apparel, sports equipment and balls to team dealers; collegiate licensed tee shirts and fleecewear to college bookstores; and athletic apparel, sports equipment and balls to sporting goods retailers under the *Russell Athletic*® and *Spalding*® brands. Additionally, *Spalding*® markets and sells balls in the mass merchandise market and dollar store channels. In 2015, FOL exited an unprofitable intimate apparel business in Europe. In 2017, a significant portion of FOL’s sales were to Walmart.

FOL generally performs its own knitting, cloth finishing, cutting, sewing and packaging for apparel. For the North American market, which comprised about 84% of FOL’s net sales in 2017, the majority of its cloth manufacturing was performed in Honduras. Labor-intensive cutting, sewing and packaging operations are located in Central America and the Caribbean. For the European market, products are either sourced from third-party contractors in Europe or Asia or sewn in Morocco from textiles internally produced in Morocco. FOL’s bras, athletic equipment, sporting goods and other athletic apparel lines are generally sourced from third-party contractors located primarily in Asia.

U.S. grown cotton and polyester fibers are the main raw materials used in the manufacturing of FOL’s apparel products and are purchased from a limited number of third-party suppliers. Additionally in 2015, FOL entered into an eight year agreement with one key supplier to provide the majority of FOL’s yarn. Management currently believes there are readily available alternative sources of raw materials and yarn. However, if relationships with suppliers cannot be maintained or delays occur in obtaining alternative sources of supply, production could be adversely affected, which could have a corresponding adverse effect on results of operations. Additionally, raw materials are subject to price volatility caused by weather, supply conditions, government regulations, economic climate and other unpredictable factors. FOL has secured contracts to purchase cotton, either directly or through the yarn suppliers, to meet the majority of its production plans for 2018. FOL’s markets are highly competitive, consisting of many domestic and foreign manufacturers and distributors. Competition is generally based upon product features, quality, customer service and price.

Garan designs, manufactures, imports and sells apparel primarily for children, including boys, girls, toddlers and infants. Products are sold under its own trademark *Garanimals*® and customer private label brands. Garan also licenses its registered trademark *Garanimals*® to third parties for apparel and non-apparel products. Garan conducts its business through operating subsidiaries located in the United States, Central America and Asia. Substantially all of Garan’s products are sold through its distribution centers in the United States with sales to Walmart representing over 90% of its sales. Fechheimer Brothers manufactures, distributes and sells uniforms, principally for the public service and safety markets, including police, fire, postal and military markets. Fechheimer Brothers is based in Cincinnati, Ohio.

The H.H. Brown Shoe Group manufactures and distributes work, rugged outdoor and casual shoes and western-style footwear under a number of brand names, including *Justin*, *Tony Lama*®, *Nocona*®, *Chippewa*®, *BØRN*®, *B•O•C*®, *Carolina*®, *Søfft*, *Double-H Boots*®, *Nursemates*® and *Comfortiva*®. Brooks Sports markets and sells performance running footwear and apparel to specialty and national retailers and directly to consumers under the *Brooks*® brand. A significant volume of the shoes sold by Berkshire’s shoe businesses are manufactured or purchased from sources outside the United States. Products are sold worldwide through a variety of channels including department stores, footwear chains, specialty stores, catalogs and the Internet, as well as through company-owned retail stores.

Other consumer products

Forest River, Inc. (“Forest River”) is a manufacturer of recreational vehicles (“RV”), utility cargo trailers, buses and pontoon boats, headquartered in Elkhart, Indiana with products sold in the United States and Canada through an independent dealer network. Forest River has numerous manufacturing facilities located in six states. Forest River is a leading manufacturer of RVs with brand names such as Berkshire, Cardinal, Cedar Creek, Cherokee, Coachman, Dynamax, Flagstaff, Forester, Georgetown, Palomino, Prime Time Manufacturing, Puma, Rockwood, Salem, Sandpiper, Sierra, Sunseeker, Surveyor, Viking RV and Wildwood. Utility cargo trailers are sold under Cargo Mate, Continental, Rance and US Cargo brand names among others. Buses are sold under the Battisti, Berkshire Coach, Elkhart Coach, Glaval Bus, Starcraft Bus, and Startrans Bus brand names. Pontoon boats are sold under the Berkshire, South Bay and Trifecta brand names. The RV industry is very competitive. Competition is based primarily on price, design, quality and service. The industry has consolidated over the past several years with Forest River and its largest competitor possessing about 83% aggregate market share, with Forest River holding a 35% market share.

Berkshire acquired the Duracell Company (“Duracell”), on February 29, 2016 from The Procter & Gamble Company. Duracell, headquartered in Chicago, Illinois, is a leading manufacturer of high performance alkaline batteries. Duracell manufactures batteries in the U.S., Europe and China and provides a network of worldwide sales and distribution centers. Costco and Walmart are significant customers, representing approximately 25% of Duracell’s annual revenue. There are several competitors in the battery manufacturing market with Duracell holding an approximately 36% market share of the global alkaline battery market. Management believes there are sufficient sources of raw materials, which primarily include steel, zinc and manganese.

Albecca Inc. (“Albecca”), headquartered in Norcross, Georgia, has operations in the U.S., Canada and 13 countries outside of North America and operates primarily under the *Larson-Juhl*® name. Albecca designs, manufactures and distributes a complete line of high quality, branded custom framing products, including wood and metal moulding, matboard, foamboard, glass and framing supplies. Complementary to its framing products, Albecca offers art printing and fulfillment services.

Richline Group, Inc. operates four strategic business units: Richline Jewelry, LeachGarner, Rio Grande and Inverness. Each business unit is a manufacturer and distributor of jewelry with precious metal and non-precious metal products to specific target markets including large jewelry chains, department stores, shopping networks, mass merchandisers, e-commerce retailers and artisans plus worldwide manufacturers and wholesalers and the medical, electronic and aerospace industries.

Berkshire’s consumer products manufacturers employ approximately 54,000 persons.

Service and Retailing Businesses

Service Businesses

Berkshire’s service businesses provide grocery and foodservice distribution, professional aviation training programs, fractional aircraft ownership programs and distribution of electronic components. Other service businesses include franchising and servicing of quick service restaurants, media businesses (newspaper, television and information distribution), as well as logistics businesses. Berkshire’s service businesses employ approximately 46,000 people. Information concerning these activities follows.

McLane Company

McLane Company, Inc. (“McLane”) provides wholesale distribution services in all 50 states to customers that include convenience stores, discount retailers, wholesale clubs, drug stores, military bases, quick service restaurants and casual dining restaurants. McLane provides wholesale distribution services to Walmart, which accounts for approximately 25% of McLane’s revenues. McLane’s other significant customers include 7-Eleven and Yum! Brands, each of which accounted for approximately 11% of McLane’s revenues in 2017. A curtailment of purchasing by Walmart or its other significant customers could have a material adverse impact on McLane’s periodic revenues and earnings. McLane’s business model is based on a high volume of sales, rapid inventory turnover and stringent expense controls. Operations are currently divided into three business units: grocery distribution, foodservice distribution and beverage distribution.

McLane’s grocery distribution unit, based in Temple, Texas, maintains a dominant market share within the convenience store industry and serves most of the national convenience store chains and major oil company retail outlets. Grocery operations provide products to approximately 49,000 retail locations nationwide, including Walmart. McLane’s grocery distribution unit operates 23 distribution facilities in 20 states.

McLane’s foodservice distribution unit, based in Carrollton, Texas, focuses on serving the quick service and casual dining restaurant industry with high quality, timely-delivered products. Operations are conducted through 50 facilities in 22 states. The foodservice distribution unit services approximately 36,500 chain restaurants nationwide.

Through its subsidiaries, McLane also operates several wholesale distributors of distilled spirits, wine and beer. Operations are conducted through 14 distribution centers in Georgia, North Carolina, Tennessee and Colorado. These beverage units operating as Empire Distributors, Empire Distributors of North Carolina, Empire Distributors of Tennessee and Baroness Small Estates, service approximately 24,900 retail locations in the Southeastern United States and Colorado.

FlightSafety International

FlightSafety International Inc. (“FlightSafety”), headquartered at New York’s LaGuardia Airport, is an industry leader in professional aviation training services to individuals, businesses (including certain commercial aviation companies) and the U.S. government and certain foreign governments. FlightSafety provides high technology training to pilots, aircraft maintenance technicians, flight attendants and dispatchers who operate and support a wide variety of business, commercial and military aircraft. FlightSafety operates a large fleet of advanced full flight simulators at its learning centers and training locations in the United States, Canada, China, France, Japan, Norway, Singapore, South Africa, the Netherlands, and the United Kingdom. The vast majority of FlightSafety’s instructors, training programs and flight simulators are qualified by the United States Federal Aviation Administration and other aviation regulatory agencies around the world.

FlightSafety is also a leader in the design and manufacture of full flight simulators, visual systems, displays and other advanced technology training devices. This equipment is used to support FlightSafety training programs and is offered for sale to airlines and government and military organizations around the world. Manufacturing facilities are located in Oklahoma, Missouri and Texas. FlightSafety strives to maintain and manufacture simulators and develop courseware using state-of-the-art technology and invests in research and development as it builds new equipment and training programs.

NetJets

NetJets Inc. (“NetJets”) is the world’s leading provider of shared ownership programs for general aviation aircraft. NetJets’ global headquarters is located in Columbus, Ohio, with most of its logistical and flight operations based at Port Columbus International Airport. NetJets’ European operations are based in Lisbon, Portugal. The shared ownership concept is designed to meet the travel needs of customers who require the scale, flexibility and access of a large fleet that whole aircraft ownership cannot deliver. In addition, shared ownership programs are available for corporate flight departments seeking to outsource their general aviation needs or add capacity for peak periods and for others that previously chartered aircraft.

With a focus on safety and service, NetJets’ programs are designed to offer customers guaranteed availability of aircraft, predictable operating costs and increased liquidity. NetJets’ shared aircraft ownership programs permit customers to acquire a specific percentage of a certain aircraft type and allows customers to utilize the aircraft for a specified number of flight hours annually. In addition, NetJets offers prepaid flight cards and other aviation solutions and services for aircraft management, customized aircraft sales and acquisition, ground support and flight operation services under a number of programs including NetJets Shares™, NetJets Leases™ and the Marquis Jet Card®.

NetJets is subject to the rules and regulations of the United States Federal Aviation Administration, the National Institute of Civil Aviation of Portugal and the European Aviation Safety Agency. Regulations address aircraft registration, maintenance requirements, pilot qualifications and airport operations, including flight planning and scheduling as well as security issues and other matters.

TTI, Inc.

TTI, Inc. (“TTI”), headquartered in Fort Worth, Texas, is a global specialty distributor of passive, interconnect, electromechanical, discrete and semiconductor components used by customers in the manufacturing and assembling of electronic products. TTI’s customer base includes original equipment manufacturers, electronic manufacturing services, original design manufacturers, military and commercial customers, as well as design and system engineers. TTI’s distribution agreements with the industry’s leading suppliers allow it to uniquely leverage its product cost and to expand its business by providing new lines and products to its customers. TTI operates sales offices and distribution centers from more than 100 locations throughout North America, Europe, Asia and Israel.

TTI services a variety of industries including telecommunications, medical devices, computers and office equipment, military/aerospace, automotive and consumer electronics. TTI’s core customers include businesses in the design through production stages in the electronic component supply chain, which supports its high volume business, and its Mouser subsidiary, which supports a broader base of customers with lower volume purchases through internet based marketing. Sager Electrical Supply Company, Inc. is a subsidiary of TTI located in Massachusetts whose additional focus is the distribution of power components within the electronics distribution market.

Other services

International Dairy Queen develops and services a worldwide system of over 6,800 stores operating primarily under the names *DQ Grill and Chill*®, *Dairy Queen*® and *Orange Julius*® that offer various dairy desserts, beverages, prepared foods and blended fruit drinks. Business Wire provides electronic dissemination of full-text news releases to the media, online services and databases and the global investment community in 150 countries and in 45 languages. Approximately 97% of Business Wire's revenues derive from its core news distribution business. The Buffalo News and BH Media Group, Inc. are publishers of 32 daily and 44 weekly newspapers. WPLG, Inc. is an ABC affiliate broadcast station in Miami, Florida and Charter Brokerage is a leading non-asset based third party logistics provider to the petroleum and chemical industries.

Retailing Businesses

Berkshire's retailing businesses include automotive, home furnishings and several other operations that sell various consumer products to consumers. Information regarding each of these operations follows. Berkshire's retailing businesses employ approximately 29,400 people.

Berkshire Hathaway Automotive

In the first quarter of 2015, Berkshire acquired a group of affiliated companies referred to as the Berkshire Hathaway Automotive Group, Inc. (BHA). BHA is one of the largest automotive retailers in the United States, currently operating 109 new vehicle franchises through 83 dealerships located primarily in major metropolitan markets in the United States. The dealerships sell new and used vehicles, vehicle maintenance and repair services, extended service contracts, vehicle protection products and other aftermarket products. BHA also arranges financing for its customers through third-party lenders. BHA operates 30 collision service centers directly connected to the dealerships' operations and owns and operates two auto auctions and a fluid maintenance products distribution company.

Dealership operations are highly concentrated in the Arizona and Texas markets, with approximately 70% of dealership-related revenues derived from sales in these markets. BHA currently maintains franchise agreements with 27 different vehicle manufacturers, although it derives a significant portion of its revenue from the Toyota/Lexus, General Motors, Ford/Lincoln, Nissan/Infiniti and Honda/Acura brands. Over 85% of BHA's revenues are from dealerships representing these manufacturers.

The retail automotive industry is highly competitive. BHA faces competition from other large public and private dealership groups, as well as individual franchised dealerships and competition via the Internet. Given the pricing transparency available via the Internet, and the fact that franchised dealers acquire vehicles from the manufacturers on the same terms irrespective of volume, the location and quality of the dealership facility, customer service and transaction speed are key differentiators in attracting customers.

BHA's overall relationships with the automobile manufacturers are governed by framework agreements. The framework agreements contain provisions relating to the management, operation, acquisition and the ownership structure of BHA's dealerships. Failure to meet the terms of these agreements could adversely impact BHA's ability to acquire additional dealerships representing those manufacturers. Additionally, these agreements contain limitations on the number of dealerships from a specific manufacturer that may be owned by BHA.

Individual dealerships operate under franchise agreements with the manufacturer, which grants the dealership entity a non-exclusive right to sell the manufacturer's brand of vehicles and offer related parts and service within a specified market area, as well as the right to use the manufacturer's trademarks. The agreements contain various requirements and restrictions related to the management and operation of the franchised dealership and provide for termination of the agreement by the manufacturer or non-renewal for a variety of causes. The states generally have automotive dealership franchise laws that provide substantial protection to the franchisee, and it is difficult for a manufacturer to terminate or not renew a franchise agreement outside of bankruptcy or with "good cause" under the applicable state franchise law.

BHA owns facilities with approximately 6.0 million square feet of space and approximately 970 acres of land that are utilized in its operations. BHA also develops, underwrites and administers various vehicle protection plans as well as life and accident and health insurance plans sold to consumers through BHA's dealerships and third party dealerships. BHA also develops proprietary training programs and materials, and provides ongoing monitoring and training of the dealership's finance and insurance personnel.

Home furnishings retailing

The home furnishings businesses consist of Nebraska Furniture Mart (“NFM”), R.C. Willey Home Furnishings (“R.C. Willey”), Star Furniture Company (“Star”) and Jordan’s Furniture, Inc. (“Jordan’s”). These businesses offer a wide selection of furniture, bedding and accessories. In addition, NFM and R.C. Willey sell a full line of major household appliances, electronics, computers and other home furnishings and offer customer financing to complement their retail operations. An important feature of each of these businesses is their ability to control costs and to produce high business volume by offering significant value to their customers.

NFM operates its business from three large retail complexes with almost 2.8 million square feet of retail space and sizable warehouse and administrative facilities in Omaha, Nebraska, Kansas City, Kansas and The Colony, Texas (a suburb of Dallas). NFM is the largest furniture retailer in each of these markets. The Colony, Texas store opened in 2015 and includes retail space of approximately 560,000 square feet. NFM also owns Homemakers Furniture located in Des Moines, Iowa, which has approximately 215,000 square feet of retail space. R.C. Willey, based in Salt Lake City, Utah, is the dominant home furnishings retailer in the Intermountain West region of the United States. R.C. Willey currently operates 11 retail stores and three distribution centers. These facilities include approximately 1.3 million square feet of retail space with six stores located in Utah, one store in Idaho, three stores in Nevada and one store in California.

Jordan’s operates a retail furniture business from six locations with approximately 770,000 square feet of retail space in stores located in Massachusetts, New Hampshire, Rhode Island and Connecticut. The retail stores are supported by an 800,000 square foot distribution center in Taunton, Massachusetts. Jordan’s is the largest furniture retailer, as measured by sales, in Massachusetts and New Hampshire. Jordan’s is well known in its markets for its unique store arrangements and advertising campaigns. Star’s retail facilities include about 700,000 square feet of retail space in 11 locations in Texas with eight in Houston. Star maintains a dominant position in each of its markets.

Other retailing

Borsheim Jewelry Company, Inc. (“Borsheims”) operates from a single store in Omaha, Nebraska. Borsheims is a high volume retailer of fine jewelry, watches, crystal, china, stemware, flatware, gifts and collectibles. Helzberg’s Diamond Shops, Inc. (“Helzberg”) is based in North Kansas City, Missouri, and operates a chain of 213 retail jewelry stores in 36 states, which includes approximately 460,000 square feet of retail space. Helzberg’s stores are located in malls, lifestyle centers, power strip centers and outlet malls, and all stores operate under the name *Helzberg Diamonds®* or *Helzberg Diamonds Outlet®*. The Ben Bridge Corporation (“Ben Bridge Jeweler”), based in Seattle, Washington, operates a chain of 93 upscale retail jewelry stores located in 11 states primarily in the Western United States and in British Columbia, Canada. Forty-four of its retail locations are concept stores that sell only PANDORA jewelry. Principal products include finished jewelry and timepieces. Ben Bridge Jeweler stores are located primarily in major shopping malls.

See’s Candies (“See’s”) produces boxed chocolates and other confectionery products with an emphasis on quality and distinctiveness in two large kitchens in Los Angeles and San Francisco and one smaller facility in Burlingame, California. See’s operates approximately 245 retail and quantity discount stores located mainly in California and other Western states. See’s revenues are highly seasonal with nearly half of its annual revenues earned in the fourth quarter.

The Pampered Chef, Ltd. (“Pampered Chef”) is a premier direct seller of distinctive high quality kitchenware products with operations in the United States, Canada and Germany. Pampered Chef’s product portfolio consists of approximately 400 Pampered Chef® branded kitchenware items in categories ranging from stoneware and cutlery to grilling and entertaining. Pampered Chef’s products are available online as well as through a sales force of independent cooking consultants.

Oriental Trading Company (“OTC”) is a leading multi-channel retailer and online destination for value-priced party supplies, arts and crafts, toys and novelties, school supplies and educational games. OTC, headquartered in Omaha, Nebraska, serves a broad base of nearly four million customers annually, including consumers, schools, churches, non-profit organizations, medical and dental offices and other businesses. OTC offers over 50,000 products on its websites, and utilizes sophisticated digital and print marketing efforts.

In April 2015, Berkshire acquired Detlev Louis Motorrad (“Louis”) which is headquartered in Hamburg, Germany. Louis is a leading retailer of motorcycle apparel and equipment in Europe. Louis carries over 32,000 different products from more than 600 manufacturers, primarily covering the clothing, technical equipment and leisure markets. Louis has over 70 stores in Germany and Austria and also sells through catalogs and via the Internet throughout most of Europe.

Finance and Financial Products

Berkshire's finance and financial products activities include an integrated manufactured housing and finance business, transportation equipment leasing and furniture leasing. Berkshire's finance and financial products businesses employ approximately 25,600 people in the aggregate. Information concerning these activities follows.

Clayton Homes

Clayton Homes, Inc. ("Clayton"), headquartered near Knoxville, Tennessee, is a vertically integrated housing company utilizing manufactured, modular and site built methods. Clayton's homes are marketed in 48 states through a network of over 2,000 retailers, including 353 company-owned home centers and 118 subdivisions. Home finance and insurance products are offered through its subsidiaries primarily to purchasers of manufactured and modular homes.

In 2015, Clayton acquired its first site builder and has since added four additional site builders. Clayton plans to continue to seek acquisitions that fit its business model. Clayton delivered approximately 49,000 homes in 2017 at various price points. Clayton competes based on price, service, delivery capabilities and product performance and considers the ability to make financing available to retail purchasers a factor affecting the market acceptance of its products.

Clayton's financing programs support company-owned home centers and select independent retailers. Proprietary loan underwriting guidelines have been developed and include ability to repay calculations, including debt to income limits, consideration of residual income and credit score requirements, which are considered in evaluating loan applicants. Currently, approximately 70% of the loan originations are home-only loans and the remaining 30% have land as additional collateral. The average down payment is approximately 15%, which may be from cash, trade or land equity. Certain loan types require an independent third-party valuation; additionally, if land is involved in the transaction it generally is independently appraised in order to establish the value of the land only or the home and the land as a package. Originated loans are at fixed rates and for fixed terms. Loans outstanding include non-government originations, bulk purchases of contracts and notes from banks and other lenders. Clayton also provides inventory financing to certain independent retailers and community operators and services housing contracts and notes that were not purchased or originated. The bulk contract purchases and servicing arrangements may relate to the portfolios of other lenders or finance companies, governmental agencies, or other entities that purchase and hold housing contracts and notes. Clayton also acts as an agent on physical damage insurance policies, homebuyer protection plan policies and other programs.

Transportation Equipment Leasing

UTLX Company ("UTLX"), headquartered in Chicago, Illinois, operates railcar, crane, intermodal tank container, manufacturing and service businesses under several brand names. Union Tank Car is a leading designer, builder and full-service lessor of tank cars and other specialized railcars. Union Tank Car and its Canadian affiliate Procor own a fleet of over 130,000 railcars which they lease to chemical, petrochemical, energy and agricultural/food customers across North America, supported by railcar repair facilities and mobile units. Union Tank Car also manufactures tank cars in two U.S. plants. Sterling Crane located in Canada and the U.S. and Freo Group located in Australia are major mobile crane service providers with a total fleet of approximately 1,000 cranes primarily serving energy, mining and petrochemical markets. EXSIF Worldwide is a leading international lessor of intermodal tank containers with a fleet of approximately 50,000 units primarily serving chemical producers and logistics operators.

UTLX has a large number of customers diversified both geographically and across industries. UTLX, while subject to cyclicity and significant competition in all of its markets, competes by offering a broad range of high quality products and services targeted at its niche markets from geographically strategic locations. Railcars and intermodal tank containers are usually leased for multiple-year terms and most of the leases are renewed upon expiration. As a result of selective ongoing capital investment and high maintenance standards, utilization rates (the number of units on lease to total units available) of UTLX's railcar, crane and intermodal tank container equipment are generally relatively high. Following the downturn of oil and gas related markets in recent years, renewal rental rates have declined in each of these markets and has precipitated a decline in utilization in UTLX's railcar leasing business, which has a meaningful effect on UTLX. While tank cars operate in a highly regulated environment in North America, regulatory changes are not expected to materially impact UTLX's operational capability, competitive position, or financial strength.

XTRA Corporation ("XTRA"), headquartered in St. Louis, Missouri, is a leading transportation equipment lessor operating under the XTRA Lease® brand name. XTRA manages a diverse fleet of approximately 81,000 units located at 51 facilities throughout the United States. The fleet includes over-the-road and storage trailers, chassis, temperature controlled vans and flatbed trailers. XTRA is one of the largest lessors (in terms of units available) of over-the-road trailers in North America. Transportation equipment customers lease equipment to cover cyclical, seasonal and geographic needs and as a substitute for purchasing equipment. Therefore, as a provider of marginal capacity to its customers, XTRA's utilization rates and operating results tend to be cyclical. In addition, transportation providers often use leasing to maximize their asset utilization and reduce capital expenditures. By maintaining a large fleet, XTRA is able to provide customers with a broad selection of equipment and quick response times.

Other financial activities

CORT Business Services Corporation is the leading national provider of rental relocation services including rental furniture, accessories and related services in the “rent-to-rent” market of the furniture rental industry. BH Finance LLC invests in fixed-income and equity instruments.

Additional information with respect to Berkshire’s businesses

Revenue, earnings before taxes and identifiable assets attributable to Berkshire’s reportable business segments are included in Note 23 to Berkshire’s Consolidated Financial Statements contained in Item 8, Financial Statements and Supplementary Data. Additional information regarding Berkshire’s investments in fixed maturity and equity securities is included in Notes 3 and 4, respectively, to Berkshire’s Consolidated Financial Statements.

Since June 2013, Berkshire has maintained significant investments in H.J. Heinz Holding Corporation (now The Kraft Heinz Company). Information concerning these investments is included in Note 5 to Berkshire’s Consolidated Financial Statements. Kraft Heinz is one of the largest food and beverage companies in the world, with sales in approximately 190 countries and territories. Kraft Heinz manufactures and markets food and beverage products, including condiments and sauces, cheese and dairy meals, meats, refreshment beverages, coffee and other grocery products, throughout the world, under a host of iconic brands including *Heinz, Kraft, Oscar Mayer, Philadelphia, Velveeta, Lunchables, Planters, Maxwell House, Capri Sun, Ore-Ida, Kool-Aid and Jell-O*.

Berkshire maintains a website (<http://www.berkshirehathaway.com>) where its annual reports, certain corporate governance documents, press releases, interim shareholder reports and links to its subsidiaries’ websites can be found. Berkshire’s periodic reports filed with the SEC, which include Form 10-K, Form 10-Q, Form 8-K and amendments thereto, may be accessed by the public free of charge from the SEC and through Berkshire. Electronic copies of these reports can be accessed at the SEC’s website (<http://www.sec.gov>) and indirectly through Berkshire’s website (<http://www.berkshirehathaway.com>). Copies of these reports may also be obtained, free of charge, upon written request to: Berkshire Hathaway Inc., 3555 Farnam Street, Omaha, NE 68131, Attn: Corporate Secretary. The public may read or obtain copies of these reports from the SEC at the SEC’s Public Reference Room at 450 Fifth Street N.W., Washington, D.C. 20549 (1-800-SEC-0330).

Item 1A. Risk Factors

Berkshire and its subsidiaries (referred to herein as “we,” “us,” “our” or similar expressions) are subject to certain risks and uncertainties in its business operations which are described below. The risks and uncertainties described below are not the only risks we face. Additional risks and uncertainties that are presently unknown or are currently deemed immaterial may also impair our business operations.

We are dependent on a few key people for our major investment and capital allocation decisions.

Major investment decisions and all major capital allocation decisions are made by Warren E. Buffett, Chairman of the Board of Directors and Chief Executive Officer, age 87, in consultation with Charles T. Munger, Vice Chairman of the Board of Directors, age 94. If for any reason the services of our key personnel, particularly Mr. Buffett, were to become unavailable, there could be a material adverse effect on our operations. However, Berkshire’s Board of Directors has identified certain current Berkshire subsidiary managers who, in their judgment, are capable of succeeding Mr. Buffett and has agreed on a replacement for Mr. Buffett should a replacement be needed currently. The Board continually monitors this risk and could alter its current view regarding a replacement for Mr. Buffett in the future. We believe that the Board’s succession plan, together with the outstanding managers running our numerous and highly diversified operating units helps to mitigate this risk.

We need qualified personnel to manage and operate our various businesses.

In our decentralized business model, we need qualified and competent management to direct day-to-day business activities of our operating subsidiaries and to manage changes in future business operations due to changing business or regulatory environments. Our operating subsidiaries also need qualified and competent personnel in executing their business plans and serving their customers, suppliers and other stakeholders. Our inability to recruit and retain qualified and competent managers and personnel could negatively affect the operating results, financial condition and liquidity of our subsidiaries and Berkshire as a whole.

The past growth rate in Berkshire's book value per share is not an indication of future results.

In the years since present management acquired control of Berkshire, our book value per share has grown at a highly satisfactory rate. Because of the large size of our capital base (Berkshire shareholders' equity was approximately \$348 billion as of December 31, 2017), our book value per share will very likely *not* increase in the future at a rate close to its past rate.

Investments are unusually concentrated and fair values are subject to loss in value.

We concentrate a high percentage of the investments of our insurance subsidiaries in a relatively small number of equity securities and diversify our investment portfolios far less than is conventional in the insurance industry. A significant decline in the fair values of our larger investments may produce a material decline in our consolidated shareholders' equity and our consolidated book value per share. Beginning in 2018, all changes in the fair values of equity securities (whether realized or unrealized) will be recognized as gains or losses in our consolidated statement of earnings. Accordingly, significant declines in the fair values of these securities will produce significant declines in our reported earnings.

Since a large percentage of our equity securities are held by our insurance subsidiaries, significant decreases in the fair values of these investments will produce significant declines in statutory surplus. Our large statutory surplus is a competitive advantage, and a material decline could have a materially adverse effect on our claims-paying ability ratings and our ability to write new insurance business thus potentially reducing our future underwriting profits.

Competition and technology may erode our business franchises and result in lower earnings.

Each of our operating businesses face intense competitive pressures within markets in which they operate. While we manage our businesses with the objective of achieving long-term sustainable growth by developing and strengthening competitive advantages, many factors, including market and technology changes, may erode or prevent the strengthening of competitive advantages. Accordingly, future operating results will depend to some degree on whether our operating units are successful in protecting or enhancing their competitive advantages. If our operating businesses are unsuccessful in these efforts, our periodic operating results in the future may decline.

Deterioration of general economic conditions may significantly reduce our operating earnings and impair our ability to access capital markets at a reasonable cost.

Our operating businesses are subject to normal economic cycles affecting the economy in general or the industries in which they operate. To the extent that the economy deteriorates for a prolonged period of time, one or more of our significant operations could be materially harmed. In addition, our utilities and energy businesses and our railroad business regularly utilize debt as a component of their capital structures. These businesses depend on having access to borrowed funds through the capital markets at reasonable rates. To the extent that access to the capital markets is restricted or the cost of funding increases, these operations could be adversely affected.

Terrorist acts could hurt our operating businesses.

A successful (as defined by the aggressor) cyber, biological, nuclear or chemical attack could produce significant losses to our worldwide operations. Our business operations could be adversely affected directly through the loss of human resources or destruction of production facilities and information systems. This is a risk that we share with all businesses.

Regulatory changes may adversely impact our future operating results.

In recent years, partially in response to financial markets crises, global economic recessions, and social and environmental issues, regulatory initiatives have accelerated in the United States and abroad. Such initiatives address for example, the regulation of banks and other major financial institutions, environmental and global-warming matters and health care reform. These initiatives impact not only our regulated insurance, energy and railroad transportation businesses, but also our manufacturing, services, retailing and financing businesses. Increased regulatory compliance costs could have a significant negative impact on our operating businesses, as well as on the businesses in which we have a significant but not controlling economic interest. We cannot predict whether such initiatives will have a material adverse impact on our consolidated financial position, results of operations or cash flows.

Cyber security risks

We rely on information technology in virtually all aspects of our business. Like those of many large businesses, certain of our information technology systems have been subject to computer viruses, malicious codes, unauthorized access, phishing efforts, denial-of-service attacks and other cyber attacks and we expect to be subject to similar attacks in the future as such attacks become more sophisticated and frequent. A significant disruption or failure of our information technology systems could result in service interruptions, safety failures, security violations, regulatory compliance failures, an inability to protect information and assets against intruders, and other operational difficulties. Attacks perpetrated against our information systems could result in loss of assets and critical information and expose us to remediation costs and reputational damage.

Although we have taken steps intended to mitigate these risks, including business continuity planning, disaster recovery planning and business impact analysis, a significant disruption or cyber intrusion could lead to misappropriation of assets or data corruption and could adversely affect our results of operations, financial condition and liquidity. Additionally, if we are unable to acquire, implement or protect rights around new technology, we may suffer a competitive disadvantage, which could also have an adverse effect on our results of operations, financial condition and liquidity.

Cyber attacks could further adversely affect our ability to operate facilities, information technology and business systems, or compromise confidential customer and employee information. Political, economic, social or financial market instability or damage to or interference with our operating assets, customers or suppliers may result in business interruptions, lost revenues, higher commodity prices, disruption in fuel supplies, lower energy consumption, unstable markets, increased security, repair or other costs, may materially adversely affect us in ways that cannot be predicted at this time. Any of these risks could materially affect our consolidated financial results. Furthermore, instability in the financial markets resulting from terrorism, sustained or significant cyber attacks, or war could also have a material adverse effect on our ability to raise capital. These are risks we share with all businesses.

Derivative contracts may require significant cash settlement payments and result in significant losses in the future.

We have assumed the risk of potentially significant losses under equity index put option contracts. Although we received considerable premiums as compensation for accepting these risks, there is no assurance that the premiums we received will exceed our aggregate settlement payments. Risks of losses under our equity index put option contracts are based on declines in equity prices of stocks comprising certain major stock indexes. When these contracts expire beginning in 2018, we could be required to make significant payments if equity index prices are significantly below the strike prices specified in the contracts.

Equity index put option contracts are recorded at fair value in our Consolidated Balance Sheet and the periodic changes in fair values are reported in earnings. Currently, the valuations of these contracts are primarily dependent on the related index values. Material decreases in index values may result in material losses in periodic earnings.

Risks unique to our regulated businesses

Our tolerance for risk in our insurance businesses may result in significant underwriting losses.

When properly paid for the risk assumed, we have been and will continue to be willing to assume more risk from a single event than any other insurer has knowingly assumed. Accordingly, we could incur a significant loss from a single event. We may also write coverages for losses arising from acts of terrorism. We attempt to take into account all possible correlations and avoid writing groups of policies from which pre-tax losses might aggregate above \$10 billion. Currently, we estimate that our aggregate exposure from a single event under outstanding policies is significantly below \$10 billion. However, despite our efforts, losses may aggregate in unanticipated ways. Our tolerance for significant insurance losses may result in lower reported earnings (or net losses) in a future period.

The degree of estimation error inherent in the process of estimating property and casualty insurance loss reserves may result in significant underwriting losses.

The principal cost associated with the property and casualty insurance business is claims. In writing property and casualty insurance policies, we receive premiums today and promise to pay covered losses in the future. However, it will take decades before all claims that have occurred as of any given balance sheet date will be reported and settled. Although we believe that liabilities for unpaid losses are adequate, we will not know whether these liabilities or the premiums charged for the coverages provided were sufficient until well after the balance sheet date. Estimating insurance claim costs is inherently imprecise. Our estimated unpaid losses arising under contracts covering property and casualty insurance risks are large (\$104 billion at December 31, 2017) so even small percentage increases to the aggregate liability estimate can result in materially lower future periodic reported earnings.

Changes in regulations and regulatory actions can adversely affect our operating results and our ability to allocate capital.

Our insurance businesses are subject to regulation in the jurisdictions in which we operate. Such regulations may relate to among other things, the types of business that can be written, the rates that can be charged for coverage, the level of capital that must be maintained, and restrictions on the types and size of investments that can be made. Regulations may also restrict the timing and amount of dividend payments to Berkshire by these businesses. Accordingly, changes in regulations related to these or other matters or regulatory actions imposing restrictions on our insurance companies may adversely impact our results of operations and restrict our ability to allocate capital.

Our railroad business conducted through BNSF is also subject to a significant number of governmental laws and regulations with respect to rates and practices, taxes, railroad operations and a variety of health, safety, labor, environmental and other matters. Failure to comply with applicable laws and regulations could have a material adverse effect on BNSF's business. Governments may change the legislative and/or regulatory framework within which BNSF operates without providing any recourse for any adverse effects that the change may have on the business. For example, federal legislation enacted in 2008 and amended in 2015 mandates the implementation of positive train control technology by December 31, 2018, on certain mainline track where inter-city and commuter passenger railroads operate and where toxic-by-inhalation ("TIH") hazardous materials are transported. Complying with legislative and regulatory changes may pose significant operating and implementation risks and require significant capital expenditures.

BNSF derives significant amounts of revenue from the transportation of energy-related commodities, particularly coal. To the extent that changes in government policies limit or restrict the usage of coal as a source of fuel in generating electricity or alternate fuels, such as natural gas, displace coal on a competitive basis, revenues and earnings could be adversely affected. As a common carrier, BNSF is also required to transport TIH chemicals and other hazardous materials. An accidental release of hazardous materials could expose BNSF to significant claims, losses, penalties and environmental remediation obligations. Changes in the regulation of the rail industry could negatively impact BNSF's ability to determine prices for rail services and to make capital improvements to its rail network, resulting in an adverse effect on our results of operations, financial condition or liquidity.

Our utilities and energy businesses operated under BHE are highly regulated by numerous federal, state, local and foreign governmental authorities in the jurisdictions in which they operate. These laws and regulations are complex, dynamic and subject to new interpretations and/or change. Regulations affect almost every aspect of our utilities and energy businesses. Regulations broadly apply and may limit management's ability to independently make and implement decisions regarding numerous matters including acquiring businesses; constructing, acquiring or disposing of operating assets; operating and maintaining generating facilities and transmission and distribution system assets; complying with pipeline safety and integrity and environmental requirements; setting rates charged to customers; establishing capital structures and issuing debt or equity securities; transacting between our domestic utilities and our other subsidiaries and affiliates; and paying dividends or similar distributions. Failure to comply with or reinterpretations of existing regulations and new legislation or regulations, such as those relating to air and water quality, renewable portfolio standards, cyber security, emissions performance standards, climate change, coal combustion byproduct disposal, hazardous and solid waste disposal, protected species and other environmental matters, or changes in the nature of the regulatory process may have a significant adverse impact on our financial results.

Our railroad business requires significant ongoing capital investment to improve and maintain its railroad network so that transportation services can be safely and reliably provided to customers on a timely basis. Our utilities and energy businesses also require significant amounts of capital to construct, operate and maintain generation, transmission and distribution systems to meet their customers' needs and reliability criteria. Additionally, system assets may need to be operational for long periods of time in order to justify the financial investment. The risk of operational or financial failure of capital projects is not necessarily recoverable through rates that are charged to customers. Further, a significant portion of costs of capital improvements are funded through debt issued by BNSF and BHE and their subsidiaries. Disruptions in debt capital markets that restrict access to funding when needed could adversely affect the results of operations, liquidity and capital resources of these businesses.

Item 1B. Unresolved Staff Comments

None.

Item 2. Description of Properties

The properties used by Berkshire's business segments are summarized in this section. Berkshire's railroad and utilities and energy businesses, in particular, utilize considerable physical assets in their businesses.

Railroad Business—Burlington Northern Santa Fe

Through BNSF Railway, BNSF operates approximately 32,500 route miles of track (excluding multiple main tracks, yard tracks and sidings) in 28 states, and also operates in three Canadian provinces. BNSF owns over 23,000 route miles, including easements, and operates over 9,000 route miles of trackage rights that permit BNSF to operate its trains with its crews over other railroads' tracks. The total BNSF system, including single and multiple main tracks, yard tracks and sidings, consists of over 50,000 operated miles of track, all of which are owned by or held under easement by BNSF except for over 10,000 miles operated under trackage rights.

BNSF operates various facilities and equipment to support its transportation system, including its infrastructure, locomotives and freight cars. It also owns or leases other equipment to support rail operations, such as vehicles. Support facilities for rail operations include yards and terminals throughout its rail network, system locomotive shops to perform locomotive servicing and maintenance, a centralized network operations center for train dispatching and network operations monitoring and management in Fort Worth, Texas, regional dispatching centers, computers, telecommunications equipment, signal systems and other support systems. Transfer facilities are maintained for rail-to-rail as well as intermodal transfer of containers, trailers and other freight traffic and include approximately 25 intermodal hubs located across the system. BNSF owns or holds under non-cancelable leases exceeding one year approximately 8,000 locomotives and 71,000 freight cars, in addition to maintenance of way and other equipment.

In the ordinary course of business, BNSF makes significant capital investments to expand and improve its railroad network. BNSF incurs significant costs in repairing and maintaining its properties. In 2017, BNSF recorded approximately \$2 billion in repairs and maintenance expense.

Utilities and Energy Businesses—Berkshire Hathaway Energy

BHE's energy properties consist of the physical assets necessary to support its electricity and natural gas businesses. Properties of BHE's electricity businesses include electric generation, transmission and distribution facilities, as well as coal mining assets that support certain of BHE's electric generating facilities. Properties of BHE's natural gas businesses include natural gas distribution facilities, interstate pipelines, storage facilities, compressor stations and meter stations. The transmission and distribution assets are primarily within each of BHE's utility service territories. In addition to these physical assets, BHE has rights-of-way, mineral rights and water rights that enable BHE to utilize its facilities. Pursuant to separate financing agreements, a majority of these properties are pledged or encumbered to support or otherwise provide the security for the related subsidiary debt. BHE or its affiliates own or have interests in the following types of electric generating facilities at December 31, 2017:

Energy Source	Entity	Location by Significance	Facility Net Capacity (MW) (1)	Net Owned Capacity (MW) (1)
Natural gas	PacifiCorp, MEC, NV Energy and BHE Renewables	Nevada, Utah, Iowa, Illinois, Washington, Oregon, Texas, New York, and Arizona	10,919	10,640
Coal	PacifiCorp, MEC and NV Energy	Wyoming, Iowa, Utah, Arizona, Nevada, Colorado and Montana	16,232	9,158
Wind	PacifiCorp, MEC and BHE Renewables	Iowa, Wyoming, Nebraska, Washington, California, Texas, Oregon, Illinois and Kansas	6,533	6,524
Solar	BHE Renewables and NV Energy	California, Texas, Arizona, Minnesota and Nevada	1,675	1,527
Hydroelectric	PacifiCorp, MEC and BHE Renewables	Washington, Oregon, The Philippines, Idaho, California, Utah, Hawaii, Montana, Illinois and Wyoming	1,299	1,277
Nuclear	MEC	Illinois	1,820	455
Geothermal	PacifiCorp and BHE Renewables	California and Utah	370	370
Total			38,848	29,951

(1) Facility Net Capacity (MW) represents the lesser of nominal ratings or any limitations under applicable interconnection, power purchase, or other agreements for intermittent resources and the total net dependable capability available during summer conditions for all other units. An intermittent resource's nominal rating is the manufacturer's contractually specified capability (in MW) under specified conditions. Net Owned Capacity indicates BHE's ownership of Facility Net Capacity.

As of December 31, 2017, BHE's subsidiaries also have electric generating facilities that are under construction in Iowa, Illinois and Minnesota having total Facility Net Capacity and Net Owned Capacity of 1,902 MW.

PacifiCorp, MEC and NV Energy own electric transmission and distribution systems, including approximately 24,800 miles of transmission lines and approximately 1,690 substations, gas distribution facilities, including approximately 26,800 miles of gas mains and service lines, and an estimated 39 million tons of recoverable coal reserves in mines owned or leased in Wyoming and Colorado.

The electricity distribution network of Northern Powergrid (Northeast) and Northern Powergrid (Yorkshire) includes approximately 17,400 miles of overhead lines, approximately 42,000 miles of underground cables and approximately 750 major substations. AltaLink's electricity transmission system includes approximately 8,100 miles of transmission lines and approximately 310 substations.

[Table of Contents](#)

Northern Natural's pipeline system consists of approximately 14,700 miles of natural gas pipelines, including approximately 6,300 miles of mainline transmission pipelines and approximately 8,400 miles of branch and lateral pipelines. Northern Natural's end-use and distribution market area includes points in Iowa, Nebraska, Minnesota, Wisconsin, South Dakota, Michigan and Illinois and its natural gas supply and delivery service area includes points in Kansas, Texas, Oklahoma and New Mexico. Storage services are provided through the operation of one underground natural gas storage field in Iowa, two underground natural gas storage facilities in Kansas and two liquefied natural gas storage peaking units, one in Iowa and one in Minnesota.

Kern River's system consists of approximately 1,700 miles of natural gas pipelines, including approximately 1,400 miles of mainline section, including 100 miles of lateral pipelines, and approximately 300 miles of common facilities. Kern River owns the entire mainline section, which extends from the system's point of origination in Wyoming through the Central Rocky Mountains into California.

Other Segments

The physical properties used by Berkshire's other significant business segments are summarized below:

<u>Business</u>	<u>Country</u>	<u>Location</u>	<u>Type of Property/Facility</u>	<u>Number of Properties</u>	<u>Owned/Leased</u>
Insurance:					
GEICO	U.S.	Chevy Chase, MD and 5 other states	Offices	12	Owned
		Various locations in 38 states	Offices	108	Leased
Berkshire Hathaway Reinsurance Group	U.S.	Stamford, CT	Offices	1	Owned
		Various locations	Offices	31	Leased
	Non-U.S.	Cologne, Germany	Offices	1	Owned
		Various locations in 22 countries	Offices	35	Leased
Berkshire Hathaway Primary Group	U.S.	Omaha, NE, Fort Wayne, IN, Princeton, NJ, Wilkes-Barre, PA and Oklahoma City, OK	Offices	7	Owned
		Various locations in 23 states	Offices	74	Leased
	Non-U.S.	Locations in 7 countries	Offices	10	Leased
Manufacturing	U.S.	Various locations	Manufacturing plants	481	Owned
			Manufacturing plants	143	Leased
			Offices/Warehouses	223	Owned
			Offices/Warehouses	403	Leased
			Retail/Showroom	16	Owned
			Retail/Showroom	49	Leased
	Non-U.S.	Various locations in over 60 countries	Manufacturing plants	202	Owned
			Manufacturing plants	132	Leased
			Offices/Warehouses	78	Owned
			Offices/Warehouses	526	Leased
			Retail/Showroom	5	Leased

[Table of Contents](#)

<u>Business</u>	<u>Country</u>	<u>Location</u>	<u>Type of Property/Facility</u>	<u>Number of Properties</u>	<u>Owned/Leased</u>
Service	U.S.	Various locations	Training facilities/Hangars	19	Owned
			Training facilities/Hangars	130	Leased
			Offices/Distribution	56	Owned
			Offices/Distribution	159	Leased
			Production facilities	26	Owned
			Production facilities	3	Leased
	Non-U.S.	Various locations in 33 countries	Offices/Distribution/ Hangars/Training facilities	19	Owned
			Offices/Distribution/ Hangars/Training facilities	129	Leased
McLane Company	U.S.	Various locations	Distribution centers/Offices	54	Owned
			Distribution centers/Offices	33	Leased
Retailing	U.S.	Various locations	Offices/Warehouses/Plants	29	Owned
			Offices/Warehouses	27	Leased
			Retail/Showroom	143	Owned
			Retail/Showroom	546	Leased
	Non-U.S.	Germany Locations in 6 countries	Office/Warehouse	1	Owned
			Retail/Offices	97	Leased
Finance & Financial Products	U.S.	Various locations	Manufacturing plants	67	Owned
			Manufacturing plants	6	Leased
			Offices/Warehouses	22	Owned
			Offices/Warehouses	73	Leased
			Leasing/Showroom/Retail	234	Owned
			Leasing/Showroom/Retail	255	Leased
			Housing communities	118	Owned
	Non-U.S.	Various locations in 12 countries	Manufacturing plants	22	Owned
			Manufacturing plants	32	Leased
			Offices/Warehouses	3	Owned
			Offices/Warehouses	25	Leased

Item 3. Legal Proceedings

Berkshire and its subsidiaries are parties in a variety of legal actions that routinely arise out of the normal course of business, including legal actions seeking to establish liability directly through insurance contracts or indirectly through reinsurance contracts issued by Berkshire subsidiaries. Plaintiffs occasionally seek punitive or exemplary damages. We do not believe that such normal and routine litigation will have a material effect on our financial condition or results of operations. Berkshire and certain of its subsidiaries are also involved in other kinds of legal actions, some of which assert or may assert claims or seek to impose fines and penalties. We believe that any liability that may arise as a result of other pending legal actions will not have a material effect on our consolidated financial condition or results of operations.

Item 4. Mine Safety Disclosures

Information regarding the Company's mine safety violations and other legal matters disclosed in accordance with Section 1503 (a) of the Dodd-Frank Reform Act is included in Exhibit 95 to this Form 10-K.

Executive Officers of the Registrant

Following is a list of the Registrant's named executive officers:

<u>Name</u>	<u>Age</u>	<u>Position with Registrant</u>	<u>Since</u>
Warren E. Buffett	87	Chairman and Chief Executive Officer	1970
Charles T. Munger	94	Vice Chairman	1978
Gregory E. Abel	55	Vice Chairman – Non-Insurance Operations	2018
Ajit Jain	66	Vice Chairman – Insurance Operations	2018
Marc D. Hamburg	68	Senior Vice-President – Chief Financial Officer	1992

Each executive officer serves, in accordance with the by-laws of the Registrant, until the first meeting of the Board of Directors following the next annual meeting of shareholders and until a successor is chosen and qualified or until such executive officer sooner dies, resigns, is removed or becomes disqualified.

FORWARD-LOOKING STATEMENTS

Investors are cautioned that certain statements contained in this document as well as some statements in periodic press releases and some oral statements of Berkshire officials during presentations about Berkshire or its subsidiaries are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995 (the "Act"). Forward-looking statements include statements which are predictive in nature, which depend upon or refer to future events or conditions, which include words such as "expects," "anticipates," "intends," "plans," "believes," "estimates" or similar expressions. In addition, any statements concerning future financial performance (including future revenues, earnings or growth rates), ongoing business strategies or prospects and possible future Berkshire actions, which may be provided by management, are also forward-looking statements as defined by the Act. Forward-looking statements are based on current expectations and projections about future events and are subject to risks, uncertainties and assumptions about Berkshire and its subsidiaries, economic and market factors and the industries in which we do business, among other things. These statements are not guarantees of future performance and we have no specific intention to update these statements.

Actual events and results may differ materially from those expressed or forecasted in forward-looking statements due to a number of factors. The principal risk factors that could cause our actual performance and future events and actions to differ materially from such forward-looking statements include, but are not limited to, changes in market prices of our investments in fixed maturity and equity securities, losses realized from derivative contracts, the occurrence of one or more catastrophic events, such as an earthquake, hurricane, act of terrorism or cyber attack that causes losses insured by our insurance subsidiaries and/or losses to our business operations, changes in laws or regulations affecting our insurance, railroad, utilities and energy and finance subsidiaries, changes in federal income tax laws, and changes in general economic and market factors that affect the prices of securities or the industries in which we do business.

Part II

Item 5. Market for Registrant's Common Equity, Related Security Holder Matters and Issuer Purchases of Equity Securities

Market Information

Berkshire's Class A and Class B common stock are listed for trading on the New York Stock Exchange, trading symbol: BRK.A and BRK.B. The following table sets forth the high and low sales prices per share, as reported on the New York Stock Exchange Composite List during the periods indicated:

	2017				2016			
	Class A		Class B		Class A		Class B	
	High	Low	High	Low	High	Low	High	Low
First Quarter	\$266,445	\$237,983	\$177.86	\$158.61	\$215,130	\$186,900	\$143.40	\$123.55
Second Quarter	257,944	242,180	171.95	160.93	221,985	205,074	148.03	136.65
Third Quarter	275,945	252,254	184.00	168.00	226,490	211,500	151.05	140.95
Fourth Quarter	301,000	270,250	200.50	180.44	250,786	213,030	167.25	141.92

Shareholders

Berkshire had approximately 2,100 record holders of its Class A common stock and 19,800 record holders of its Class B common stock at February 12, 2018. Record owners included nominees holding at least 410,000 shares of Class A common stock and 1,339,000,000 shares of Class B common stock on behalf of beneficial-but-not-of-record owners.

Dividends

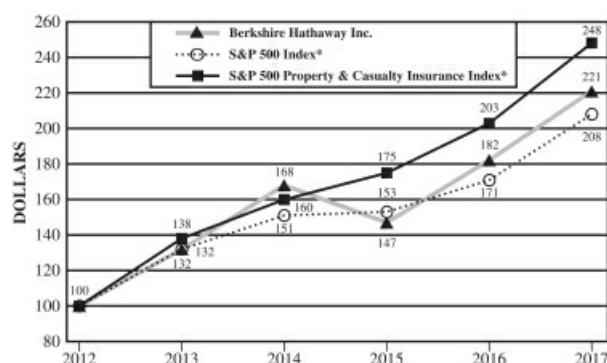
Berkshire has not declared a cash dividend since 1967.

Common Stock Repurchase Program

Berkshire's Board of Directors has approved a common stock repurchase program permitting Berkshire to repurchase its Class A and Class B shares at prices no higher than a 20% premium over the book value of the shares. The program allows share repurchases in the open market or through privately negotiated transactions and does not specify a maximum number of shares to be repurchased. There were no share repurchases under the program in 2017.

Stock Performance Graph

The following chart compares the subsequent value of \$100 invested in Berkshire common stock on December 31, 2012 with a similar investment in the Standard & Poor's 500 Stock Index and in the Standard & Poor's Property – Casualty Insurance Index.**



* Cumulative return for the Standard & Poor's indices based on reinvestment of dividends.

** It would be difficult to develop a peer group of companies similar to Berkshire. The Corporation owns subsidiaries engaged in a number of diverse business activities of which the most important is the property and casualty insurance business and, accordingly, management has used the Standard & Poor's Property—Casualty Insurance Index for comparative purposes.

Item 6. Selected Financial Data
Selected Financial Data for the Past Five Years
(dollars in millions except per-share data)

	2017	2016	2015	2014	2013
Revenues:					
Insurance premiums earned	\$ 60,597	\$ 45,881	\$ 41,294	\$ 41,253	\$ 36,684
Sales and service revenues	125,963	119,489	107,001	97,097	92,993
Railroad, utilities and energy revenues	39,943	37,542	40,004	40,690	34,757
Interest, dividend and other investment income	5,144	4,725	5,357	5,052	5,196
Finance and financial products sales and service revenues and interest and dividend income	8,362	7,663	6,940	6,526	6,109
Investment and derivative gains/losses	2,128	8,304	10,347	4,081	6,673
Total revenues	<u>\$ 242,137</u>	<u>\$ 223,604</u>	<u>\$ 210,943</u>	<u>\$ 194,699</u>	<u>\$ 182,412</u>
Earnings:					
Net earnings attributable to Berkshire Hathaway ⁽¹⁾	<u>\$ 44,940</u>	<u>\$ 24,074</u>	<u>\$ 24,083</u>	<u>\$ 19,872</u>	<u>\$ 19,476</u>
Net earnings per share attributable to Berkshire Hathaway shareholders ⁽²⁾	<u>\$ 27,326</u>	<u>\$ 14,645</u>	<u>\$ 14,656</u>	<u>\$ 12,092</u>	<u>\$ 11,850</u>
Year-end data:					
Total assets	\$ 702,095	\$ 620,854	\$ 552,257	\$ 525,867	\$ 484,624
Notes payable and other borrowings:					
Insurance and other	27,324	27,175	14,599	11,854	12,396
Railroad, utilities and energy	62,178	59,085	57,739	55,306	46,399
Finance and financial products	13,085	15,384	11,951	12,730	13,122
Berkshire Hathaway shareholders' equity ⁽³⁾	348,296	282,070	254,619	239,239	220,959
Class A equivalent common shares outstanding, in thousands	1,645	1,644	1,643	1,643	1,644
Berkshire Hathaway shareholders' equity per outstanding Class A equivalent common share ⁽³⁾	\$ 211,750	\$ 171,542	\$ 154,935	\$ 145,619	\$ 134,407

- (1) Includes after-tax investment and derivative gains/losses of \$1.4 billion in 2017, \$6.5 billion in 2016, \$6.7 billion in 2015, \$3.3 billion in 2014 and \$4.3 billion in 2013. Net earnings in 2017 includes a one-time net benefit of \$29.1 billion attributable to the enactment of the Tax Cuts and Jobs Act of 2017.
- (2) Represents net earnings per average equivalent Class A share outstanding. Net earnings per average equivalent Class B common share outstanding is equal to 1/1,500 of such amount.
- (3) Beginning in 2017, discounting of certain workers' compensation claim liabilities for financial reporting purposes was discontinued. The effect of the change was immaterial to the Consolidated Statements of Earnings from 2013 through 2016, and such amounts were not restated. The after-tax net discount as of December 31, 2016 of \$931 million was charged to retained earnings as of the earliest period presented. Accordingly, shareholders' equity and shareholders' equity per Class A equivalent common share for the years 2013-2016 have been restated from the amounts previously reported.

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

Results of Operations

Net earnings attributable to Berkshire Hathaway shareholders for each of the past three years are disaggregated in the table that follows. Amounts are after deducting income taxes and exclude earnings attributable to noncontrolling interests (in millions).

	2017	2016	2015
Insurance – underwriting	\$(2,219)	\$ 1,370	\$ 1,162
Insurance – investment income	3,917	3,636	3,725
Railroad	3,959	3,569	4,248
Utilities and energy	2,083	2,287	2,132
Manufacturing, service and retailing	6,208	5,631	4,683
Finance and financial products	1,335	1,427	1,378
Investment and derivative gains/losses	1,377	6,497	6,725
Other	(826)	(343)	30
Tax Cuts and Jobs Act of 2017	29,106	—	—
Net earnings attributable to Berkshire Hathaway shareholders	<u>\$44,940</u>	<u>\$24,074</u>	<u>\$24,083</u>

Through our subsidiaries, we engage in a number of diverse business activities. We manage our operating businesses on an unusually decentralized basis. There are essentially no centralized or integrated business functions and there is minimal involvement by our corporate headquarters in the day-to-day business activities of the operating businesses. Our senior corporate management team participates in and is ultimately responsible for significant capital allocation decisions, investment activities and the selection of the Chief Executive to head each of the operating businesses. It also is responsible for establishing and monitoring Berkshire's corporate governance practices. The business segment data (Note 23 to the accompanying Consolidated Financial Statements) should be read in conjunction with this discussion.

Our net earnings in 2017 included approximately \$29.1 billion attributable to a one-time net benefit from the enactment of the Tax Cuts and Jobs Act ("TCJA") on December 22, 2017. See Note 16 to the Consolidated Financial Statements. This benefit included approximately \$29.6 billion related to a one-time non-cash reduction of our net deferred income tax liabilities that arose from the reduction in the statutory U.S. corporate income tax rate from 35% to 21%, as well as a net benefit of approximately \$900 million primarily from our earnings from Kraft Heinz, partly offset by a one-time income tax expense of approximately \$1.4 billion payable over eight years on the deemed repatriation of certain accumulated undistributed earnings of foreign subsidiaries. Due to their significance, we presented these one-time effects as a distinct item in the preceding table. Accordingly, the after-tax figures presented in the discussion of our various operating businesses and other activities in this section exclude the one-time effects of the TCJA.

Our insurance businesses generated after-tax losses from underwriting of \$2.2 billion in 2017 compared to after-tax gains of \$1.4 billion in 2016 and \$1.2 billion in 2015. Underwriting results for 2017 included estimated pre-tax losses of approximately \$3.0 billion (\$1.95 billion after-tax), primarily attributable to three major hurricanes in the U.S. and Puerto Rico and wildfires in California. Underwriting results in each year also included after-tax foreign currency exchange rate gains and losses from the revaluation of certain non-U.S. Dollar denominated reinsurance liabilities. In 2017, such after-tax losses were \$295 million compared to after-tax gains of \$458 million in 2016 and \$164 million in 2015.

After-tax earnings of our railroad business in 2017 were \$4.0 billion, an increase of 10.9% compared to 2016, reflecting increased unit volume. Our railroad business generated lower net earnings in 2016 compared to 2015, primarily due to a 5.0% decline in unit volume. After-tax earnings of our utility and energy business in 2017 declined \$204 million compared to 2016. Earnings in 2017 were negatively affected by losses from the prepayment of certain long-term debt. After-tax earnings of our utilities and energy businesses increased in 2016 compared to 2015, attributable to increased pre-tax earnings and a lower effective income tax rate.

After-tax earnings of our manufacturing, service and retailing businesses in 2017 were \$6.2 billion, an increase of 10.2% compared to 2016. Earnings in 2017 reflected comparatively higher earnings from several of our larger operations and the impact of businesses acquired in 2016 and 2017. After-tax earnings in 2016 of our manufacturing, service and retailing businesses increased compared to 2015, primarily due to earnings from Precision Castparts, which was acquired on January 29, 2016, partly offset by comparatively lower overall earnings from the other businesses within this group.

Management's Discussion and Analysis (Continued)
Results of Operations (Continued)

After-tax investment and derivative gains were approximately \$1.4 billion in 2017, \$6.5 billion in 2016 and \$6.7 billion in 2015. The gains in 2016 included approximately \$2.7 billion from the redemptions of our Wrigley and Kraft Heinz preferred stock investments, sales of Dow Chemical common stock that we received upon conversion of our Dow Chemical preferred stock investment and a non-cash gain of approximately \$1.9 billion related to the exchange of Procter & Gamble ("P&G") common stock for 100% of the common stock of Duracell. Gains in 2015 included non-cash holding gains of approximately \$4.4 billion in connection with our investment in Kraft Heinz common stock.

After-tax unrealized gains in 2017 related to our investments in equity securities included in other comprehensive income were approximately \$19 billion. Beginning in 2018, unrealized gains and losses on equity securities will be included in net earnings due to a new accounting standard. We believe that investment and derivative gains/losses, whether realized from sales or unrealized from changes in market prices, are often meaningless in terms of understanding our reported results or evaluating our periodic economic performance. Investment and derivative gains and losses have caused and will continue to cause significant volatility in our earnings.

Other earnings in 2017 and 2016 included after-tax foreign currency exchange rate gains and losses related to parent company Euro-denominated debt. After-tax foreign exchange losses on our Euro-denominated debt were \$655 million in 2017 compared to after-tax gains of \$159 million in 2016. In addition, other earnings includes earnings from our investment in Kraft Heinz.

Insurance—Underwriting

We engage in both primary insurance and reinsurance of property/casualty, life and health risks. In primary insurance activities, we assume defined portions of the risks of loss from persons or organizations that are directly subject to the risks. In reinsurance activities, we assume defined portions of similar or dissimilar risks that other insurers or reinsurers have subjected themselves to in their own insuring activities. Our insurance and reinsurance businesses are GEICO, Berkshire Hathaway Reinsurance Group ("BHRG") and Berkshire Hathaway Primary Group.

Our management views insurance businesses as possessing two distinct operations – underwriting and investing. Underwriting decisions are the responsibility of the unit managers, while investing decisions are the responsibility of Berkshire's Chairman and CEO, Warren E. Buffett and Berkshire's corporate investment managers. Accordingly, we evaluate performance of underwriting operations without any allocation of investment income or investment gains/losses. We consider investment income as a component of our aggregate insurance operating results. However, we consider investment gains and losses, whether realized or unrealized as non-operating, based on our long-held philosophy of acquiring securities and holding those securities for long periods. Accordingly, we believe that such gains and losses are not predictable or necessarily meaningful in understanding the operating results of our insurance operations.

The timing and amount of catastrophe losses can produce significant volatility in our periodic underwriting results, particularly with respect to our reinsurance businesses. Generally, we consider pre-tax catastrophe losses in excess of \$100 million from a current year event as significant, and we had six such events in 2017. There were no significant events in either 2016 or 2015. Changes in estimates for unpaid losses and loss adjustment expenses, including amounts established for occurrences in prior years can also significantly affect our periodic underwriting results. Unpaid loss estimates, including estimates under retroactive reinsurance contracts as of December 31, 2017 were approximately \$104 billion. These estimates will be revised upward or downward in future periods, which could produce significant decreases or increases to pre-tax earnings. Our periodic underwriting results may also include significant foreign currency transaction gains and losses arising from the changes in the valuation of non-U.S. Dollar denominated reinsurance liabilities of our U.S. based insurance subsidiaries due to foreign currency exchange rate fluctuations. Foreign currency exchange rates can be volatile and the resulting impact on our underwriting earnings can be relatively significant.

Underwriting results of our insurance businesses are summarized below (in millions).

	2017	2016	2015
Underwriting gain (loss):			
GEICO	\$ (310)	\$ 462	\$ 460
Berkshire Hathaway Reinsurance Group	(3,648)	1,012	553
Berkshire Hathaway Primary Group	719	657	824
Pre-tax underwriting gain (loss)	(3,239)	2,131	1,837
Income taxes and noncontrolling interests	(1,020)	761	675
Net underwriting gain (loss)	<u>\$ (2,219)</u>	<u>\$ 1,370</u>	<u>\$ 1,162</u>

Management's Discussion and Analysis (Continued)
Insurance—Underwriting (Continued)
GEICO

GEICO writes private passenger automobile insurance, offering coverages to insureds in all 50 states and the District of Columbia. GEICO markets its policies mainly by direct response methods where most customers apply for coverage directly to the company via the Internet or over the telephone. A summary of GEICO's underwriting results follows (dollars in millions).

	2017		2016		2015	
	Amount	%	Amount	%	Amount	%
Premiums written	\$ 30,547		\$ 26,309		\$ 23,378	
Premiums earned	\$ 29,441	100.0	\$ 25,483	100.0	\$ 22,718	100.0
Losses and loss adjustment expenses	25,497	86.6	21,044	82.6	18,647	82.1
Underwriting expenses	4,254	14.5	3,977	15.6	3,611	15.9
Total losses and expenses	29,751	101.1	25,021	98.2	22,258	98.0
Pre-tax underwriting gain (loss)	\$ (310)		\$ 462		\$ 460	

Premiums written in 2017 were \$30.5 billion, an increase of 16.1% compared to 2016. Premiums earned in 2017 were \$29.4 billion, exceeding 2016 by approximately \$4.0 billion (15.5%). During 2017, our voluntary auto policies-in-force grew approximately 8.6% and premiums per auto policy increased 6.9%. The increase in average premiums per policy was attributable to rate increases, coverage changes and changes in state and risk mix. Voluntary auto new business sales in 2017 increased 10.5% compared to 2016. Voluntary auto policies-in-force increased approximately 1,276,000 during 2017.

We incurred pre-tax underwriting losses in 2017, which included approximately \$450 million from hurricanes Harvey and Irma. Our underwriting results in 2017 were also affected by increased average claims severities. Losses and loss adjustment expenses in 2017 were \$25.5 billion, an increase of approximately \$4.5 billion (21.2%) compared to 2016. Our loss ratio (the ratio of losses and loss adjustment expenses to earned premiums) in 2017 increased 4.0 percentage points compared to 2016. Average claims severities were higher in 2017 for property damage and collision coverages (four to six percent range) and bodily injury coverage (five to seven percent range). Claims frequencies in 2017 were relatively unchanged compared to 2016 for bodily injury coverage, decreased about one percent for property damage and collision coverages and decreased about two to three percent for personal injury protection coverage. Losses and loss adjustment expenses in 2017 also included pre-tax losses of \$517 million from the re-estimation of liabilities for prior years' claims compared to pre-tax gains of \$61 million in 2016 and \$150 million in 2015.

Underwriting expenses increased \$277 million (7.0%) compared to 2016. Our expense ratios (underwriting expenses to premiums earned) in 2017 declined 1.1 percentage points compared to 2016. The largest components of underwriting expenses are employee-related (salaries and benefits) and advertising, which increased at lower rates than premiums earned.

Premiums written in 2016 increased 12.5% to \$26.3 billion and premiums earned increased approximately \$2.8 billion (12.2%) to \$25.5 billion, compared to 2015. These increases reflected voluntary auto policies-in-force growth of 7% and increased average premiums per auto policy. Voluntary auto new business sales in 2016 increased 10.9% compared to the prior year. Voluntary auto new business growth accelerated over the last half of 2016 and, for the year, voluntary auto policies-in-force increased 974,000.

Losses and loss adjustment expenses incurred in 2016 increased \$2.4 billion (12.9%) to \$21.0 billion and our loss ratio in 2016 increased 0.5 percentage points compared to 2015. In 2016, we experienced increases in storm losses (primarily from hail and flooding) and claims severity, partly offset by the effects of premium rate increases. Claims frequencies in 2016 were relatively unchanged from 2015 for property damage, collision, bodily injury and personal injury protection coverages. Average claims severities were higher in 2016 for bodily injury, physical damage and collision coverages (four to six percent range). Underwriting expenses in 2016 were \$4.0 billion, an increase of \$366 million (10.1%) over 2015. The increase in underwriting expenses in 2016 reflected the increase in policies-in-force.

Management's Discussion and Analysis (Continued)
Insurance—Underwriting (Continued)
Berkshire Hathaway Reinsurance Group

We offer excess-of-loss and quota-share reinsurance coverages on property and casualty risks and life and health reinsurance to insurers and reinsurers worldwide through several legal entities, led by National Indemnity Company ("NICO Group"), Berkshire Hathaway Life Insurance Company of Nebraska ("BHLN Group"), and General Reinsurance Corporation, General Reinsurance AG and General Re Life Corporation (collectively, "General Re Group"). We also periodically assume property and casualty risks under retroactive reinsurance contracts written through NICO. In addition, the BHLN Group writes periodic payment annuity contracts.

With the exception of our retroactive reinsurance and periodic payment annuity businesses, we strive to generate pre-tax underwriting profits in all product lines. Time-value-of-money concepts are important elements in establishing prices for our retroactive reinsurance and periodic payment annuity businesses due to the expected long durations of the liabilities. We expect to incur pre-tax underwriting losses from such businesses, primarily through deferred charge amortization and discount accretion charges. Premiums received at inception under these contracts are often large, which are then available for investment. A summary of the premiums and pre-tax underwriting results of our reinsurers follows (in millions).

	Premiums written			Premiums earned			Pre-tax underwriting gain (loss)		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Property/casualty	\$ 7,713	\$ 6,993	\$ 7,427	\$ 7,552	\$ 7,218	\$ 7,221	\$(1,595)	\$ 895	\$1,095
Retroactive reinsurance	10,755	1,254	5	10,755	1,254	5	(1,330)	(60)	(470)
	18,468	8,247	7,432	18,307	8,472	7,226	(2,925)	835	625
Life/health	4,846	4,588	4,665	4,808	4,587	4,670	(52)	305	130
Periodic payment annuity	898	1,082	1,286	898	1,082	1,286	(671)	(128)	(202)
	5,744	5,670	5,951	5,706	5,669	5,956	(723)	177	(72)
	<u>\$24,212</u>	<u>\$13,917</u>	<u>\$13,383</u>	<u>\$24,013</u>	<u>\$14,141</u>	<u>\$13,182</u>	<u>\$(3,648)</u>	<u>\$1,012</u>	<u>\$ 553</u>

Property/casualty

A summary of premiums and underwriting results of our property/casualty reinsurance businesses follows (in millions).

	Premiums written			Premiums earned			Pre-tax underwriting gain (loss)		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
NICO Group	\$ 4,371	\$ 4,433	\$ 4,702	\$ 4,451	\$ 4,649	\$4,416	\$(1,044)	\$767	\$ 944
General Re Group	3,342	2,560	2,725	3,101	2,569	2,805	(551)	128	151
	<u>\$ 7,713</u>	<u>\$ 6,993</u>	<u>\$ 7,427</u>	<u>\$ 7,552</u>	<u>\$ 7,218</u>	<u>\$7,221</u>	<u>\$(1,595)</u>	<u>895</u>	<u>1,095</u>

NICO Group's premiums earned were \$4.4 billion, a decrease of \$198 million (4%) in 2017 compared to 2016, while premiums written declined slightly. Roughly 40% of NICO Group's premiums written and earned in 2017 and 2016 derived from a 10-year, 20% quota-share contract with Insurance Australia Group Ltd. ("IAG") that inceptioned in July 2015. General Re Group's premiums earned were \$3.1 billion in 2017, an increase of \$532 million (21%) compared to 2016. The increase reflected higher written premiums in both direct and broker markets, derived primarily from new business and increased participations for renewal business. Industry capacity dedicated to property and casualty markets remains high and price competition in most reinsurance markets persists. We continue to decline business when we believe prices are inadequate.

On a combined basis, our property/casualty reinsurance business sustained pre-tax underwriting losses of \$1.6 billion in 2017. We incurred estimated losses of approximately \$2.4 billion in 2017 from several significant catastrophe loss events occurring during the year including hurricanes Harvey, Irma and Maria, an earthquake in Mexico, a cyclone in Australia and wildfires in California. There were no significant catastrophe loss events in 2016 or 2015.

Management's Discussion and Analysis (Continued)***Insurance—Underwriting (Continued)******Property/casualty (Continued)***

On a combined basis, we also decreased estimated ultimate claims liabilities for prior years' loss events by \$295 million in 2017 compared to \$955 million in 2016. The comparative decline reflected higher than expected reported property claims and the effects of increases in certain United Kingdom ("U.K.") claim liabilities attributable to the U.K. Ministry of Justice's decision in the first quarter of 2017 to reduce the fixed discount rate required in lump sum settlement calculations of U.K. personal injury claims, known as the Ogden rate, from 2.5% to negative 0.75%. The Ogden rate is subject to adjustment in the future at the discretion of the U.K. Government and significant changes in that rate may have a significant effect on our claim liability estimates.

NICO Group's premiums earned in 2016 increased \$233 million (5%) compared to 2015 reflecting the impact of the IAG quota-share contract, partly offset by declines from other business, while General Re Group's premiums earned declined \$236 million (8%) versus 2015. The decline in General Re Group's premiums earned was primarily due to lower volume in direct and broker market business.

Our property/casualty reinsurers produced pre-tax underwriting gains of \$895 million in 2016 and \$1,095 million in 2015. On a combined basis, we decreased estimated ultimate claims liabilities for prior years' loss events by \$955 million in 2016 and \$1.2 billion in 2015. These decreases were primarily attributable to lower than expected reported losses from ceding companies with respect to property coverages. Pre-tax underwriting results in 2016 and 2015 included discount accretion related to certain workers' compensation claim liabilities of \$80 million in 2016 and \$82 million in 2015. There was no effect from discounting on 2017 results, as the practice of discounting these related liabilities was discontinued in 2017.

Retroactive reinsurance

Premiums earned in 2017 included \$10.2 billion from an aggregate excess-of-loss retroactive reinsurance agreement with various subsidiaries of American International Group, Inc. (the "AIG Agreement"). At the inception of the AIG Agreement, we also recorded losses and loss adjustment expenses incurred of \$10.2 billion, representing our initial estimate of the unpaid losses and loss adjustment expenses assumed of \$16.4 billion, partly offset by an initial deferred charge asset of \$6.2 billion. Thus, on the effective date, the AIG Agreement had no effect on our pre-tax underwriting results. In the fourth quarter of 2017, we increased our ultimate claim liability estimates related to the AIG Agreement by approximately \$1.8 billion based on higher than expected loss payments being reported under the contractual retention, which affected our estimate of our liability. We also increased the related deferred charge asset by \$1.7 billion based on our re-estimation of the amount and timing of our recorded liabilities.

Certain liabilities related to retroactive reinsurance contracts written by our U.S. subsidiaries are denominated in foreign currencies. Underwriting results included pre-tax losses of \$264 million in 2017 and pre-tax gains of \$392 million in 2016 and \$150 million in 2015 associated with the re-measurement of such liabilities due to changes in foreign currency exchange rates, primarily related to the Great Britain Pound Sterling ("GBP").

Pre-tax underwriting losses before foreign currency gains/losses were \$1,066 million in 2017, \$452 million in 2016 and \$620 million in 2015 derived from deferred charge amortization and changes in the timing and amount of ultimate losses. Pre-tax losses in 2017 increased compared to 2016, due to amortization charges related to new contracts, including the AIG Agreement, partly offset by lower amortization on prior years' contracts. Changes in estimated ultimate liabilities for prior years' contracts were relatively insignificant in 2017 and 2016. During 2015, we increased estimated ultimate liabilities approximately \$550 million for prior years' contracts. The increase in estimated ultimate liabilities, net of related deferred charge adjustments, produced incremental pre-tax underwriting losses of approximately \$90 million in 2015.

Gross unpaid losses assumed under retroactive reinsurance contracts were approximately \$42.9 billion at December 31, 2017 and \$25.0 billion at December 31, 2016. Unamortized deferred charge assets related to such reinsurance contracts were approximately \$15.3 billion at December 31, 2017 and \$8.0 billion at December 31, 2016. The increases in unpaid losses and deferred charges were predominantly attributable to the AIG Agreement. Our deferred charge asset balances will be amortized as charges to pre-tax earnings over the expected remaining claims settlement period.

Management's Discussion and Analysis (Continued)
Insurance—Underwriting (Continued)
Life/health

Premiums earned and pre-tax underwriting results of our life/health reinsurance businesses are further summarized as follows (in millions).

	Premiums earned			Pre-tax underwriting gain (loss)		
	2017	2016	2015	2017	2016	2015
General Re Group	\$ 3,306	\$ 3,068	\$ 3,170	\$ (369)	\$ 73	\$ (18)
BHLN Group	1,502	1,519	1,500	317	232	148
	<u>\$ 4,808</u>	<u>\$ 4,587</u>	<u>\$ 4,670</u>	<u>\$ (52)</u>	<u>\$ 305</u>	<u>\$ 130</u>

General Re Group's premiums earned increased \$238 million (8%) in 2017 compared to 2016, which reflected growth in the U.S., Asia, Europe and Australia markets. Premiums earned declined \$102 million (3%) in 2016 compared to 2015, primarily attributable to foreign currency translation effects and lower volume in Canada, partly offset by increased volume in the United Kingdom and Asia markets. Approximately 65% of BHLN Group's premiums earned in each of the past three years was derived primarily from a single yearly renewable term life agreement in the U.S. with a major reinsurer.

The General Re Group produced pre-tax underwriting losses of \$369 million in 2017, gains of \$73 million in 2016 and losses of \$18 million in 2015. Pre-tax underwriting losses in 2017 included losses of approximately \$450 million from the run-off of our U.S. long-term care business driven by discount rate reductions and changes in other actuarial assumptions in the fourth quarter, which increased our estimated benefit liabilities. In 2016, underwriting results reflected increased underwriting gains from our international life business, lower claim severity in North America, and lower losses from changes in actuarial assumptions related to the long-term care business as compared to 2015.

BHLN Group's pre-tax underwriting results included pre-tax gains of \$256 million in 2017, \$231 million in 2016 and \$193 million in 2015 from the run-off of variable annuity business (reinsurance contracts that provide guarantees on closed blocks of variable annuity business). Periodic underwriting results from this business reflect changes in remaining liabilities for guaranteed benefits, resulting from changes in securities markets and interest rates and from the periodic amortization of expected profit margins. Periodic underwriting results from these variable annuity contracts can be volatile, reflecting the volatility of securities markets, interest rates and foreign currency exchange rates. Estimated liabilities for variable annuity guarantees were approximately \$1.8 billion at December 31, 2017 and \$2.1 billion at December 31, 2016. BHLN Group's life reinsurance business produced pre-tax gains of \$61 million in 2017 and \$1 million in 2016 and losses of \$45 million in 2015.

Periodic payment annuity

Periodic payment annuity premiums earned declined \$184 million (17%) in 2017 compared to 2016, due to lower volumes. Premiums earned decreased \$204 million (16%) in 2016 compared to 2015. Premiums earned in 2015 included \$425 million from a single reinsurance contract.

Certain periodic payment annuity liabilities are denominated in foreign currencies, primarily the GBP. Underwriting results included pre-tax losses of \$190 million in 2017 and pre-tax gains of \$313 million in 2016 and \$103 million in 2015 associated with the re-measurement of such liabilities due to changes in exchange rates.

Before foreign currency gains and losses, pre-tax underwriting losses from periodic payment annuity contracts were \$481 million in 2017, \$441 million in 2016 and \$305 million in 2015. These losses were primarily attributable to the recurring discount accretion on new business and existing liabilities and the impact of lower interest rates in 2017 and 2016, which increased expected future loss payments under certain reinsurance contracts in those years. Discounted annuity liabilities were approximately \$11.2 billion at December 31, 2017 and \$9.8 billion at December 31, 2016. The weighted average annual discount rate for these liabilities was approximately 4.1% as of December 31, 2017.

Management's Discussion and Analysis (Continued)
Insurance—Underwriting (Continued)
Berkshire Hathaway Primary Group

The Berkshire Hathaway Primary Group ("BH Primary") consists of a wide variety of independently managed insurance underwriting businesses that primarily provide a variety of commercial insurance solutions, including healthcare malpractice, workers' compensation, automobile, general liability, property and various specialty coverages for small, medium and large clients. The largest of these insurers include Berkshire Hathaway Specialty Insurance ("BH Specialty"), Berkshire Hathaway Homestate Companies ("BHHC"), MedPro Group, Berkshire Hathaway GUARD Insurance Companies ("GUARD"), and National Indemnity Company ("NICO Primary"). Other BH Primary insurers include U.S. Liability Insurance Company, Applied Underwriters and Central States Indemnity Company. A summary of BH Primary underwriting results follows (dollars in millions).

	2017		2016		2015	
	Amount	%	Amount	%	Amount	%
Premiums written	\$ 7,483		\$ 6,684		\$5,906	
Premiums earned	\$ 7,143	100.0	\$ 6,257	100.0	\$5,394	100.0
Losses and loss adjustment expenses	4,511	63.1	3,864	61.8	3,070	56.9
Underwriting expenses	1,913	26.8	1,736	27.7	1,500	27.8
Total losses and expenses	6,424	89.9	5,600	89.5	4,570	84.7
Pre-tax underwriting gain	\$ 719		\$ 657		\$ 824	

Premiums written in 2017 increased 12.0% compared to 2016. All of the significant BH Primary insurers generated increased premiums written, led by GUARD (26%), BH Specialty (23%) and BHHC (9%). Premiums earned were \$7.1 billion in 2017, an increase of \$886 million (14.2%) compared to 2016. BH Primary's premiums written and earned in 2016 increased 13.2% and 16.0%, respectively, compared to 2015. The increases were primarily attributable to volume increases from BH Specialty, MedPro Group, BHHC and GUARD.

BH Primary produced pre-tax underwriting gains of \$719 million in 2017, \$657 million in 2016 and \$824 million in 2015. BH Primary's overall loss ratios were 63.1% in 2017, 61.8% in 2016 and 56.9% in 2015. Losses and loss adjustment expenses in 2017 included approximately \$225 million (3% of premiums earned) related to the significant catastrophe events, primarily hurricanes Harvey and Irma. Losses and loss adjustment expenses also included net reductions of estimated ultimate liabilities for prior years' loss events of \$766 million in 2017, \$503 million in 2016 and \$643 million in 2015, which produced corresponding increases in pre-tax underwriting gains. The reductions of prior years' estimates in each year primarily related to healthcare malpractice and workers' compensation business. BH Primary writes significant levels of liability and workers' compensation business and the related claim costs may be subject to higher severity and longer claims-tails, which could contribute to significant increases in claims liabilities in the future attributable to higher than expected claim settlements, adverse litigation or judicial rulings and other factors we have not anticipated.

Insurance—Investment Income

A summary of net investment income generated from investments held by our insurance operations follows (in millions).

	2017	2016	2015
Interest income	\$1,310	\$ 930	\$ 888
Dividend income	3,592	3,552	3,662
Investment income before taxes and noncontrolling interests	4,902	4,482	4,550
Income taxes and noncontrolling interests	985	846	825
Net investment income	\$3,917	\$3,636	\$3,725

Management's Discussion and Analysis (Continued)
Insurance—Investment Income (Continued)

Pre-tax investment income increased \$420 million (9%) in 2017 compared to 2016, attributable to an increase in interest income which reflected higher interest rates on short-term investments and increased other investment income. Pre-tax investment income in 2016 declined \$68 million (1.5%) compared to 2015, reflecting lower dividend income attributable to portfolio changes, partly offset by an increase in interest income. We continue to hold significant amounts of cash and cash equivalents and U.S. Treasury Bills earning low yields. We believe that maintaining ample liquidity is paramount and we insist on safety over yield with respect to such balances.

Dividend income in 2017 was relatively unchanged compared to 2016 reflecting increased dividend rates and increased overall investment levels, offset by the impact of the conversion of our \$3 billion investment in Dow Chemical Company ("Dow") 8.5% preferred stock into Dow common stock at the end of 2016. Prior to its conversion, we received dividends of \$255 million per annum. In December 2017, RBI redeemed our \$3 billion investment in 9% RBI Preferred stock investment, which will negatively affect investment income in 2018 when compared to 2017.

Invested assets of our insurance businesses derive from shareholder capital, including reinvested earnings, and from net liabilities under insurance contracts or "float." The major components of float are unpaid losses and loss adjustment expenses, including liabilities under retroactive reinsurance contracts, life, annuity and health benefit liabilities, unearned premiums and other liabilities due to policyholders, less premium and reinsurance receivables, deferred charges assumed under retroactive reinsurance contracts and deferred policy acquisition costs. Float approximated \$114 billion at December 31, 2017 and \$91 billion at December 31, 2016. The increase in float in 2017 reflected increases in unpaid losses and loss adjustment expenses, including liabilities assumed under retroactive reinsurance contracts written in 2017 and estimated liabilities related to catastrophe events, and overall growth of our insurance operations, partly offset by an increase in deferred charges on retroactive reinsurance contracts. Our pre-tax underwriting losses were approximately \$3.2 billion in 2017 and our average cost of float was approximately 3.0%. During the prior fourteen years, the cost of float was negative as our insurance business generated pre-tax underwriting gains in each year.

A summary of cash and investments held in our insurance businesses as of December 31, 2017 and 2016 follows (in millions).

	December 31,	
	2017	2016
Cash, cash equivalents and U.S. Treasury Bills	\$ 73,285	\$ 48,888
Equity securities	163,134	134,144
Fixed maturity securities	21,092	22,778
	<u>\$257,511</u>	<u>\$205,810</u>

Fixed maturity investments as of December 31, 2017 were as follows (in millions).

	Amortized cost	Unrealized gains/losses	Carrying value
U.S. Treasury, U.S. government corporations and agencies	\$ 3,968	\$ (22)	\$ 3,946
States, municipalities and political subdivisions	840	7	847
Foreign governments	8,570	250	8,820
Corporate bonds, investment grade	5,395	392	5,787
Corporate bonds, non-investment grade	698	190	888
Mortgage-backed securities	714	90	804
	<u>\$20,185</u>	<u>\$ 907</u>	<u>\$21,092</u>

U.S. government obligations are rated AA+ or Aaa by the major rating agencies. Approximately 88% of all state, municipal and political subdivisions, foreign government obligations and mortgage-backed securities were rated AA or higher. Non-investment grade securities represent securities rated below BBB- or Baa3. Foreign government securities include obligations issued or unconditionally guaranteed by national or provincial government entities.

Management's Discussion and Analysis (Continued)
Railroad ("Burlington Northern Santa Fe")

Burlington Northern Santa Fe, LLC ("BNSF") operates one of the largest railroad systems in North America. BNSF operates approximately 32,500 route miles of track in 28 states and also operates in three Canadian provinces. BNSF's major business groups are classified by type of product shipped and include consumer products, coal, industrial products and agricultural products. A summary of BNSF's earnings follows (in millions).

	2017	2016	2015
Revenues	\$ 21,387	\$ 19,829	\$ 21,967
Operating expenses:			
Compensation and benefits	4,969	4,769	5,043
Fuel	2,518	1,934	2,656
Purchased services	2,514	2,418	2,546
Depreciation and amortization	2,352	2,128	2,001
Equipment rents, materials and other	1,690	1,895	2,018
Total operating expenses	14,043	13,144	14,264
Interest expense	1,016	992	928
	15,059	14,136	15,192
Pre-tax earnings	6,328	5,693	6,775
Income taxes	2,369	2,124	2,527
Net earnings	\$ 3,959	\$ 3,569	\$ 4,248

Consolidated revenues were \$21.4 billion in 2017, representing an increase of \$1.6 billion (7.9%) versus 2016. Pre-tax earnings increased 11.2% in 2017 compared to 2016. During 2017, consolidated revenues reflected a 2.4% comparative increase in average revenue per car/unit and a 5.3% increase in volume. Our volume was 10.3 million cars/units in 2017 compared to 9.8 million in 2016. Our overall volume growth moderated in the second half of the year compared to the growth experienced in the first half of the year. While we believe the general economy will continue to be strong in 2018, we expect a slower pace of volume growth. The increase in average revenue per car/unit was primarily attributable to higher fuel surcharge revenue, increased rates per car/unit and business mix changes.

Revenues from consumer products were \$7.1 billion in 2017, representing an increase of 8.8% compared to 2016, reflecting volume increases of 6.3% as well as higher average revenue per car/unit. The volume increases were primarily attributable to improving economic conditions, normalizing of retail inventories, new services and higher market share, which benefited domestic intermodal, international intermodal and automotive volumes.

Revenues from industrial products were \$5.1 billion in 2017, an increase of 7.7% from 2016, attributable to a volume increase of 5.0% as well as higher average revenue per car/unit. Volumes in 2017 were higher for sand and other commodities that support drilling. In addition, broad strengthening in the industrial sector drove greater demand for steel and taconite. These volume increases were partially offset by lower petroleum products volume due to pipeline displacement of U.S. crude rail traffic.

Revenues from agricultural products increased 1.8% to \$4.3 billion in 2017 compared to 2016, primarily due to higher average revenue per car/unit. Volumes were relatively flat, primarily due to higher shipments of domestic grain, as well as ethanol and other grain products, offset by lower grain exports.

Revenues from coal increased 13.7% to \$3.8 billion in 2017 compared to 2016. This increase reflected higher average revenue per car/unit as well as 6.3% higher volumes. The volume increases in 2017 were due to continued effects of higher natural gas prices, which led to increased utility coal usage. This was partially offset by the effects of unit retirements at coal generating facilities, increased renewable generation and coal inventory adjustments at customer facilities.

Operating expenses were \$14.0 billion in 2017, an increase of \$899 million (6.8%) compared to 2016. Our ratio of operating expenses to revenues decreased 0.6 percentage points to 65.7% in 2017 versus 2016. Compensation and benefits expenses increased \$200 million (4.2%) compared to 2016. The increase was primarily due to higher health and welfare costs and volume-related increases, partially offset by lower headcount. Fuel expenses increased \$584 million (30.2%) compared to 2016 primarily due to higher average fuel prices and increased volumes.

Management's Discussion and Analysis (Continued)

Railroad ("Burlington Northern Santa Fe") (Continued)

Depreciation and amortization expense increased \$224 million (10.5%) compared to 2016 due to a larger base of depreciable assets in service. Equipment rents, materials and other expense declined \$205 million (10.8%) compared to 2016. These declines resulted from the impact of the enactment of the TCJA on an equity method subsidiary, as well as lower personal injury and casualty related costs.

Consolidated revenues were approximately \$19.8 billion in 2016, a decrease of \$2.1 billion (9.7%) compared to 2015. Pre-tax earnings were \$5.7 billion in 2016, a decrease of \$1.1 billion (16.0%) compared to 2015. Our total volume was approximately 9.8 million cars/units in 2016 compared to approximately 10.3 million in 2015. In 2016, we experienced declining demand, especially in our coal and crude oil categories. Coal had the largest decline, driven by structural changes in that business as well as competition from low natural gas prices. The decrease in revenue reflected comparative declines in average revenue per car/unit (5.2%) and volumes (5.0%). The decrease in average revenue per car/unit was primarily attributable to lower fuel surcharge revenue driven by lower fuel prices and business mix changes.

Revenues from consumer products were \$6.5 billion in 2016, a decline of 0.9% from 2015, reflecting lower average revenue per car/unit, partially offset by volume increases of 1%. Consumer products volumes increased primarily due to higher domestic intermodal volumes and the addition of a new automotive customer, partially offset by lower international intermodal volumes.

Revenues from industrial products were \$4.8 billion in 2016, a decline of 14.2% compared with 2015. The decrease was attributable to lower volumes, primarily for petroleum products, reflecting pipeline displacement of U.S. crude rail traffic and lower U.S. oil production. In addition, we experienced lower demand for steel and taconite, partially offset by increased plastics products volume.

Revenues from agricultural products remained relatively unchanged in 2016 at \$4.2 billion compared to 2015. Agricultural product volume increased by 6.3%, primarily due to higher corn, soybean and wheat exports, which offset a decrease in average revenue per car/unit.

Revenues from coal decreased 26.9% to \$3.4 billion in 2016 compared to 2015, reflecting a 21.1% decline in volumes and a lower average rate per car/unit. Demand for coal declined due to reduced energy consumption, coal unit retirements, high coal stockpiles and low natural gas prices.

Operating expenses were \$13.1 billion in 2016, a decrease of \$1.1 billion (7.9%) compared to 2015, and our ratio of operating expenses to revenues increased 1.4 percentage points to 66.3%. Compensation and benefits expenses decreased \$274 million (5.4%) compared to 2015. The decline was primarily due to lower employment levels resulting from lower freight volumes and productivity improvements, partially offset by inflation. Fuel expenses declined \$722 million (27.2%) compared to 2015, due to lower average fuel prices and lower volumes. Purchased services declined \$128 million (5.0%) due to lower volumes and cost reductions. Depreciation and amortization expense increased \$127 million (6.3%) compared to 2015 due to increased assets in service reflecting our ongoing capital additions and improvement programs. Equipment rents, materials and other expense declined \$123 million (6.1%) compared to 2015, primarily due to lower freight volumes and productivity improvements.

Utilities and Energy ("Berkshire Hathaway Energy Company")

We hold a 90.2% ownership interest in Berkshire Hathaway Energy Company ("BHE"), which operates a global energy business. BHE's domestic regulated utility interests are comprised of PacifiCorp, MidAmerican Energy Company ("MEC") and NV Energy. In Great Britain, BHE subsidiaries operate two regulated electricity distribution businesses referred to as Northern Powergrid. BHE also owns two domestic regulated interstate natural gas pipeline companies. Other energy businesses include AltaLink, L.P. ("AltaLink"), a regulated electricity transmission-only business in Alberta, Canada and a diversified portfolio of independent power projects. In addition, BHE also operates the second-largest residential real estate brokerage firm and one of the largest residential real estate brokerage franchise networks in the United States.

Management's Discussion and Analysis (Continued)
Utilities and Energy ("Berkshire Hathaway Energy Company") (Continued)

The rates our regulated businesses charge customers for energy and services are based, in large part, on the costs of business operations, including a return on capital, and are subject to regulatory approval. To the extent these operations are not allowed to include such costs in the approved rates, operating results will be adversely affected. Revenues and earnings of BHE are summarized below (in millions).

	Revenues			Earnings		
	2017	2016	2015	2017	2016	2015
PacifiCorp	\$ 5,276	\$ 5,245	\$ 5,279	\$ 1,131	\$ 1,105	\$ 1,026
MidAmerican Energy Company	2,906	2,668	2,554	372	392	292
NV Energy	3,048	2,925	3,382	567	559	586
Northern Powergrid	950	997	1,141	311	367	460
Natural gas pipelines	1,009	986	1,018	446	413	401
Other energy businesses	2,294	2,223	2,321	381	377	394
Real estate brokerage	3,456	2,815	2,536	220	225	191
Corporate interest	—	—	—	(844)	(465)	(499)
	<u>\$ 18,939</u>	<u>\$ 17,859</u>	<u>\$ 18,231</u>			
Pre-tax earnings				2,584	2,973	2,851
Income taxes and noncontrolling interests				501	686	719
Net earnings attributable to Berkshire Hathaway shareholders				<u>\$ 2,083</u>	<u>\$ 2,287</u>	<u>\$ 2,132</u>

PacifiCorp

PacifiCorp operates a regulated electric utility in portions of several Western states, including Utah, Oregon and Wyoming. Revenues increased 1% in 2017 compared to 2016. Wholesale and other revenues increased, reflecting higher volumes and average rates, and retail revenues decreased slightly, attributable to lower average rates, partly offset by higher volumes. Pre-tax earnings increased \$26 million (2%) in 2017 as compared to 2016. The increase in earnings reflected higher gross margins (operating revenues less cost of sales), lower operations and maintenance expenses, and increased depreciation and amortization attributable to additional plant in-service.

Revenues were \$5.25 billion in 2016, a slight decline from 2015, reflecting increased retail revenues and lower wholesale and other operating revenues. The increase in retail revenues was primarily due to higher retail rates as volumes were relatively unchanged. The declines in wholesale revenues were attributable to lower volumes and average prices. Pre-tax earnings in 2016 increased \$79 million (7.7%) from 2015, primarily due to increased gross margins, reflecting lower fuel prices and changes in fuel mix.

MidAmerican Energy Company

MEC operates a regulated electric and natural gas utility primarily in Iowa and Illinois. Revenues increased \$238 million (9%) in 2017 as compared to 2016, primarily attributable to higher electric operating revenues (\$123 million) and increased natural gas operating revenues (\$82 million). Our retail electric revenues increased \$84 million in 2017 compared to 2016, primarily attributable to higher recoveries through bill riders (which are substantially offset by increases in costs of sales and other expenses) and from non-weather usage and growth and rate factors, partially offset by the unfavorable impact of milder temperatures in 2017. Our wholesale electric and other revenues increased \$39 million in 2017 versus 2016, attributable to comparative increases in volumes, average rates and transmission fees. The natural gas operating revenues increase was primarily due to higher average per-unit costs of gas sold, which was offset by an increase in cost of sales. Pre-tax earnings declined \$20 million (5%) in 2017 compared to 2016, reflecting increased depreciation, maintenance and other operating expenses and interest expense and debt extinguishment costs, partially offset by comparative increases in electric gross sales margins of \$76 million.

Revenues increased \$114 million (4.5%) in 2016 compared to 2015, primarily due to increased electric revenues (\$148 million), partially offset by lower natural gas revenues (\$24 million). The increase in electric revenues resulted primarily from a 3.8% increase in customer volumes and higher rates. Wholesale and other revenues increased primarily due to increased average wholesale prices and higher transmission revenue. The natural gas revenue decline was primarily due to lower average per-unit costs of gas sold (\$42 million), partly offset by higher wholesale volumes. Pre-tax earnings increased \$100 million (34.2%) in 2016 compared to 2015. The increase in pre-tax earnings was primarily due to increased gross margins from electric revenues and lower operations and maintenance expenses, partially offset by higher depreciation and amortization from additional assets placed in service, and higher interest expense.

Management's Discussion and Analysis (Continued)

Utilities and Energy ("Berkshire Hathaway Energy Company") (Continued)

NV Energy

NV Energy operates regulated electric and natural gas utilities in Nevada. Revenues increased \$123 million (4%) in 2017 compared to 2016. The increase was due primarily to an increase in retail electric operating revenues, which included a combination of increased rates from pass-through cost adjustments and higher volumes, partly offset by lower revenues from energy efficiency programs (offset by lower operating expenses). NV Energy also experienced retail electric revenue declines from the transition of certain commercial and industrial customers electing to purchase power from alternative sources and thus becoming distribution service only customers. Natural gas operating revenue declined \$11 million in 2017, primarily due to lower rates, partially offset by higher customer usage. Pre-tax earnings increased \$8 million (1%) in 2017 compared to 2016, primarily due to lower interest expenses.

Revenues were approximately \$2.9 billion in 2016, a decrease of \$457 million (13.5%) versus 2015. The decline was primarily attributable to lower electric retail rates resulting from lower energy costs. Electric retail volumes were relatively unchanged. Pre-tax earnings declined \$27 million (4.6%) in 2016 compared to 2015. The decline was primarily due to an increase in operating expenses of \$39 million, partly offset by a decrease in interest expense of \$17 million. The increase in operating expenses reflected higher depreciation and amortization and reductions of certain accrued liabilities in 2015.

Northern Powergrid

Revenues declined \$47 million (5%) in 2017 compared to 2016. Unfavorable foreign currency translation effects of a comparatively stronger U.S. Dollar in 2017 resulted in a \$48 million comparative decline in revenues, substantially all of which occurred in the first half of the year. Otherwise, we experienced comparative declines in distribution revenues, which were substantially offset by higher smart metering revenue. Pre-tax earnings declined \$56 million (15%) in 2017 compared to the same period in 2016. The decline was primarily due to foreign currency translation effects, as well as from increased pension expenses and lower distribution revenues, partially offset by lower asset impairment charges and lower distribution costs.

Revenues declined \$144 million (12.6%) in 2016 compared to 2015, primarily due to the impact of a stronger U.S. Dollar (\$127 million) and lower distribution revenues. Pre-tax earnings declined \$93 million (20.2%) to \$367 million. The decline was due to lower distribution revenues and the stronger U.S. Dollar, as well as increases in depreciation expense from increased assets in service and higher asset impairment charges.

Natural Gas Pipelines

Revenues increased \$23 million (2%) in 2017 compared to 2016. Northern Natural Gas produced higher transportation revenues and higher gas sales, primarily from system balancing activities (largely offset in cost of sales), which were partly offset by lower transportation revenues at Kern River. Pre-tax earnings increased \$33 million (8%) in 2017 compared to 2016. The increase was primarily due to the increase in transportation revenues and a reduction in expenses and regulatory liabilities related to the impact of an alternative rate structure approved by Kern River's regulators in the first quarter of 2017, partially offset by higher operating expenses.

Revenues declined \$32 million (3.1%) in 2016 as compared to 2015, primarily due to the impact of lower gas sales from balancing activities and lower transportation revenues from lower volumes and rates, in part due to comparatively milder temperatures in the first quarter of 2016. Pre-tax earnings increased \$12 million (3.0%) versus 2015, reflecting lower interest expense, resulting from lower average debt balances and lower operating expenses, partly offset by the lower transportation revenues.

Other energy businesses

Revenues increased 3% in 2017 compared to 2016. AltaLink's operating revenues increased \$197 million (39%) in 2017 compared to 2016, primarily due to effects of a decision in 2016 by its regulator, which changed the timing of when construction-in-progress expenditures included in the rate base are billable to customers and earned in revenues. The decision resulted in a one-time net reduction in revenue in 2016, with offsetting reductions in expenses. In 2017, we also experienced a comparative revenue increase of 13% from renewable energy and a comparative decline of 12% from the unregulated retail services business. Pre-tax earnings in 2017 were relatively unchanged from 2016, as increased earnings from renewable energy and AltaLink were offset by lower earnings from the unregulated retail services business and other energy ventures.

Management's Discussion and Analysis (Continued)
Utilities and Energy ("Berkshire Hathaway Energy Company") (Continued)
Other energy businesses (Continued)

Revenues declined \$98 million (4.2%) in 2016 compared to 2015. The decline in comparative revenues was principally attributable to lower revenues from AltaLink and from our unregulated retail services business. AltaLink's revenue decline reflected the impact of the aforementioned regulatory decision by AltaLink's regulator. Pre-tax earnings declined \$17 million (4.3%) compared to 2015, primarily due to lower earnings from our renewable energy businesses, primarily due to higher depreciation expense from additional assets placed in service.

Real estate brokerage

Revenues increased 23% in 2017 compared to 2016, primarily due to business acquisitions and an increase in average home sales prices. Pre-tax earnings decreased 2% in 2017 as compared to 2016. Earnings in 2017 included increased earnings from franchise businesses, partially offset by lower earnings from brokerage businesses, primarily due to higher operating expenses.

Revenues increased 11.0% to \$2.8 billion in 2016 compared to 2015. The increase was primarily attributable to increased closed brokerage transactions (primarily resulting from business acquisitions) and a 2% increase in average home sales prices, as well as higher mortgage revenues. Pre-tax earnings increased \$34 million (17.8%) in 2016 compared to 2015, primarily due to the increases in mortgage revenues.

Corporate interest and income taxes

Corporate interest includes interest on unsecured debt issued by BHE and borrowings from Berkshire insurance subsidiaries in connection with BHE's acquisitions of NV Energy and AltaLink. Corporate interest in 2017 included pre-tax charges of \$410 million from a tender offer completed in December 2017 to redeem certain long-term debt of BHE. Otherwise, corporate interest declined 7% in 2017 and 2016 compared to the corresponding prior years, primarily due to lower average borrowings.

BHE's consolidated effective income tax rates were approximately 7% in 2017, 14% in 2016 and 16% in 2015. BHE's effective income tax rates regularly reflect significant production tax credits from wind-powered electricity generation placed in service. In addition, income tax rates applicable to Northern Powergrid and AltaLink were lower than the U.S. statutory income tax rate. The effective tax rate in 2017 decreased primarily due to an increase in recognized production tax credits.

Manufacturing, Service and Retailing

A summary of revenues and earnings of our manufacturing, retailing and service businesses follows (in millions).

	Revenues			Earnings *		
	2017	2016	2015	2017	2016	2015
Manufacturing	\$ 50,445	\$ 46,506	\$ 36,136	\$ 6,861	\$ 6,211	\$ 4,893
Service and retailing	76,088	73,553	71,689	2,382	2,251	2,222
	<u>\$126,533</u>	<u>\$120,059</u>	<u>\$107,825</u>			
Pre-tax earnings				9,243	8,462	7,115
Income taxes and noncontrolling interests				<u>3,035</u>	<u>2,831</u>	<u>2,432</u>
				<u>\$ 6,208</u>	<u>\$ 5,631</u>	<u>\$ 4,683</u>

* Excludes certain acquisition accounting expenses, which primarily related to the amortization of identified intangible assets recorded in connection with our business acquisitions. The after-tax acquisition accounting expenses excluded from earnings above were \$896 million in 2017, \$771 million in 2016 and \$476 million in 2015. These expenses are included in "Other" in the summary of earnings on page K-32 and in the "Other" earnings section on page K-51.

Manufacturing

Our manufacturing group includes a variety of businesses that produce industrial, building and consumer products. Industrial products businesses include specialty chemicals (The Lubrizol Corporation ("Lubrizol")), metal cutting tools/systems (IMC International Metalworking Companies ("IMC")), equipment and systems for the livestock and agricultural industries (CTB International ("CTB")), and a variety of industrial products for diverse markets (Marmon, Scott Fetzer and LiquidPower Specialty Products ("LSPF")). Beginning on January 29, 2016, our industrial products group also includes Precision Castparts Corp. ("PCC"), a leading manufacturer of complex metal products for aerospace, power and general industrial markets.

Management's Discussion and Analysis (Continued)
Manufacturing, Service and Retailing (Continued)
Manufacturing (Continued)

Our building products businesses include flooring (Shaw), insulation, roofing and engineered products (Johns Manville), bricks and masonry products (Acme Building Brands), paint and coatings (Benjamin Moore), and residential and commercial construction and engineering products and systems (MiTek). Our consumer products businesses include leisure vehicles (Forest River), several apparel and footwear operations (including Fruit of the Loom, Garan, H.H. Brown Shoe Group and Brooks Sports), and beginning February 29, 2016, the Duracell Company ("Duracell"), a leading manufacturer of high performance alkaline batteries. This group also includes custom picture framing products (Larson Juhl) and jewelry products (Richline). A summary of revenues and pre-tax earnings of our manufacturing operations follows (in millions).

	Revenues			Pre-tax earnings		
	2017	2016	2015	2017	2016	2015
Industrial products	\$26,376	\$24,702	\$16,760	\$4,367	\$4,209	\$2,994
Building products	11,936	10,772	10,316	1,382	1,178	1,167
Consumer products	12,133	11,032	9,060	1,112	824	732
	<u>\$50,445</u>	<u>\$46,506</u>	<u>\$36,136</u>	<u>\$6,861</u>	<u>\$6,211</u>	<u>\$4,893</u>

Revenues of our manufacturers were approximately \$50.4 billion in 2017, an increase of approximately \$3.9 billion (8.5%) over 2016, which increased approximately \$10.4 billion (28.7%) over 2015. Pre-tax earnings were approximately \$6.9 billion in 2017, an increase of \$650 million (10.5%) over 2016 and earnings in 2016 increased \$1.3 billion (26.9%) compared to 2015.

Industrial products

Industrial products revenues were approximately \$26.4 billion in 2017, an increase of approximately \$1.7 billion (6.8%) versus 2016, reflecting increased revenues at several of our businesses. PCC's revenues increased \$754 million (9%) in 2017 compared to the eleven month post-acquisition period in 2016. On a comparable full year-to-date basis, PCC's revenues increased approximately 2.3% compared to 2016, reflecting increases in aerospace and oil and gas markets, partially offset by declines in other power markets. In 2017, PCC produced revenue increases from structural castings, airfoils and forged products and from business acquisitions, partly offset by lower revenues from airframe products and industrial gas turbine products used in power markets. PCC continues to transition into product lines for new programs within the aerospace markets, which we expect will produce future revenue increases, but may have negative effects on revenues in the near term as prior programs wind down.

IMC's revenues increased 13%, primarily due to increased customer demand and unit sales and from business acquisitions. The global demand for cutting tools was generally higher in 2017. Mammon's revenues increased \$349 million (7%) in 2017 versus 2016, primarily due to business acquisitions and higher average metal prices, partly offset by lower overall volumes and changes in mix. Mammon's highway transportation, retail food and restaurant equipment businesses experienced volume-based revenue growth in 2017, which was more than offset by declines at the engineered wire/cable and retail store products businesses. Lubrizol's revenues increased \$165 million (3%) compared to 2016, primarily due to higher unit volumes, partly offset by effects of the disposition of an underperforming business in 2016. CTB's revenues increased 5% in 2017 compared to 2016. The increase reflected the impact of a bolt-on business acquisition, partly offset by weak demand in the U.S. egg and poultry production markets and selling price pressures for grain storage systems.

Pre-tax earnings of our industrial products businesses in 2017 increased \$158 million (3.8%) compared to 2016. Overall, pre-tax earnings as a percentage of revenues were 16.6% in 2017 and 17.0% in 2016.

PCC's pre-tax earnings decreased 12.5% in 2017 compared to the post-acquisition period in 2016, primarily due to certain one-time inventory and impairment charges that were recorded in the fourth quarter of 2017. Pre-tax earnings from IMC and Mammon increased in 2017 compared to 2016, due to a combination of increased sales, increased manufacturing efficiencies, the effects of business acquisitions and ongoing expense control efforts. Lubrizol's pre-tax earnings increased 17% in 2017 compared to 2016 due to comparatively lower earnings charges related to the disposition in 2016 of an underperforming bolt-on business and ongoing cost containment efforts, partly offset by lower gross sales margins, which were primarily attributable to higher average raw material prices. In 2017, average raw material prices at Lubrizol, including base oil feedstock and petrochemicals, increased about 9% versus 2016.

Management's Discussion and Analysis (Continued)

Manufacturing, Service and Retailing (Continued)

Industrial products (Continued)

Industrial products revenues increased approximately \$7.9 billion (47.4%) in 2016 versus 2015, primarily due to the inclusion of PCC, partially offset by revenue declines of \$859 million (5.1%) across our other businesses. Sales volumes of our other businesses declined compared to 2015, reflecting sluggish demand for many product categories, particularly for products sold to businesses in the oil and gas and heavy equipment industries. In addition, lower average costs of oil-based raw materials and metals and increased competitive pressures continued to lower average selling prices.

Pre-tax earnings increased \$1.2 billion (40.6%) in 2016 compared to 2015, reflecting the inclusion of PCC, partially offset by comparative earnings declines from our other businesses. Lubrizol's earnings in 2016 included pre-tax losses of \$365 million related to the aforementioned disposition of an underperforming business. Earnings from several of Marmon's manufacturing businesses and Lubrizol's continuing operations declined, while earnings from IMC increased slightly. Generally, our earnings in 2016 reflected the negative effects of a combination of weaker customer demand, sales price and mix changes, and increased restructuring costs, partially offset by the favorable effects of cost containment initiatives and lower average material prices.

Building products

Building products revenues were approximately \$11.9 billion in 2017, an increase of approximately \$1.2 billion (10.8%) compared to 2016. Approximately half of the increase was attributable to bolt-on business acquisitions by Shaw and MiTek. The remainder of the increase reflected sales volume increases at MiTek, Benjamin Moore and Johns Manville, partly offset by changes in prices and product mix.

Pre-tax earnings were \$1.4 billion in 2017, an increase of \$204 million (17.3%) compared to 2016. The comparative earnings increase reflected the fact that approximately \$107 million of asset impairment, pension settlement and environmental claim charges were recorded in 2016 by Shaw and Benjamin Moore. The comparative earnings increase also was a result of bolt-on acquisitions, partly offset by comparative declines in average gross sales margin rates due to higher raw material and other production costs.

Revenues increased \$456 million (4.4%) in 2016 compared to 2015, reflecting volume-driven revenue increases by MiTek, Johns Manville, Acme and Shaw, as well as revenues from bolt-on acquisitions by Shaw and MiTek. The revenue increase reflected increased unit sales across several product categories, partly offset by lower average sales prices and changes in product mix. Pre-tax earnings increased \$11 million (0.9%) in 2016 compared to 2015. The favorable effects of increased sales volume and lower manufacturing costs in 2016 attributable to deflation in certain commodity unit costs, were substantially offset by increased charges for asset impairments, pension settlements and environmental claims.

Consumer products

Consumer products revenues were approximately \$12.1 billion in 2017, an increase of \$1.1 billion (10%) compared to 2016, driven by comparative revenue increases from Duracell and Forest River. Duracell's revenues increased 25.3% in 2017 compared to the ten-month post-acquisition period in 2016. Forest River's revenues increased 13.7% in 2017 compared to 2016, reflecting a 13.5% comparative increase in units sold. Apparel and footwear revenues were approximately \$4.2 billion in 2017, an increase of 1.6% compared to 2016.

Pre-tax earnings increased \$288 million (35%) in 2017 compared to 2016. The increase in earnings was primarily due to increased earnings from Duracell and Forest River. Pre-tax earnings from Duracell were \$82 million in 2017, compared to a pre-tax loss of \$89 million in 2016, which included significant transition costs arising from the acquisition. The improvement in operating results in 2017 reflects an overall reduction in transition costs and the positive effects of ongoing restructuring and business development efforts. Forest River's earnings increased 23% in 2017, primarily attributable to the increase in sales and lower manufacturing overhead rates. Earnings from apparel and footwear businesses increased 5% in 2017 compared to 2016, primarily due to increased earnings from the footwear businesses.

Revenues were approximately \$11.0 billion in 2016, an increase of approximately \$2.0 billion (21.8%) compared to 2015. The increase reflected the inclusion of Duracell and a 12% increase in Forest River's revenues, primarily attributable to increased unit sales. Apparel revenues declined \$81 million (1.9%) in 2016 compared to 2015, reflecting lower footwear sales and the impact of a divestiture by Fruit of the Loom.

Management's Discussion and Analysis (Continued)
Manufacturing, Service and Retailing (Continued)
Consumer products (Continued)

Pre-tax earnings increased \$92 million (12.6%) in 2016 compared to 2015. The earnings increase reflected increased earnings from Forest River and apparel and footwear businesses, partly offset by pre-tax losses of Duracell. In 2016, Duracell incurred a pre-tax loss of approximately \$89 million primarily due to significant transition, business integration and restructuring costs. Forest River generated a pre-tax earnings increase of 28%, primarily due to increased sales volumes and higher gross margins. Earnings of our apparel businesses increased 22% in 2016, primarily attributable to lower restructuring costs and a loss in 2015 from the disposition of a Fruit of the Loom operation, partly offset by lower earnings from our footwear businesses.

Service and retailing

Our service and retailing businesses are comprised of a large group of independently managed businesses engaged in a variety of activities. A summary of revenues and pre-tax earnings of these operations follows (in millions).

	Revenues			Pre-tax earnings		
	2017	2016	2015	2017	2016	2015
Service	\$ 11,249	\$ 10,386	\$ 10,201	\$ 1,298	\$ 1,161	\$ 1,156
Retailing	15,064	15,092	13,265	785	659	564
McLane Company	49,775	48,075	48,223	299	431	502
	<u>\$ 76,088</u>	<u>\$ 73,553</u>	<u>\$ 71,689</u>	<u>\$ 2,382</u>	<u>\$ 2,251</u>	<u>\$ 2,222</u>

Service

Our service businesses offer fractional ownership programs for general aviation aircraft (NetJets) and high technology training to operators of aircraft (FlightSafety). We also distribute electronic components (TTI) and franchise and service a network of quick service restaurants (Dairy Queen). Other service businesses include the electronic distribution of corporate news, multimedia and regulatory filings (Business Wire), publication of newspapers (Buffalo News and the BH Media Group) and operation of a television station in Miami, Florida (WPLG). Also included in this group is a third party logistics business that primarily serves the petroleum and chemical industries (Charter Brokerage).

Service business revenues were \$11.2 billion in 2017, an increase of \$863 million (8%) compared to 2016, primarily attributable to comparative increases at TTI and NetJets. TTI's sales increased 16% in 2017 compared to 2016, primarily due to higher customer demand. NetJets' revenues increased due to an increase in revenue flight hours and increased aircraft management service revenues.

Pre-tax earnings were \$1.3 billion in 2017, an increase of \$137 million (12%) compared to 2016. The comparative increase in earnings was primarily attributable to increased earnings of NetJets and TTI, partly offset by lower earnings from FlightSafety, as well as our media and logistics businesses.

Revenues increased 1.8% to \$10.4 billion in 2016, primarily due to revenue increases from TTI and Charter Brokerage, partly offset by a revenue decrease from NetJets. TTI's revenues increased 7.2%, primarily due to sales volume increases in Asia, Europe and through the Internet, while the increase from Charter Brokerage primarily derived from a commodity trading business launched in 2015. NetJets' revenues decreased 2.0% reflecting lower aircraft sales.

Pre-tax earnings were \$1.2 billion in 2016, relatively unchanged versus 2015, reflecting increased earnings from NetJets and lower earnings from our newspaper operations. NetJets' earnings increased 19%, primarily due to lower subcontracting expense and a decline in losses from aircraft impairments and dispositions, partly offset by increases in depreciation and restructuring charges and reduced aircraft sales margins. TTI's earnings were relatively unchanged, as changes in geographic sales mix and price competition produced lower gross margin rates, substantially offsetting the aforementioned revenue increase.

Retailing

Our retailers include Berkshire Hathaway Automotive ("BHA"), which we acquired in the first quarter of 2015. BHA includes over 80 auto dealerships that sell new and pre-owned automobiles, and offer repair services and related products. BHA also operates two insurance businesses, two auto auctions and an automotive fluid maintenance products distributor. Our retailing businesses also include four home furnishings retailing businesses (Nebraska Furniture Mart, R.C. Willey, Star Furniture and Jordan's), which sell furniture, appliances, flooring and electronics.

Management's Discussion and Analysis (Continued)

Manufacturing, Service and Retailing (Continued)

Retailing (Continued)

Our other retailing businesses include three jewelry retailing businesses (Borsheims, Helzberg and Ben Bridge), See's Candies (confectionary products), Pampered Chef (high quality kitchen tools), Oriental Trading Company (party supplies, school supplies and toys and novelties) and Detlev Louis Motorrad ("Louis"), a Germany-based retailer of motorcycle accessories acquired in the second quarter of 2015.

Retailing revenues were \$15.1 billion in 2017, slightly lower than 2016. BHA's aggregate revenues, which represented 63% of our total retailing revenues, declined 1.3% in 2017 compared to 2016, due primarily to a 3.7% decline in new and used cars sold, partly offset by higher service and finance and insurance revenues. Revenues of our other retailers increased 1.7% in 2017 compared to 2016.

Pre-tax earnings increased \$126 million (19%) in 2017 as compared to 2016. The increase reflected comparatively higher earnings from BHA, primarily due to increased earnings from finance and insurance activities and lower selling and administrative expenses, partly offset by lower auto sales volumes and margins. Pre-tax earnings of our home furnishings retailers increased 6.5% in 2017 compared to 2016. Pampered Chef also produced comparatively higher earnings in 2017, primarily attributable to revenue increases and expense management efforts.

Retailing revenues increased \$1.8 billion (13.8%) in 2016 to \$15.1 billion as compared to 2015. The acquisitions of BHA and Louis accounted for approximately \$1.6 billion of the comparative increase. Home furnishings' revenues increased \$227 million (7.8%), primarily due to new stores opened in 2015 by Nebraska Furniture Mart and Jordan's, as well as modest organic growth. Pre-tax earnings increased \$95 million (16.8%) in 2016 compared to 2015. The increase reflected the impact of the BHA and Louis acquisitions and increased earnings from most of our other retailers, which benefitted from a combination of revenue increases and cost savings initiatives.

McLane Company

McLane operates a wholesale distribution business that provides grocery and non-food consumer products to retailers and convenience stores ("grocery") and to restaurants ("foodservice"). McLane also operates businesses that are wholesale distributors of distilled spirits, wine and beer ("beverage"). The grocery and foodservice businesses generate high sales volumes and very low profit margins and have several significant customers, including Walmart, 7-Eleven and Yum! Brands. A curtailment of purchasing by any of its significant customers could have an adverse impact on McLane's periodic revenues and earnings.

McLane's revenues were approximately \$49.8 billion in 2017, an increase of 3.5% compared to 2016. The increase in revenues was primarily due to a 4.7% increase in grocery business sales. Pre-tax earnings in 2017 were \$299 million, a decrease of \$132 million (31%) compared to 2016. The earnings decline reflected a 57% decline in earnings from our grocery operations, partly offset by a \$39 million increase in gains from asset sales. Throughout 2017, significant pricing pressures and an increasingly competitive business environment negatively affected our operating results, particularly with respect to the grocery business. These conditions contributed to declining gross margin rates, which together with increases in fuel, depreciation and certain other operating expenses produced a 29 basis point decline in our consolidated operating margin rate (ratio of pre-tax earnings to revenues) in 2017 compared to 2016. Our grocery and foodservice businesses will likely continue to be subject to intense competition in 2018.

Revenues were \$48.1 billion in 2016, a decline of \$148 million (0.3%) compared to 2015. In 2016, we experienced a decline in grocery revenues, partly offset by an increase in foodservice revenues. Earnings were \$431 million in 2016, a decrease of \$71 million (14%) compared to 2015. The reduced earnings was primarily due to a reduction in McLane's operating margin rate. The decline was primarily due to increased employee related costs. Additionally, earnings in 2015 included a gain of \$19 million from the disposition of a subsidiary.

Management's Discussion and Analysis (Continued)
Finance and Financial Products

Our finance and financial products businesses include manufactured housing and finance (Clayton Homes), transportation equipment manufacturing and leasing businesses (UTLX and XTRA, and together, "transportation equipment leasing"), as well as other leasing and financing activities. A summary of revenues and earnings from our finance and financial products businesses follows (in millions).

	Revenues			Earnings		
	2017	2016	2015	2017	2016	2015
Manufactured housing and finance	\$ 5,010	\$ 4,230	\$ 3,576	\$ 765	\$ 744	\$ 706
Transportation equipment leasing	2,609	2,650	2,540	869	959	909
Other	757	795	848	424	427	471
	<u>\$ 8,376</u>	<u>\$ 7,675</u>	<u>\$ 6,964</u>			
Pre-tax earnings				2,058	2,130	2,086
Income taxes and noncontrolling interests				723	703	708
				<u>\$ 1,335</u>	<u>\$ 1,427</u>	<u>\$ 1,378</u>

Manufactured housing and finance

Clayton Homes' revenues were \$5.0 billion in 2017, an increase of \$780 million (18%) compared to 2016. The revenues increase was primarily due to higher home sales, attributable to an increase in overall unit sales (9%) and higher average prices. The increase in average prices was primarily due to sales mix changes, which reflected increases in site built home sales, a relatively new business for Clayton. Site built homes include higher land content and unit prices tend to be higher, although gross sales margin rates are typically lower than manufactured homes. Interest and financial services revenues increased 2% in 2017 compared to 2016.

Pre-tax earnings increased \$21 million (2.8%) in 2017 compared to 2016. Pre-tax earnings in 2017 from manufacturing, retailing and site built activities increased, while earnings from finance activities declined slightly from 2016. Earnings in 2017 also included a gain from a legal settlement, offset by increased employee healthcare, technology, marketing and other expenses. A significant portion of Clayton Homes' earnings are generated from lending activities, which in recent years benefitted from relatively low delinquency rates and loan losses and from low average interest rates on borrowings. As of December 31, 2017, Clayton Homes' installment loan portfolio was approximately \$13.7 billion.

Revenues increased \$654 million (18%) in 2016 compared to 2015, attributable to a 30% increase in revenues from home sales, primarily due to a 25% increase in units sold and product mix changes. Interest and other financial service income increased 1.8% from 2015. Pre-tax earnings increased \$38 million (5.4%) compared to 2015. Earnings benefitted from increased home sales and improved manufacturing and retailing operating margins, partly offset by lower earnings from lending and financial services and increased insurance losses.

Transportation equipment leasing

Transportation equipment leasing revenues declined \$41 million (2%) in 2017 compared to 2016. The revenue decline was due to lower railcar and trailer units on lease and lower railcar lease rates. We currently believe industry railcar capacity available for lease exceeds demand, which is contributing to lower lease rates. We also experienced increased other service revenues, primarily attributable to business acquisitions and favorable foreign currency translation effects.

Pre-tax earnings declined \$90 million (9%) in 2017 compared to 2016. Earnings as a percentage of revenues decreased from 36.2% in 2016 to 33.3% in 2017. These decreases reflected the aforementioned lease revenue declines and higher railcar repair, storage costs and depreciation expense. Significant components of our operating costs, such as depreciation expense, do not vary proportionately to revenue changes and therefore changes in revenues can produce a disproportionate effect on earnings. In response to weakened demand in the railcar and oil and gas industries, we undertook overhead cost reduction initiatives.

Transportation equipment leasing revenues increased \$110 million (4.3%) in 2016 compared to 2015, primarily from the acquisition of General Electric Company's tank car fleet and its railcar repair services business in 2015 and increased rates and tank car additions. These revenue increases were partly offset by lower utilization rates, unfavorable foreign currency translation effects, lower crane lease demand in North America and reduced volume related to oil and gas markets.

Management's Discussion and Analysis (Continued)
Finance and Financial Products (Continued)
Transportation equipment leasing (Continued)

Pre-tax earnings increased \$50 million (5.5%) in 2016 compared to 2015. The increase was primarily attributable to revenue growth and lower depreciation rates on certain tank car assets, partially offset by higher repair costs and interest expense on borrowings from a Berkshire financing subsidiary.

Other

Other finance activities include CORT furniture leasing, our share of the earnings of a commercial mortgage servicing business ("Berkadia") in which we own a 50% interest, and interest and dividends from loans and equity security investments. Pre-tax earnings were \$424 million in 2017, relatively unchanged from 2016, and reflected lower earnings from CORT, partly offset by slightly higher interest and finance income. Other earnings also includes income from interest rate spreads charged on borrowings by a Berkshire financing subsidiary that are used to finance installment loans made by Clayton Homes and assets held for lease by UTLX. Other earnings in 2016 were \$427 million, a decrease of \$44 million compared to 2015. The decline reflected lower earnings from investment securities, partly offset by increased earnings from CORT and Berkadia.

Investment and Derivative Gains/Losses

A summary of investment and derivative gains and losses and other-than-temporary impairment losses on investments follows (in millions).

	2017	2016	2015
Investment gains/losses	\$ 1,410	\$ 7,553	\$ 9,373
Derivative gains/losses	718	751	974
Gains/losses before income taxes and noncontrolling interests	2,128	8,304	10,347
Income taxes and noncontrolling interests	751	1,807	3,622
Net gains/losses	\$ 1,377	\$ 6,497	\$ 6,725

Investment gains/losses

Investment gains/losses arise primarily from the sale, redemption or exchange of investments. The timing of gains or losses can have a material effect on periodic earnings. Investment gains and losses included in earnings usually have minimal impact on the periodic changes in our consolidated shareholders' equity since most of our investments are recorded at fair value with the unrealized gains and losses included in shareholders' equity as a component of accumulated other comprehensive income.

We believe the amount of investment gains/losses included in earnings in any given period typically has little analytical or predictive value. Our decisions to sell securities are not motivated by the impact that the resulting gains or losses will have on our reported earnings. Although we do not consider investment gains and losses as necessarily meaningful or useful in evaluating our periodic results, we provide information to explain the nature of such gains and losses when reflected in our earnings.

As discussed in Note 1(u) to the Consolidated Financial Statements, we adopted a new accounting standard on January 1, 2018 that changes the reporting of unrealized gains and losses on our investments in equity securities. Beginning as of that date, unrealized gains and losses on investments in equity securities will be included in our Consolidated Statements of Earnings along with realized gains and losses from dispositions. This new standard does not permit the restatement of prior years' statements of earnings. Upon adoption of this accounting standard, we reclassified net after-tax unrealized gains of \$61.5 billion related to our investments in equity securities from accumulated other comprehensive income to retained earnings.

While the adoption of this standard did not affect our consolidated shareholders' equity, it will almost certainly produce a very significant increase in the volatility of our periodic net earnings in the future given the magnitude of our existing equity securities portfolio and the inherent volatility of equity securities prices. To illustrate the impact of this standard, our other comprehensive income for the year ending December 31, 2017 included after-tax net unrealized gains from equity securities of approximately \$19 billion. Had the new accounting standard been in effect as of the beginning of 2017, this amount would have been included in our Consolidated Statements of Earnings. However, our consolidated comprehensive income for the period would have been unchanged.

Management's Discussion and Analysis (Continued)
Investment and Derivative Gains/Losses (Continued)
Investment gains/losses (Continued)

Pre-tax investment gains were approximately \$1.4 billion in 2017, \$7.6 billion in 2016 and \$9.4 billion in 2015. Investment gains in 2016 included \$4.2 billion from the redemptions of our Wrigley and Kraft Heinz preferred stock investments and from the sales of Dow Chemical common stock that was received upon the conversion of our Dow Chemical preferred stock investment. We also realized pre-tax gains of \$1.1 billion in connection with the tax-free exchange of our shares of P&G common stock for 100% of the common stock of Duracell. Income tax expense allocated to investment gains in 2016 included a benefit from the reduction of certain deferred income tax liabilities in connection with the exchange of P&G common stock for Duracell. Our after-tax gain from this transaction was approximately \$1.9 billion. Pre-tax investment gains in 2015 included non-cash holding gains related to our investment in Kraft Heinz of \$6.8 billion. In connection with its acquisition of Kraft Foods on July 2, 2015, Kraft Heinz issued new shares of its common stock in exchange for the outstanding shares of Kraft Foods common stock, thus reducing Berkshire's ownership interest in Kraft Heinz by approximately 50%. Under the equity method of accounting, such transactions are treated by the investor as if it sold a portion of its interests.

Derivative gains/losses

Derivative gains/losses primarily represented the changes in fair value of our equity index put option contract liabilities. The periodic changes in the fair values of these liabilities are recorded in earnings and can be significant, reflecting the volatility of underlying equity markets and the changes in the inputs used to measure such liabilities.

Changes in the values of our equity index put option contract liabilities produced pre-tax gains of \$718 million in 2017, \$662 million in 2016 and \$1.0 billion in 2015. The gains in each year reflected the effects of shorter remaining contract durations and overall higher index values.

As of December 31, 2017, the aggregate intrinsic value of our equity put option contracts was approximately \$800 million and our recorded liability was approximately \$2.2 billion. Our ultimate payment obligations, if any, under our equity index put option contracts will be determined as of the contract expiration dates (beginning in June 2018), and will be based on the intrinsic value as defined under the contracts.

In July 2016, our last credit default contract was terminated by mutual agreement with the counterparty and we paid the counterparty \$195 million. This contract produced pre-tax earnings of \$89 million in 2016 and pre-tax losses of \$34 million in 2015.

Other

A summary of after-tax other earnings (losses) which include corporate income (including income from our investments in Kraft Heinz), expenses and income taxes not allocated to operating businesses is summarized below (in millions).

	2017	2016	2015
Kraft Heinz earnings	\$ 972	\$ 706	\$ 841
Acquisition accounting expenses	(936)	(846)	(515)
Corporate interest expense, before foreign currency effects	(266)	(256)	(146)
Corporate interest expense – Euro note foreign exchange gains (losses)	(655)	159	(45)
Other	59	(106)	(105)
Net earnings (losses) attributable to Berkshire Hathaway shareholders	<u>\$ (826)</u>	<u>\$ (343)</u>	<u>\$ 30</u>

Our after-tax Kraft Heinz earnings includes Berkshire's share of Kraft Heinz's earnings attributable to common shareholders determined pursuant to the equity method. Our after-tax Kraft Heinz earnings in 2017 excludes approximately \$1.1 billion from the net effects of the TCJA on Kraft Heinz's net earnings. Kraft Heinz earnings included pre-tax dividend income from our preferred stock investment of \$180 million in 2016 and \$852 million in 2015. Kraft Heinz redeemed the preferred stock in June 2016.

After-tax other earnings (losses) also include charges arising from the application of the acquisition method in connection with Berkshire's past business acquisitions. Such charges were primarily from the amortization of intangible assets recorded in connection with those business acquisitions.

In each of the last three years, Berkshire issued Euro-denominated debt and at December 31, 2017, the aggregate par amount outstanding was €6.85 billion. Changes in foreign currency exchange rates can produce sizable non-cash gains and losses from the periodic revaluation of these liabilities into U.S. Dollars. The increase in interest expense in 2016 over 2015 before those gains and losses was primarily attributable to increased average outstanding debt.

Management's Discussion and Analysis (Continued)**Financial Condition**

Our consolidated balance sheet continues to reflect significant liquidity and a strong capital base. Our consolidated shareholders' equity at December 31, 2017 was \$348.3 billion, an increase of \$65.3 billion since December 31, 2016 (based upon shareholders' equity as originally reported in our 2016 Form 10-K). Net earnings attributable to Berkshire shareholders in 2017 were \$44.9 billion. Net unrealized appreciation of investments and foreign currency translation gains included in other comprehensive income in 2017 were approximately \$18.9 billion and \$2.2 billion, respectively.

At December 31, 2017, our insurance and other businesses held cash, cash equivalents and U.S. Treasury Bills of approximately \$104.0 billion and investments (excluding our investment in Kraft Heinz) of \$185.4 billion. In 2017, Berkshire issued €1.1 billion of senior notes and repaid \$1.1 billion of maturing senior notes. Berkshire's outstanding debt at December 31, 2017 was approximately \$18.8 billion, an increase of \$1.1 billion from December 31, 2016, of which \$990 million was attributable to foreign currency exchange rate changes applicable to the €6.85 billion par amount of Euro-denominated senior notes. Berkshire term debt of \$800 million matured in February 2018 and \$750 million will mature in August 2018.

Our railroad, utilities and energy businesses (conducted by BNSF and BHE) maintain very large investments in capital assets (property, plant and equipment) and will regularly make significant capital expenditures in the normal course of business. During 2017, BHE's and BNSF's capital expenditures were \$4.6 billion and \$3.3 billion, respectively. We forecast capital expenditures of these two operations will approximate \$9.7 billion in 2018.

BNSF's outstanding debt approximated \$22.5 billion as of December 31, 2017, an increase of \$455 million since December 31, 2016. In March 2017, BNSF issued \$1.25 billion of senior unsecured debentures with \$500 million due in 2027 and \$750 million due in 2047. BNSF debentures of \$650 million par amount will mature in March 2018. Outstanding borrowings of BHE and its subsidiaries were approximately \$39.7 billion at December 31, 2017, an increase of \$2.6 billion since December 31, 2016. During 2017, BHE and its subsidiaries issued approximately \$1.9 billion of debt with maturity dates ranging from 2022 to 2057. In January 2018, BHE issued senior unsecured debt of \$2.2 billion with maturities ranging from 2021 to 2048. The proceeds from these borrowings were used to repay certain short-term borrowings and for other general corporate purposes. Within the next twelve months, approximately \$3.4 billion of BHE and subsidiary term debt will mature. Berkshire does not guarantee the repayment of debt issued by BNSF, BHE or any of their subsidiaries and is not committed to provide capital to support BNSF, BHE or any of their subsidiaries.

Finance and financial products assets were approximately \$41.9 billion as of December 31, 2017, a decrease of \$175 million from December 31, 2016. Finance assets consist primarily of loans and finance receivables, various types of property held for lease, cash, cash equivalents and U.S. Treasury Bills. Finance and financial products liabilities declined \$3.0 billion to approximately \$16.7 billion as of December 31, 2017. The decrease was primarily due to a reduction in borrowings of approximately \$2.3 billion, reflecting repayments of \$3.6 billion, partly offset by \$1.3 billion of senior unsecured notes issued in January by a wholly-owned financing subsidiary, Berkshire Hathaway Finance Corporation ("BHFC"). The new BHFC notes mature in 2019 and 2020. BHFC's outstanding borrowings were \$12.9 billion at December 31, 2017. In January 2018, \$600 million par amount of BHFC senior notes matured and an additional \$4.0 billion will mature over the remainder of 2018. BHFC's senior note borrowings are used to fund loans originated and acquired by Clayton Homes and a portion of assets held for lease by our UTLX railcar leasing business. Berkshire guarantees the full and timely payment of principal and interest with respect to BHFC's senior notes.

Berkshire's Board of Directors has authorized Berkshire management to repurchase, at its discretion, Berkshire Class A and Class B common stock at prices no higher than a 20% premium over book value per share. We will not repurchase our stock if it reduces the total amount of Berkshire's consolidated cash, cash equivalents and U.S. Treasury Bills holdings below \$20 billion. There is no obligation to repurchase any stock and the program is expected to continue indefinitely. Financial strength and redundant liquidity will always be of paramount importance at Berkshire. There were no share repurchases in 2017.

Contractual Obligations

We are party to contracts associated with ongoing business and financing activities, which will result in cash payments to counterparties in future periods. Certain obligations included in our Consolidated Balance Sheets, such as notes payable, require future payments on contractually specified dates and in fixed and determinable amounts. Other obligations pertain to the acquisition of goods or services in the future, such as minimum rentals under operating leases and certain purchase obligations, and are not currently reflected in our financial statements. These obligations will be recognized in future periods as the goods are delivered or services are provided.

Management's Discussion and Analysis (Continued)

Contractual Obligations (Continued)

The timing and/or amount of the payments under certain contracts are contingent upon the outcome of future events. Most significantly, the timing and amount of future payments of unpaid losses and loss adjustment expenses arising under property and casualty insurance and reinsurance contracts, including retroactive reinsurance contracts, are contingent upon the outcome of claim settlement activities or events. Obligations arising under life, annuity and health insurance benefits are also contingent on future premiums, allowances, mortality, morbidity, expenses and policy lapse rates. The amounts included in the following table are based on the liability estimates reflected in our Consolidated Balance Sheet as of December 31, 2017. Although certain insurance losses and loss adjustment expenses and life, annuity and health benefits are recoverable under reinsurance contracts, those receivables are not reflected in the table.

A summary of our contractual obligations as of December 31, 2017 follows (in millions). Actual payments will likely vary, perhaps significantly, from estimates reflected in the table.

	Estimated payments due by period				
	Total	2018	2019-2020	2021-2022	After 2022
Notes payable and other borrowings, including interest	\$ 151,777	\$21,736	\$19,099	\$ 15,707	\$ 95,235
Operating leases	8,486	1,330	2,259	1,581	3,316
Purchase obligations ⁽¹⁾	39,957	12,959	6,940	5,018	15,040
Unpaid losses and loss adjustment expenses ⁽²⁾	104,059	20,614	21,377	14,740	47,328
Life, annuity and health insurance benefits ⁽³⁾	33,095	1,196	(29)	293	31,635
Other	16,899	3,328	813	2,344	10,414
Total	\$ 354,273	\$61,163	\$ 50,459	\$ 39,683	\$ 202,968

(1) Primarily related to fuel, capacity, transmission and maintenance contracts and capital expenditure commitments of BHE and BNSF and aircraft purchase commitments of NetJets.

(2) Includes unpaid losses and loss adjustment expenses under retroactive reinsurance contracts.

(3) Amounts represent estimated undiscounted benefits, net of estimated future premiums, as applicable.

Critical Accounting Policies

Certain accounting policies require us to make estimates and judgments in determining the amounts reflected in the Consolidated Financial Statements. Such estimates and judgments necessarily involve varying, and possibly significant, degrees of uncertainty. Accordingly, certain amounts currently recorded in the financial statements will likely be adjusted in the future based on new available information and changes in other facts and circumstances.

Property and casualty losses

We record liabilities for unpaid losses and loss adjustment expenses (also referred to as "gross unpaid losses" or "claim liabilities") based upon estimates of the ultimate amounts payable for losses occurring on or before the balance sheet date. The timing and amount of ultimate loss payments are contingent upon, among other things, the timing of claim reporting from insureds and ceding companies and the final determination of the loss amount through the loss adjustment process. We use a variety of techniques in establishing claim liabilities and all techniques require significant judgments and assumptions.

As of the balance sheet date, recorded claim liabilities include provisions for reported claims, as well as claims not yet reported and the development of reported claims. The period between the loss occurrence date and loss settlement date is the "claim-tail." Property claims usually have relatively short claim-tails, absent litigation. Casualty claims usually have longer claim-tails, occasionally extending for decades. Casualty claims may be more susceptible to litigation and the impact of changing contract interpretations. The legal environment and judicial process further contribute to extending claim-tails.

Our consolidated claim liabilities as of December 31, 2017 were \$104 billion, of which 87% related to GEICO and the Berkshire Hathaway Reinsurance Group (General Re Group and NICO Group). Additional information regarding significant uncertainties inherent in the processes and techniques of these businesses follows.

Management's Discussion and Analysis (Continued)

Property and casualty losses (Continued)

GEICO

GEICO predominantly writes private passenger auto insurance. As of December 31, 2017, GEICO's gross unpaid losses were \$18.1 billion. Claim liabilities, net of reinsurance recoverable were \$17.2 billion.

GEICO's claim reserving methodologies produce liability estimates based upon the individual claims. The key assumptions affecting our liability estimates include projections of ultimate claim counts ("frequency") and average loss per claim ("severity"). We utilize a combination of several actuarial estimation methods, including Bomhuetter-Ferguson and chain-ladder methodologies.

Claim liability estimates for automobile liability coverages (such as bodily injury ("BI"), uninsured motorists, and personal injury protection) are more uncertain due to the longer claim-tails, so we establish additional case development estimates. As of December 31, 2017, case development liabilities averaged approximately 30% of the case reserves. We select case development factors through analysis of the overall adequacy of historical case liabilities.

For incurred-but-not-reported ("IBNR") claims, liabilities are based on projections of the ultimate number of claims expected (reported and unreported) for each significant coverage. We use historical claim count data to develop age-to-age projections of the ultimate counts by quarterly accident period, from which we deduct reported claims to produce the number of unreported claims. We estimate the average costs per unreported claim and apply such estimates to the unreported claim counts, producing an IBNR liability estimate. We may record additional IBNR estimates when actuarial techniques are difficult to apply.

We test the adequacy of the aggregate claim liabilities using one or more actuarial projections based on claim closure models, and paid and incurred loss triangles. Each type of projection analyzes loss occurrence data for claims occurring in a given period and projects the ultimate cost.

Our claim liability estimates recorded at the end of 2016 increased \$517 million during 2017, which produced a corresponding decrease to pre-tax earnings. We modified the assumptions used to estimate liabilities at December 31, 2017 to reflect the most recent frequency and severity results. Future development of recorded liabilities will depend on whether actual frequency and severity are more or less than anticipated.

With respect to liabilities for BI claims, our most significant claim category, we believe it is reasonably possible that average severities will change by at least one percentage point from the severities used in establishing the recorded liabilities at December 31, 2017. We estimate that a one percentage point increase or decrease in BI severities would produce a \$275 million increase or decrease in recorded liabilities, with a corresponding decrease or increase in pre-tax earnings. Many of the economic forces that would likely cause BI severity to differ from expectations would likely also cause severities for other injury coverages to differ in the same direction.

Berkshire Hathaway Reinsurance Group ("BHRG")

BHRG's liabilities for unpaid losses and loss adjustment expenses derive primarily from reinsurance contracts issued through the NICO Group and the General Re Group. In connection with reinsurance contracts, the nature, extent, timing and perceived reliability of premium and loss information received from ceding companies varies widely depending on the type of coverage and the contractual reporting terms. Contract terms, conditions and coverages also tend to lack standardization and may evolve more rapidly than primary insurance policies.

The nature and extent of loss information provided under many facultative (individual risk), per occurrence excess or retroactive reinsurance contracts may not differ significantly from the information received under a primary insurance contract if reinsurer personnel either work closely with the ceding company in settling individual claims or manage the claims themselves. However, loss information is often less detailed with respect to aggregate excess-of-loss and quota-share contracts. Additionally, loss information we receive through periodic reports is often in a summary format rather than on an individual claim basis. Loss data includes recoverable paid losses, as well as case loss estimates. Ceding companies infrequently provide IBNR estimates to reinsurers.

Loss reporting to reinsurers is typically slower in comparison to primary insurers. Periodic premium and claims reports are required from ceding companies. In the U.S., such reports are generally required at quarterly intervals ranging from 30 to 90 days after the end of the quarterly period. Outside of the U.S., reinsurance reporting practices may vary further. In certain countries, clients report annually, often 90 to 180 days after the end of the annual period. In some instances, reinsurers assume and cede underlying risks thereby creating multiple contractual parties between us and the primary insured, potentially compounding the claim reporting delays. The relative impact of reporting delays on the reinsurer may vary depending on the type of coverage, contractual reporting terms, the magnitude of the claim relative to the attachment point of the reinsurance coverage, and for other reasons.

Management's Discussion and Analysis (Continued)
Property and casualty losses (Continued)
Berkshire Hathaway Reinsurance Group ("BHRG") (Continued)

As reinsurers, the premium and loss data we receive is at least one level removed from the underlying claimant, so there is a risk that the loss data reported is incomplete, inaccurate or the claim is outside the coverage terms. When received, we review the information for completeness and compliance with the contract terms. Generally, our reinsurance contracts permit us to access the ceding company's books and records with respect to the subject business, thus providing the ability to audit the reported information. In the normal course of business, disputes occasionally arise concerning whether claims are covered by our reinsurance policies. We resolve most coverage disputes through negotiation with the client. If disputes cannot be resolved, our contracts generally provide arbitration or alternative dispute resolution processes. There are no coverage disputes at this time for which an adverse resolution would likely have a material impact on our consolidated results of operations or financial condition.

A summary of BHRG's property and casualty unpaid losses and loss adjustment expenses, other than retroactive reinsurance losses and loss adjustment expenses, as of December 31, 2017 follows (in millions).

	General Re Group			NICO Group			Total		
	Property	Casualty	Total	Property	Casualty	Total	Property	Casualty	Total
Reported case liabilities	\$ 1,488	\$ 6,608	\$ 8,096	\$ 3,477	\$ 2,833	\$ 6,310	\$ 4,965	\$ 9,441	\$14,406
IBNR liabilities	1,622	6,630	8,252	2,574	4,487	7,061	4,196	11,117	15,313
Gross unpaid losses and loss adjustment expenses	3,110	13,238	16,348	6,051	7,320	13,371	9,161	20,558	29,719
Reinsurance recoverable	256	610	866	33	418	451	289	1,028	1,317
Net unpaid losses and loss adjustment expenses	<u>\$ 2,854</u>	<u>\$12,628</u>	<u>\$15,482</u>	<u>\$ 6,018</u>	<u>\$ 6,902</u>	<u>\$12,920</u>	<u>\$ 8,872</u>	<u>\$19,530</u>	<u>\$28,402</u>

Gross unpaid losses and loss adjustment expenses in the table above consist primarily of traditional property and casualty coverages written primarily under excess-of-loss and quota-share treaties. Under certain contracts, coverage can apply to multiple lines of business written and the ceding company may not report loss data by such lines consistently, if at all. In those instances, we allocated losses to property and casualty coverages based on internal estimates.

With respect to the General Re Group, we use a variety of actuarial methodologies to establish unpaid losses and loss adjustment expenses. Certain methodologies, such as paid and incurred loss development techniques, incurred and paid loss Bornhuetter-Ferguson techniques and frequency and severity techniques, are utilized, as well as ground-up techniques when appropriate. The critical processes involved in estimating unpaid losses and loss adjustment expenses include the establishment of case liability estimates, the determination of expected loss ratios and loss reporting patterns, which drive IBNR liability estimates, and the comparison of reported activity to the expected loss reporting patterns.

General Re Group's process for estimating unpaid losses and loss adjustment expenses starts with case loss estimates reported by ceding companies. We independently evaluate certain reported case losses and if appropriate, we use our own case liability estimate. As of December 31, 2017, our case loss estimates exceeded ceding company estimates by approximately \$2.2 billion, which were concentrated in legacy workers' compensation claims occurring over 10 years ago. We also periodically conduct detailed reviews of individual client claims, which may cause us to adjust our case estimates.

In estimating General Re Group's IBNR liabilities, we consider expected case loss emergence and development patterns, together with expected loss ratios by year. In this process, we classify all loss and premium data into groups or portfolios of policies based primarily on product type (e.g., treaty, facultative and program), line of business (e.g., auto liability, property and workers' compensation) and/or geographic jurisdiction, and in some cases contractual features or market segment. For each portfolio, we aggregate premiums and losses by accident year or coverage period and analyze the paid and incurred loss data over time. We estimate the expected development of reported claims, which, together with the expected loss ratios, are used to calculate IBNR liability estimates. Factors affecting our loss development analysis include, but are not limited to, changes in the following: client claims reporting and settlement practices; the frequency of client company claim reviews; policy terms and coverage (such as loss retention levels and occurrence and aggregate policy limits); loss trends; and legal trends that result in unanticipated losses. Collectively, these factors influence our selections of expected case loss emergence patterns.

For the NICO Group, we generally also establish reinsurance claim liabilities on a contract-by-contract basis determined from reported case loss estimates reported by ceding companies and IBNR liabilities that are primarily a function of an anticipated loss ratio for the contract and the reported case loss estimates. Liabilities are subsequently adjusted over time to reflect case losses reported versus expected case losses, which are used to form judgments on the adequacy of the expected loss ratio and the level of IBNR liabilities required for unreported claims. Anticipated loss ratios are also revised to include estimates of the impact of major catastrophe events as they become known.

Management's Discussion and Analysis (Continued)

Property and casualty losses (Continued)

Berkshire Hathaway Reinsurance Group ("BHRG") (Continued)

Certain catastrophe, individual risk and aviation excess-of-loss contracts tend to generate low frequency/high severity losses. Our processes and techniques for estimating liabilities under such contracts generally rely more on a per-policy assessment of the ultimate cost associated with the individual loss event rather than with an analysis of the historical development patterns of past losses.

In the aggregate, we reduced net losses for prior years' occurrences by \$295 million in 2017, which produced a corresponding increase in pre-tax earnings. Reported claims for prior years' property loss events were less than anticipated and we reduced our estimated ultimate liabilities by \$152 million. However, property losses incurred during any given period may be more volatile because of the effect of catastrophe and large individual property loss events.

In 2017, reported nominal losses for prior years' workers' compensation claims of the General Re Group were less than expected. After reevaluating expected remaining IBNR estimates, we reduced our liabilities by \$160 million. An increase of ten percent in the tail of the expected loss emergence pattern and an increase of ten percent in the expected loss ratios would produce a net increase in workers' compensation IBNR liabilities of approximately \$1 billion, producing a corresponding decrease in pre-tax earnings. We believe it is reasonably possible for these assumptions to increase at these rates.

We reduced General Re Group's other casualty, excluding asbestos and environmental, estimated ultimate losses for prior years' events by \$114 million in 2017 reflecting lower than expected reported losses, resulting in a \$114 million increase in pre-tax earnings. For our significant casualty and general liability portfolios, we estimate that an increase of five percent in the claim-tails of the expected loss emergence patterns and a five percent increase in expected loss ratios would produce a net increase in our nominal IBNR liabilities and a corresponding reduction in pre-tax earnings of approximately \$900 million. While we believe it is reasonably possible for these assumptions to increase at these rates, more likely outcomes are less than \$900 million given the diversification in worldwide business.

Overall industry-wide loss experience data and informed judgment are used when internal loss data is of limited reliability, such as for asbestos, environmental and latent injury liability estimates. Our combined net liabilities for such losses at December 31, 2017, were approximately \$1.6 billion, which included an increase in estimated ultimate losses of approximately \$145 million during 2017, which produced a corresponding reduction in pre-tax earnings. Loss estimations for these exposures are difficult to determine due to the changing legal environment, and increases may be required in the future if new exposures or claimants are identified, new claims are reported or new theories of liability emerge. In addition to the previously described methodologies, we consider "survival ratios", which is the average net claim payments in recent years in relation to net unpaid losses, as a rough guide to reserve adequacy. Our survival ratio was approximately 15 years as of December 31, 2017.

Retroactive reinsurance

Our retroactive reinsurance contracts cover loss events occurring before the contract inception dates. Claim liabilities relating to our retroactive reinsurance contracts are predominately related to casualty or liability exposures. We expect the claim-tails to be very long. Our gross unpaid losses, deferred charge assets, and net liabilities at December 31, 2017 were as follows (in millions).

	Gross unpaid losses	Deferred charges	Liabilities, net of deferred charges
December 31, 2017	\$42,937	\$15,278	\$27,659

Our contracts are generally subject to maximum limits of indemnifications. We currently expect that maximum remaining gross losses payable under our retroactive policies will not exceed \$57 billion due to the applicable aggregate contract limits. Absent significant judicial or legislative changes affecting asbestos, environmental or latent injury exposures, we also currently believe it unlikely that losses will develop upward to the maximum losses payable or downward by more than 15% of our \$42.9 billion estimated liability at December 31, 2017.

We establish liability estimates by individual contract, considering exposure and development trends. In establishing our liability estimates, we often analyze historical aggregate loss payment patterns and project expected ultimate losses under various scenarios. We assign judgmental probability factors to these scenarios and an expected outcome is determined. We then monitor subsequent loss payment activity and review ceding company reports and other available information concerning the underlying losses. We re-estimate the expected ultimate losses when significant events or significant deviations from expected results are revealed.

Management's Discussion and Analysis (Continued)
Property and casualty losses (Continued)
Retroactive reinsurance (Continued)

Certain of our retroactive reinsurance contracts include asbestos, environmental and other latent injury claims. Our estimated liabilities for such claims were approximately \$14.0 billion at December 31, 2017. We do not consistently receive reliable detailed data regarding asbestos, environmental and latent injury claims from all ceding companies, particularly with respect to multi-line or aggregate excess-of-loss policies. When possible, we conduct a detailed analysis of the underlying loss data to make an estimate of ultimate reinsured losses. When detailed loss information is unavailable, we develop estimates by applying recent industry trends and projections to aggregate client data. Judgments in these areas necessarily consider the stability of the legal and regulatory environment under which we expect these claims will be adjudicated. Legal reform and legislation could also have a significant impact on our ultimate liabilities.

Changes in ultimate estimated liabilities for prior years' retroactive reinsurance contracts were relatively insignificant in 2017, as were changes in the estimated timing and amount of remaining unpaid losses. In 2017, we paid losses and loss adjustment expenses of approximately \$1.0 billion with respect to these contracts.

In connection with our retroactive reinsurance contracts, we also record deferred charge assets, which at contract inception represents the excess, if any, of the estimated ultimate liability for unpaid losses over premiums. We amortize deferred charge assets, which produces charges to pre-tax earnings in future periods based on the expected timing and amount of loss payments. We also adjust deferred charge balances due to changes in the expected timing and ultimate amount of claim payments. Significant changes in such estimates may have a significant effect on unamortized deferred charge balances and the amount of periodic amortization. Based on the contracts in effect as of December 31, 2017, we currently estimate that amortization expense in 2018 will approximate \$1.2 billion.

Derivative contract liabilities

We measure derivative contract liabilities at fair value. Our remaining significant derivative contract exposures relate to equity index put option contracts written between 2004 and 2008. Our recorded liabilities are based on models as there are essentially no observable prices for comparable contracts. Actual values in an exchange may differ significantly from the values produced by such models, as transaction values may also reflect the prevailing perceptions of individual buyers and sellers and other changes in market conditions.

We determine the fair values of equity index put option contracts using a Black-Scholes based option valuation model. Inputs to the model include the current index value, strike price, interest rate, dividend rate and contract expiration date. The weighted average interest and dividend rates used as of December 31, 2017 were 1.1% and 3.2%, respectively. The interest rates were approximately 40 basis points (on a weighted average basis) over benchmark interest rates at the end of 2017 and represented our estimate of our nonperformance risk.

The Black-Scholes based model also incorporates volatility inputs that estimate potential price changes over time. Our contracts have an average remaining maturity of about three years. The weighted average volatility used as of December 31, 2017 was approximately 17.4%. We determine the weighted average volatilities based on the volatility input for each contract weighted by the contract's notional value. The potential impact from changes in our volatility assumptions are as follows. (Dollars in millions).

Fair value at December 31, 2017	\$2,172
Hypothetical change in volatility	Hypothetical fair value
Increase 2 percentage points	\$2,332
Increase 4 percentage points	2,502
Decrease 2 percentage points	2,022
Decrease 4 percentage points	1,883

Management's Discussion and Analysis (Continued)

Other Critical Accounting Policies

Our Consolidated Balance Sheet at December 31, 2017 included goodwill of acquired businesses of \$81.3 billion. We evaluate goodwill for impairment at least annually and we conducted our most recent annual review during the fourth quarter of 2017. Our review includes determining the estimated fair values of our reporting units. There are several methods of estimating a reporting unit's fair value, including market quotations, underlying asset and liability fair value determinations and other valuation techniques, such as discounted projected future net earnings or net cash flows and multiples of earnings. We primarily use discounted projected future earnings or cash flow methods. The key assumptions and inputs used in such methods may include forecasting revenues and expenses, operating cash flows and capital expenditures, as well as an appropriate discount rate and other inputs. A significant amount of judgment is required in estimating the fair value of a reporting unit and in performing goodwill impairment tests. Due to the inherent uncertainty in forecasting cash flows and earnings, actual results may vary significantly from the forecasts. If the carrying amount of a reporting unit, including goodwill, exceeds the estimated fair value, then, as required by GAAP, we estimate the fair values of the identifiable assets and liabilities of the reporting unit. The excess of the estimated fair value of the reporting unit over the estimated fair value of its net assets establishes the implied value of goodwill. The excess of the recorded amount of goodwill over the implied goodwill value is charged to earnings as an impairment loss.

Market Risk Disclosures

Our Consolidated Balance Sheets include substantial amounts of assets and liabilities whose fair values are subject to market risks. Our significant market risks are primarily associated with equity prices, interest rates, foreign currency exchange rates and commodity prices. The fair values of our investment portfolios and equity index put option contracts remain subject to considerable volatility. The following sections address the significant market risks associated with our business activities.

Equity Price Risk

Equity securities represent a significant portion of our investment portfolio. Strategically, we strive to invest in businesses that possess excellent economics and able and honest management, and we prefer to invest a meaningful amount in each investee. Consequently, equity investments are concentrated in relatively few issuers. At December 31, 2017, approximately 65% of the total fair value of equity securities was concentrated in five issuers.

We often hold our equity investments for long periods and short-term price volatility has occurred in the past and will occur in the future. We strive to maintain significant levels of shareholder capital and ample liquidity to provide a margin of safety against short-term price volatility.

We are also subject to equity price risk with respect to our equity index put option contracts. While our ultimate liability with respect to these contracts is determined from the movement of the underlying stock index between the contract inception date and expiration date, fair values of these contracts are also affected by changes in other factors such as interest rates, expected dividend rates and the remaining duration of the contracts.

The following table summarizes our equity securities and derivative contract liabilities with significant equity price risk as of December 31, 2017 and 2016 and the estimated effects of a hypothetical 30% increase and a 30% decrease in market prices as of those dates. The selected 30% hypothetical increase and decrease does not reflect the best or worst case scenario. Indeed, results from declines could be far worse due both to the nature of equity markets and the aforementioned concentrations existing in our equity investment portfolio. Dollar amounts are in millions.

	Fair Value	Hypothetical Price Change	Estimated Fair Value after Hypothetical Change in Prices	Hypothetical Percentage Increase (Decrease) in Shareholders' Equity ⁽¹⁾
<i>December 31, 2017</i>				
Investments in equity securities	\$170,540	30% increase	\$ 221,702	11.6%
		30% decrease	119,378	(11.6)
Equity index put option contract liabilities	2,172	30% increase	1,036	0.3
		30% decrease	4,804	(0.6)
<i>December 31, 2016</i>				
Investments in equity securities	\$131,629	30% increase	\$ 172,341	9.4%
		30% decrease	91,099	(9.4)
Equity index put option contract liabilities	2,890	30% increase	1,602	0.3
		30% decrease	5,572	(0.6)

⁽¹⁾ The hypothetical percentage increase (decrease) is after income taxes at the statutory rate in effect as of the balance sheet date.

Management's Discussion and Analysis (Continued)
Interest Rate Risk

We may also invest in bonds, loans or other interest rate sensitive instruments. Our strategy is to acquire or originate such instruments at prices considered appropriate relative to the perceived credit risk. We recognize and accept that credit losses may occur. We also issue debt in the ordinary course of business to fund business operations, business acquisitions and for other general purposes. We strive to maintain high credit ratings, in order to minimize the cost of our debt. We rarely utilize derivative products, such as interest rate swaps, to manage interest rate risks.

The fair values of our fixed maturity investments, loans and finance receivables, and notes payable and other borrowings will fluctuate in response to changes in market interest rates. In addition, changes in interest rate assumptions used in our equity index put option contract models cause changes in reported liabilities with respect to those contracts. Increases and decreases in interest rates generally translate into decreases and increases in fair values of these instruments. Additionally, fair values of interest rate sensitive instruments may be affected by the creditworthiness of the issuer, prepayment options, relative values of alternative investments, the liquidity of the instrument and other general market conditions.

The following table summarizes the estimated effects of hypothetical changes in interest rates on our significant assets and liabilities that are subject to significant interest rate risk at December 31, 2017 and 2016. We assumed that the interest rate changes occur immediately and uniformly to each category of instrument containing interest rate risk, and that there were no significant changes to other factors used to determine the value of the instrument. The hypothetical changes in interest rates do not reflect the best or worst case scenarios. Actual results may differ from those reflected in the table. Dollars are in millions.

		Estimated Fair Value after Hypothetical Change in Interest Rates			
		(bp=basis points)			
	Fair Value	100 bp decrease	100 bp increase	200 bp increase	300 bp increase
December 31, 2017					
Assets:					
Investments in fixed maturity securities	\$ 21,353	\$ 22,053	\$ 20,742	\$ 20,200	\$ 19,717
Loans and finance receivables	14,136	14,655	13,652	13,199	12,774
Liabilities:					
Notes payable and other borrowings:					
Insurance and other	28,180	29,879	26,670	25,319	24,105
Railroad, utilities and energy	70,538	77,091	64,582	59,730	55,581
Finance and financial products	13,582	14,058	13,174	12,821	12,514
Equity index put option contracts	2,172	2,460	1,911	1,676	1,465
December 31, 2016					
Assets:					
Investments in fixed maturity securities	\$ 23,432	\$ 24,087	\$ 22,860	\$ 22,395	\$ 21,952
Investments in equity securities	7,659	8,095	7,213	6,780	6,367
Loans and finance receivables	13,717	14,230	13,237	12,790	12,370
Liabilities:					
Notes payable and other borrowings:					
Insurance and other	27,712	29,475	26,154	24,770	23,533
Railroad, utilities and energy	65,774	72,261	60,302	55,634	51,624
Finance and financial products	15,825	16,408	15,318	14,872	14,476
Equity index put option contracts	2,890	3,287	2,533	2,213	1,928

Management's Discussion and Analysis (Continued)**Foreign Currency Risk**

Certain of our subsidiaries operate in foreign jurisdictions and we transact business in foreign currencies. In addition, we hold investments in common stocks of major multinational companies, such as The Coca-Cola Company, who have significant foreign business and foreign currency risk of their own. We generally do not attempt to match assets and liabilities by currency and do not use derivative contracts to hedge or manage foreign currency price changes in any meaningful way.

Our net assets subject to financial statement translation into U.S. Dollars are primarily in our insurance, utilities and energy and certain manufacturing and services subsidiaries. This translation related impact may be offset by gains or losses included in net earnings related to net liabilities of Berkshire and certain of its U.S. subsidiaries that are denominated in foreign currencies, due to changes in exchange rates. A summary of these gains (losses), after-tax, for each of the years ending December 31, 2017 and 2016 follows (in millions).

	2017	2016
Euro-denominated debt included in net earnings	\$ (655)	\$ 159
Net liabilities under certain reinsurance contracts included in net earnings	(295)	458
Foreign currency translation included in other comprehensive income	2,151	(1,412)

Commodity Price Risk

Our subsidiaries use commodities in various ways in manufacturing and providing services. As such, we are subject to price risks related to various commodities. In most instances, we attempt to manage these risks through the pricing of our products and services to customers. To the extent that we are unable to sustain price increases in response to commodity price increases, our operating results will likely be adversely affected. We may utilize derivative contracts to manage a portion of commodity price risks at BHE.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

See "Market Risk Disclosures" contained in Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Management's Report on Internal Control Over Financial Reporting

Management of Berkshire Hathaway Inc. is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in the Securities Exchange Act of 1934 Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2017 as required by the Securities Exchange Act of 1934 Rule 13a-15(c). In making this assessment, we used the criteria set forth in the framework in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control—Integrated Framework* (2013), our management concluded that our internal control over financial reporting was effective as of December 31, 2017.

The effectiveness of our internal control over financial reporting as of December 31, 2017 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which appears on page K-61.

Berkshire Hathaway Inc.
February 23, 2018

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of
Berkshire Hathaway Inc.
Omaha, Nebraska

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Berkshire Hathaway Inc. and subsidiaries (the “Company”) as of December 31, 2017 and 2016, the related consolidated statements of earnings, comprehensive income, changes in shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the “financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company’s management is responsible for these financial statements, 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 Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 23, 2018

We have served as the Company’s auditor since 1985.

**BERKSHIRE HATHAWAY INC.
and Subsidiaries**
CONSOLIDATED BALANCE SHEETS
(dollars in millions)

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
ASSETS		
<i>Insurance and Other:</i>		
Cash and cash equivalents	\$ 25,460	\$ 23,581
Short-term investments in U.S. Treasury Bills	78,515	47,338
Investments in fixed maturity securities	21,353	23,432
Investments in equity securities	164,026	134,835
Investments in The Kraft Heinz Company (Fair Value: 2017 – \$25,306; 2016 – \$28,418)	17,635	15,345
Receivables	28,578	27,097
Inventories	16,187	15,727
Property, plant and equipment	20,104	19,325
Goodwill	54,985	53,994
Other intangible assets	32,518	33,481
Deferred charges under retroactive reinsurance contracts	15,278	8,047
Other	11,158	7,126
	<u>485,797</u>	<u>409,328</u>
<i>Railroad, Utilities and Energy:</i>		
Cash and cash equivalents	2,910	3,939
Property, plant and equipment	128,184	123,759
Goodwill	24,780	24,111
Regulatory assets	2,950	4,457
Other	15,589	13,550
	<u>174,413</u>	<u>169,816</u>
<i>Finance and Financial Products:</i>		
Cash and cash equivalents	3,213	528
Short-term investments in U.S. Treasury Bills	5,856	10,984
Loans and finance receivables	13,748	13,300
Property, plant and equipment and assets held for lease	9,931	9,689
Goodwill	1,493	1,381
Other	7,644	5,828
	<u>41,885</u>	<u>41,710</u>
	<u>\$ 702,095</u>	<u>\$ 620,854</u>

See accompanying Notes to Consolidated Financial Statements

**BERKSHIRE HATHAWAY INC.
and Subsidiaries**
CONSOLIDATED BALANCE SHEETS
(dollars in millions)

	December 31,	
	2017	2016
LIABILITIES AND SHAREHOLDERS' EQUITY		
<i>Insurance and Other:</i>		
Unpaid losses and loss adjustment expenses	\$ 61,122	\$ 53,379
Unpaid losses and loss adjustment expenses under retroactive reinsurance contracts	42,937	24,972
Unearned premiums	16,040	14,245
Life, annuity and health insurance benefits	17,608	15,977
Other policyholder liabilities	7,654	6,714
Accounts payable, accruals and other liabilities	23,099	22,164
Notes payable and other borrowings	27,324	27,175
	<u>195,784</u>	<u>164,626</u>
<i>Railroad, Utilities and Energy:</i>		
Accounts payable, accruals and other liabilities	11,334	11,434
Regulatory liabilities	7,511	3,121
Notes payable and other borrowings	62,178	59,085
	<u>81,023</u>	<u>73,640</u>
<i>Finance and Financial Products:</i>		
Accounts payable, accruals and other liabilities	1,470	1,444
Derivative contract liabilities	2,172	2,890
Notes payable and other borrowings	13,085	15,384
	<u>16,727</u>	<u>19,718</u>
Income taxes, principally deferred	56,607	77,442
Total liabilities	<u>350,141</u>	<u>335,426</u>
Shareholders' equity:		
Common stock	8	8
Capital in excess of par value	35,694	35,681
Accumulated other comprehensive income	58,571	37,298
Retained earnings	255,786	210,846
Treasury stock, at cost	(1,763)	(1,763)
Berkshire Hathaway shareholders' equity	<u>348,296</u>	<u>282,070</u>
Noncontrolling interests	3,658	3,358
Total shareholders' equity	<u>351,954</u>	<u>285,428</u>
	<u>\$702,095</u>	<u>\$620,854</u>

See accompanying Notes to Consolidated Financial Statements

BERKSHIRE HATHAWAY INC.
and Subsidiaries
CONSOLIDATED STATEMENTS OF EARNINGS
(dollars in millions except per-share amounts)

	Year Ended December 31,		
	2017	2016	2015
Revenues:			
<i>Insurance and Other:</i>			
Insurance premiums earned	\$ 60,597	\$ 45,881	\$ 41,294
Sales and service revenues	125,963	119,489	107,001
Interest, dividend and other investment income	5,144	4,725	5,357
Investment gains/losses	1,202	5,128	9,363
	<u>192,906</u>	<u>175,223</u>	<u>163,015</u>
<i>Railroad, Utilities and Energy operating and other revenues</i>	<u>39,943</u>	<u>37,542</u>	<u>40,004</u>
<i>Finance and Financial Products:</i>			
Sales and service revenues	6,924	6,208	5,430
Interest, dividend and other investment income	1,438	1,455	1,510
Investment gains/losses	208	2,425	10
Derivative contract gains/losses	718	751	974
	<u>9,288</u>	<u>10,839</u>	<u>7,924</u>
Total revenues	<u>242,137</u>	<u>223,604</u>	<u>210,943</u>
Costs and expenses:			
<i>Insurance and Other:</i>			
Insurance losses and loss adjustment expenses	48,891	30,906	26,527
Life, annuity and health insurance benefits	5,618	5,131	5,413
Insurance underwriting expenses	9,321	7,713	7,517
Cost of sales and services	101,748	95,754	87,029
Selling, general and administrative expenses	16,241	16,478	13,723
Interest expense	1,740	445	460
	<u>183,559</u>	<u>156,427</u>	<u>140,669</u>
<i>Railroad, Utilities and Energy:</i>			
Cost of sales and operating expenses	28,034	26,194	27,650
Interest expense	3,254	2,642	2,653
	<u>31,288</u>	<u>28,836</u>	<u>30,303</u>
<i>Finance and Financial Products:</i>			
Cost of sales and services	4,050	3,448	2,915
Selling, general and administrative expenses	1,940	1,739	1,586
Interest expense	400	410	402
	<u>6,390</u>	<u>5,597</u>	<u>4,903</u>
Total costs and expenses	<u>221,237</u>	<u>190,860</u>	<u>175,875</u>
Earnings before income taxes and equity in earnings of The Kraft Heinz Company	<u>20,900</u>	<u>32,744</u>	<u>35,068</u>
Equity in earnings (loss) of The Kraft Heinz Company	<u>2,938</u>	<u>923</u>	<u>(122)</u>
Earnings before income taxes	<u>23,838</u>	<u>33,667</u>	<u>34,946</u>
Income tax expense (benefit)	<u>(21,515)</u>	<u>9,240</u>	<u>10,532</u>
Net earnings	<u>45,353</u>	<u>24,427</u>	<u>24,414</u>
Earnings attributable to noncontrolling interests	<u>413</u>	<u>353</u>	<u>331</u>
Net earnings attributable to Berkshire Hathaway shareholders	<u>\$ 44,940</u>	<u>\$ 24,074</u>	<u>\$ 24,083</u>
Net earnings per average equivalent Class A share	<u>\$ 27,326</u>	<u>\$ 14,645</u>	<u>\$ 14,656</u>
Net earnings per average equivalent Class B share*	<u>\$ 18.22</u>	<u>\$ 9.76</u>	<u>\$ 9.77</u>
Average equivalent Class A shares outstanding	<u>1,644,615</u>	<u>1,643,826</u>	<u>1,643,183</u>
Average equivalent Class B shares outstanding	<u>2,466,923,163</u>	<u>2,465,739,654</u>	<u>2,464,773,947</u>

* Net earnings per average equivalent Class B share outstanding are one-fifteen-hundredth of the equivalent Class A amount.

See accompanying Notes to Consolidated Financial Statements

BERKSHIRE HATHAWAY INC.
and Subsidiaries
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(dollars in millions)

	Year Ended December 31,		
	2017	2016	2015
Net earnings	\$45,353	\$24,427	\$24,414
Other comprehensive income:			
Net change in unrealized appreciation of investments	30,450	13,858	(8,520)
Applicable income taxes	(10,566)	(4,846)	3,014
Reclassification of investment appreciation in net earnings	(1,399)	(6,820)	(2,332)
Applicable income taxes	490	2,387	816
Foreign currency translation	2,364	(1,541)	(1,931)
Applicable income taxes	(95)	66	(43)
Prior service cost and actuarial gains/losses of defined benefit pension plans	225	354	424
Applicable income taxes	(45)	(187)	(140)
Other, net	(9)	(17)	(94)
Other comprehensive income, net	21,415	3,254	(8,806)
Comprehensive income	66,768	27,681	15,608
Comprehensive income attributable to noncontrolling interests	555	291	275
Comprehensive income attributable to Berkshire Hathaway shareholders	\$66,213	\$27,390	\$15,333

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(dollars in millions)

	Berkshire Hathaway shareholders' equity					
	Common stock and capital in excess of par value	Accumulated other comprehensive income	Retained earnings	Treasury stock	Non-controlling interests	Total
Balance December 31, 2014	\$ 35,581	\$42,732	\$ 162,689	\$ (1,763)	\$ 2,857	\$ 242,096
Net earnings	—	—	24,083	—	331	24,414
Other comprehensive income, net	—	(8,750)	—	—	(56)	(8,806)
Issuance of common stock	53	—	—	—	—	53
Transactions with noncontrolling interests	(6)	—	—	—	(55)	(61)
Balance December 31, 2015	35,628	33,982	186,772	(1,763)	3,077	257,696
Net earnings	—	—	24,074	—	353	24,427
Other comprehensive income, net	—	3,316	—	—	(62)	3,254
Issuance of common stock	119	—	—	—	—	119
Transactions with noncontrolling interests	(58)	—	—	—	(10)	(68)
Balance December 31, 2016	35,689	37,298	210,846	(1,763)	3,358	285,428
Net earnings	—	—	44,940	—	413	45,353
Other comprehensive income, net	—	21,273	—	—	142	21,415
Issuance of common stock	76	—	—	—	—	76
Transactions with noncontrolling interests	(63)	—	—	—	(255)	(318)
Balance December 31, 2017	\$ 35,702	\$58,571	\$ 255,786	\$ (1,763)	\$ 3,658	\$ 351,954

See accompanying Notes to Consolidated Financial Statements

BERKSHIRE HATHAWAY INC.
and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(dollars in millions)

	Year Ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net earnings	\$ 45,353	\$ 24,427	\$ 24,414
Adjustments to reconcile net earnings to operating cash flows:			
Investment gains/losses	(1,410)	(7,553)	(9,373)
Depreciation and amortization	9,188	8,901	7,779
Other	458	(161)	751
Changes in operating assets and liabilities:			
Losses and loss adjustment expenses	25,027	4,372	2,262
Deferred charges reinsurance assumed	(7,231)	(360)	84
Unearned premiums	1,761	968	1,392
Receivables and originated loans	(1,990)	(3,302)	(1,650)
Derivative contract assets and liabilities	(775)	(946)	(974)
Income taxes	(24,957)	4,044	5,718
Other	352	2,145	1,088
Net cash flows from operating activities	45,776	32,535	31,491
Cash flows from investing activities:			
Purchases of U.S. Treasury Bills and fixed maturity securities	(158,492)	(96,568)	(17,891)
Purchases of equity securities	(20,326)	(16,508)	(10,220)
Purchase of Kraft Heinz common stock	—	—	(5,258)
Sales of U.S. Treasury Bills and fixed maturity securities	49,327	18,757	2,471
Redemptions and maturities of U.S. Treasury Bills and fixed maturity securities	86,727	26,177	14,656
Sales and redemptions of equity securities	19,512	28,464	8,747
Purchases of loans and finance receivables	(1,435)	(307)	(179)
Collections of loans and finance receivables	1,702	490	492
Acquisitions of businesses, net of cash acquired	(2,708)	(31,399)	(4,902)
Purchases of property, plant and equipment	(11,708)	(12,954)	(16,082)
Other	(3,690)	(419)	165
Net cash flows from investing activities	(41,091)	(84,267)	(28,001)
Cash flows from financing activities:			
Proceeds from borrowings of insurance and other businesses	1,342	9,431	3,358
Proceeds from borrowings of railroad, utilities and energy businesses	3,013	3,077	5,479
Proceeds from borrowings of finance businesses	1,303	4,741	1,045
Repayments of borrowings of insurance and other businesses	(1,856)	(1,264)	(1,916)
Repayments of borrowings of railroad, utilities and energy businesses	(3,549)	(2,123)	(1,725)
Repayments of borrowings of finance businesses	(3,609)	(1,313)	(1,827)
Changes in short term borrowings, net	2,079	130	(378)
Other	(121)	112	(233)
Net cash flows from financing activities	(1,398)	12,791	3,803
Effects of foreign currency exchange rate changes	248	(172)	(165)
Increase (decrease) in cash and cash equivalents	3,535	(39,113)	7,128
Cash and cash equivalents at beginning of year	28,048	67,161	60,033
Cash and cash equivalents at end of year *	\$ 31,583	\$ 28,048	\$ 67,161
<i>* Cash and cash equivalents at end of year are comprised of the following:</i>			
Insurance and Other	\$ 25,460	\$23,581	\$56,612
Railroad, Utilities and Energy	2,910	3,939	3,437
Finance and Financial Products	3,213	528	7,112
	<u>\$ 31,583</u>	<u>\$28,048</u>	<u>\$67,161</u>

See accompanying Notes to Consolidated Financial Statements

**BERKSHIRE HATHAWAY INC.
and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2017**

(1) Significant accounting policies and practices

(a) Nature of operations and basis of consolidation

Berkshire Hathaway Inc. (“Berkshire”) is a holding company owning subsidiaries engaged in a number of diverse business activities, including insurance and reinsurance, freight rail transportation, utilities and energy, manufacturing, service, retailing and finance. In these notes the terms “us,” “we,” or “our” refer to Berkshire and its consolidated subsidiaries. Further information regarding our reportable business segments is contained in Note 23. Significant business acquisitions completed over the past three years are discussed in Note 2.

The accompanying Consolidated Financial Statements include the accounts of Berkshire consolidated with the accounts of all subsidiaries and affiliates in which we hold a controlling financial interest as of the financial statement date. Normally a controlling financial interest reflects ownership of a majority of the voting interests. We consolidate a variable interest entity (“VIE”) when we possess both the power to direct the activities of the VIE that most significantly impact its economic performance and we are either obligated to absorb the losses that could potentially be significant to the VIE or we hold the right to receive benefits from the VIE that could potentially be significant to the VIE. Intercompany accounts and transactions have been eliminated.

Prior to 2017, the liability for unpaid losses and loss adjustment expenses related to workers’ compensation claims assumed under certain workers’ compensation reinsurance contracts were discounted for the time-value-of-money consistent with insurance statutory accounting principles. Estimated claim liabilities assumed under all other insurance and reinsurance contracts, including other workers’ compensation contracts are not discounted. In the fourth quarter of 2017, we discontinued the practice of discounting workers’ compensation claims liabilities assumed under all reinsurance contracts to achieve full consistency. In connection with this change, we increased our unpaid losses and loss adjustment expenses by \$1.43 billion and reduced our income tax liabilities by \$502 million and our shareholders’ equity by \$931 million. The effect of this change on net earnings in 2015 and 2016 was immaterial and the aforementioned adjustment to retained earnings was recorded as of December 31, 2014 in the accompanying Consolidated Financial Statements. As a result, retained earnings and shareholder’s equity for the years 2014-2016 have been restated from the amounts previously reported.

(b) Use of estimates in preparation of financial statements

The preparation of our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States (“GAAP”) requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the period. In particular, estimates of unpaid losses and loss adjustment expenses and related reinsurance recoverable on unpaid losses are subject to considerable estimation error due to the inherent uncertainty in projecting ultimate claim costs. In addition, estimates and assumptions associated with the amortization of deferred charges on retroactive reinsurance contracts, determinations of fair values of certain financial instruments and evaluations of goodwill and identifiable intangible assets for impairment require considerable judgment. Actual results may differ from the estimates used in preparing our Consolidated Financial Statements.

(c) Cash and cash equivalents and Short-term investments in U.S. Treasury Bills

Cash equivalents consist of demand deposit and money market accounts and investments with maturities of three months or less when purchased. Short-term investments in U.S. Treasury Bills have remaining maturities exceeding three months at the time of purchase and are stated at amortized cost. Our aggregate investments in U.S. Treasury Bills at December 31, 2017 were \$90.1 billion, which consisted of \$5.7 billion included in cash and cash equivalents and \$84.4 billion included in short-term investments in U.S. Treasury Bills in our Consolidated Balance Sheet.

(d) Investments in fixed maturity and equity securities

We classify investments in fixed maturity and equity securities at the acquisition date and re-evaluate the classification at each balance sheet date. Investments classified as held-to-maturity are carried at amortized cost, reflecting the ability and intent to hold the securities to maturity. Trading investments are securities acquired with the intent to sell in the near term and are carried at fair value with changes in fair value reported in earnings. All other securities are classified as available-for-sale and are carried at fair value with net unrealized gains or losses reported as a component of accumulated other comprehensive income. As of December 31, 2017, substantially all of our investments in equity and fixed maturity securities were classified as available-for-sale.

Notes to Consolidated Financial Statements (Continued)

(1) Significant accounting policies and practices (Continued)

(d) Investments in fixed maturity and equity securities (Continued)

Investment gains and losses arise when investments are sold (as determined on a specific identification basis) or are other-than-temporarily impaired. If a decline in the value of an investment below cost is deemed other than temporary, the cost of the investment is written down to fair value, with a corresponding charge to earnings. Factors considered in determining whether an impairment is other than temporary include: the financial condition, business prospects and creditworthiness of the issuer, the relative amount of the decline, our ability and intent to hold the investment until the fair value recovers and the length of time that fair value has been less than cost. With respect to an investment in a fixed maturity security, we recognize an other-than-temporary impairment if we (a) intend to sell or expect to be required to sell the security before its amortized cost is recovered or (b) do not expect to ultimately recover the amortized cost basis even if we do not intend to sell the security. Under scenario (a), we recognize the loss in earnings and under scenario (b), we recognize the credit loss component in earnings and the difference between fair value and the amortized cost basis net of the credit loss in other comprehensive income.

(e) Investments under the equity method

We utilize the equity method to account for investments when we possess the ability to exercise significant influence, but not control, over the operating and financial policies of the investee. The ability to exercise significant influence is presumed when an investor possesses more than 20% of the voting interests of the investee. This presumption may be overcome based on specific facts and circumstances that demonstrate that the ability to exercise significant influence is restricted. We apply the equity method to investments in common stock and to other investments when such other investments possess substantially identical subordinated interests to common stock.

In applying the equity method, we record the investment at cost and subsequently increase or decrease the carrying amount of the investment by our proportionate share of the net earnings or losses and other comprehensive income of the investee. We record dividends or other equity distributions as reductions in the carrying value of the investment. In the event that net losses of the investee reduce the carrying amount to zero, additional net losses may be recorded if other investments in the investee are at-risk, even if we have not committed to provide financial support to the investee. Such additional equity method losses, if any, are based upon the change in our claim on the investee's book value.

(f) Receivables, loans and finance receivables

Receivables of the insurance and other businesses are stated net of estimated allowances for uncollectible balances. Allowances for uncollectible balances are provided when it is probable counterparties or customers will be unable to pay all amounts due based on the contractual terms. Receivables are generally written off against allowances after all reasonable collection efforts are exhausted.

Loans and finance receivables of the finance and financial products businesses are predominantly manufactured housing installment loans. These loans are stated at amortized cost based on our ability and intent to hold such loans to maturity and are stated net of allowances for uncollectible accounts. The carrying value of acquired loans represents acquisition costs, plus or minus origination and commitment costs paid or fees received, which together with acquisition premiums or discounts, are deferred and amortized as yield adjustments over the life of the loans. Substantially all of these loans are secured by real or personal property or other assets of the borrower.

Allowances for credit losses on loans include estimates of losses on loans currently in foreclosure and losses on loans not currently in foreclosure. Estimates of losses on loans in foreclosure are based on historical experience and collateral recovery rates. Estimates of losses on loans not currently in foreclosure consider historical default rates, collateral recovery rates and prevailing economic conditions. Allowances for credit losses also incorporate the historical average time elapsed from the last payment until foreclosure.

Loans are considered delinquent when payments are more than 30 days past due. Loans over 90 days past due are placed on nonaccrual status and accrued but uncollected interest is reversed. Subsequent collections on the loans are first applied to the principal and interest owed for the most delinquent amount. Interest income accruals resume once a loan is less than 90 days delinquent.

Loans in the foreclosure process are considered non-performing. Once a loan is in foreclosure, interest income is not recognized unless the foreclosure is cured or the loan is modified. Once a modification is complete, interest income is recognized based on the terms of the new loan. Foreclosed loans are charged off when the collateral is sold. Loans not in foreclosure are evaluated for charge off based on individual circumstances concerning the future collectability of the loan and the condition of the collateral securing the loan.

Notes to Consolidated Financial Statements (Continued)**(1) Significant accounting policies and practices (Continued)***(g) Derivatives*

We carry derivative contracts in our Consolidated Balance Sheets at fair value, net of reductions permitted under master netting agreements with counterparties. The changes in fair value of derivative contracts that do not qualify as hedging instruments for financial reporting purposes are recorded in earnings or by our regulated utilities businesses as regulatory assets or liabilities, as applicable, when inclusion in regulated rates is probable.

(h) Fair value measurements

As defined under GAAP, fair value is the price that would be received to sell an asset or paid to transfer a liability between market participants in the principal market or in the most advantageous market when no principal market exists. Adjustments to transaction prices or quoted market prices may be required in illiquid or disorderly markets in order to estimate fair value. Alternative valuation techniques may be appropriate under the circumstances to determine the value that would be received to sell an asset or paid to transfer a liability in an orderly transaction. Market participants are assumed to be independent, knowledgeable, able and willing to transact an exchange and not acting under duress. Our nonperformance or credit risk is considered in determining the fair value of liabilities. Considerable judgment may be required in interpreting market data used to develop the estimates of fair value. Accordingly, estimates of fair value presented herein are not necessarily indicative of the amounts that could be realized in a current or future market exchange.

(i) Inventories

Inventories consist of manufactured goods and goods acquired for resale. Manufactured inventory costs include raw materials, direct and indirect labor and factory overhead. As of December 31, 2017, approximately 41% of our consolidated inventory cost was determined using the last-in-first-out ("LIFO") method, with the remainder determined under first-in-first-out and average cost methods. Non-LIFO inventories are stated at the lower of cost or net realizable value. The difference between costs determined under LIFO and current costs was not material as of December 31, 2017.

(j) Property, plant and equipment and leased assets

Additions to property, plant and equipment used in operations and leased assets are recorded at cost and consist of additions, improvements and betterments. With respect to constructed assets, all construction related material, direct labor and contract services as well as certain indirect costs are capitalized. Indirect costs include interest over the construction period. With respect to constructed assets of our regulated utility and energy subsidiaries that are subject to authoritative guidance for regulated operations, capitalized costs also include an equity allowance for funds used during construction, which represents the cost of equity funds used to finance the construction of the regulated facilities. Also see Note 1(r).

Normal repairs and maintenance and other costs that do not improve the property, extend the useful life or otherwise do not meet capitalization criteria are charged to expense as incurred. Rail grinding costs related to our railroad properties are expensed as incurred.

Depreciation of assets of our regulated utilities and railroad is generally determined using group depreciation methods where rates are based on periodic depreciation studies approved by the applicable regulator. Under group depreciation, a single depreciation rate is applied to the gross investment in a particular class of property, despite differences in the service life or salvage value of individual property units within the same class. When our regulated utilities or railroad retires or sells a component of the assets accounted for using group depreciation methods, no gain or loss is recognized. Gains or losses on disposals of all other assets are recorded through earnings. Ranges of estimated useful lives of depreciable assets unique to our railroad business are as follows: track structure and other roadway – 9 to 100 years, locomotives, freight cars and other equipment – 6 to 41 years. Ranges of estimated useful lives of assets unique to our regulated utilities and energy businesses are as follows: utility generation, transmission and distribution systems – 5 to 80 years, interstate natural gas pipeline assets – 3 to 80 years and independent power plants and other assets – 3 to 30 years.

Property, plant and equipment and leased assets in use by our other businesses are depreciated to estimated salvage value primarily using the straight-line method over estimated useful lives. Ranges of estimated useful lives of depreciable assets used in our other businesses are as follows: buildings and improvements – 5 to 50 years, machinery and equipment – 3 to 25 years, furniture, fixtures and other – 3 to 15 years and assets held for lease – 6 to 35 years.

We evaluate property, plant and equipment for impairment when events or changes in circumstances indicate that the carrying value of such assets may not be recoverable or when the assets are held for sale. Upon the occurrence of a triggering event, we assess whether the estimated undiscounted cash flows expected from the use of the asset and the residual value from the ultimate disposal of the asset exceeds the carrying value. If the carrying value exceeds the estimated recoverable amounts, we reduce the carrying value to fair value and record an impairment loss in earnings, except with respect to impairment of assets of our regulated utility and energy subsidiaries when the impacts of regulation are considered in evaluating the carrying value of regulated assets.

Notes to Consolidated Financial Statements (Continued)

(1) Significant accounting policies and practices (Continued)

(k) Goodwill and other intangible assets

Goodwill represents the excess of the acquisition price of a business over the fair value of identified net assets of that business. We evaluate goodwill for impairment at least annually. When evaluating goodwill for impairment, we estimate the fair value of the reporting unit. There are several methods that may be used to estimate a reporting unit's fair value, including market quotations, asset and liability fair values and other valuation techniques, including, but not limited to, discounted projected future net earnings or net cash flows and multiples of earnings. If the carrying amount of a reporting unit, including goodwill, exceeds the estimated fair value, then the identifiable assets and liabilities of the reporting unit are estimated at fair value as of the current testing date. The excess of the estimated fair value of the reporting unit over the current estimated fair value of net assets establishes the implied value of goodwill. The excess of the recorded goodwill over the implied goodwill value is charged to earnings as an impairment loss. Significant judgment is required in estimating the fair value of the reporting unit and performing goodwill impairment tests.

Intangible assets with finite lives are amortized based on the estimated pattern in which the economic benefits are expected to be consumed or on a straight-line basis over their estimated economic lives. Intangible assets with finite lives are reviewed for impairment when events or changes in circumstances indicate that the carrying amount may not be recoverable. Intangible assets with indefinite lives are tested for impairment at least annually and when events or changes in circumstances indicate that it is more likely than not that the asset is impaired.

(l) Revenue recognition

Insurance premiums for prospective property/casualty insurance and reinsurance are earned over the loss exposure or coverage period in proportion to the level of protection provided. In most cases, such premiums are recognized as revenues ratably over the term of the contract with unearned premiums computed on a monthly or daily pro-rata basis. Premiums for retroactive property/casualty reinsurance contracts are earned at the inception of the contracts, as all of the underlying loss events covered by these policies occurred prior to inception. Premiums for life reinsurance and annuity contracts are earned when due. Premiums earned are stated net of amounts ceded to reinsurers. Premiums earned on contracts containing experience rating provisions reflect estimated loss experience under contracts.

Sales revenues derive from the sales of manufactured products and goods acquired for resale. Revenues from sales are recognized upon passage of title to the customer, which generally coincides with customer pickup, product delivery or acceptance, depending on terms of the sales arrangement.

Service revenues are recognized as the services are performed. Services provided pursuant to a contract are either recognized over the contract period or upon completion of the elements specified in the contract depending on the terms of the contract. Revenues related to the sales of fractional ownership interests in aircraft are recognized ratably over the term of the related management services agreement, as the transfer of ownership interest in the aircraft is inseparable from the management services agreement.

Leasing revenue is generally recognized ratably over the term of the lease. A substantial portion of our leases are classified as operating leases.

Operating revenues from the distribution and sale of electricity and natural gas to customers are recognized when the services are rendered or the energy is delivered. Revenues include unbilled as well as billed amounts. Rates charged are generally subject to federal and state regulation or established under contractual arrangements. When preliminary rates are permitted to be billed prior to final approval by the applicable regulator, certain revenue collected may be subject to refund and a liability for estimated refunds is recorded.

Railroad transportation revenues are recognized based upon the proportion of service provided as of the balance sheet date. Customer incentives, which are primarily provided for shipping a specified cumulative volume or shipping to/from specific locations, are recorded as pro-rata reductions to revenue based on actual or projected future customer shipments. When using projected shipments, we rely on historic trends as well as economic and other indicators to estimate the recorded liability for customer incentives.

(m) Losses and loss adjustment expenses

We record liabilities for unpaid losses and loss adjustment expenses assumed under short duration property/casualty insurance and reinsurance contracts for loss events that have occurred on or before the balance sheet date. Such liabilities represent the estimated ultimate payment amounts without discounting for time value.

Notes to Consolidated Financial Statements (Continued)**(1) Significant accounting policies and practices (Continued)***(m) Losses and loss adjustment expenses (Continued)*

Liability estimates are based upon (1) reports of losses from policyholders, (2) individual case estimates and (3) estimates of incurred but not reported losses. Paid claims, claim settlement costs and changes in estimated claim liabilities are included in losses and loss adjustment expenses in the Consolidated Statements of Earnings. Provisions for losses and loss adjustment expenses are charged to earnings after deducting amounts recovered and estimates of recoverable amounts under ceded reinsurance contracts. Reinsurance contracts do not relieve the ceding company of its obligations to indemnify policyholders with respect to the underlying insurance and reinsurance contracts.

(n) Retroactive reinsurance contracts

We record liabilities for unpaid losses and loss adjustment expenses assumed under retroactive reinsurance of short duration contracts consistent with other short duration property/casualty insurance and reinsurance contracts discussed in Note 1(m). With respect to retroactive reinsurance contracts, we also record deferred charge assets at the inception of the contracts, representing the excess, if any, of the estimated ultimate claim liabilities over the premiums earned. We subsequently amortize the deferred charge assets using the interest method over the expected claim settlement periods. Changes to the estimated timing or amount of future loss payments also produce changes in deferred charge balances. Changes in such estimates are applied retrospectively and the resulting changes in deferred charge balances, together with periodic amortization, are included in insurance losses and loss adjustment expenses in the Consolidated Statements of Earnings.

(p) Insurance policy acquisition costs

Incremental costs that are directly related to the successful sale of insurance contracts are capitalized, subject to ultimate recoverability, and are subsequently amortized to underwriting expenses as the related premiums are earned. Direct incremental acquisition costs include commissions, premium taxes and certain other costs associated with successful efforts. All other underwriting costs are expensed as incurred. The recoverability of capitalized insurance policy acquisition costs generally reflects anticipation of investment income. The unamortized balances are included in other assets and were \$2,529 million and \$1,991 million at December 31, 2017 and 2016, respectively.

(q) Life and annuity insurance benefits

Liabilities for insurance benefits under life contracts are computed based upon estimated future investment yields, expected mortality, morbidity, and lapse or withdrawal rates and reflect estimates for future premiums and expenses under the contracts. These assumptions, as applicable, also include a margin for adverse deviation and may vary with the characteristics of the contract's date of issuance, policy duration and country of risk. The interest rate assumptions used may vary by contract or jurisdiction. Periodic payment annuity liabilities are discounted based on the implicit rate as of the inception of the contracts such that the present value of the liabilities equals the premiums. Discount rates range from less than 1% to 7%.

(r) Regulated utilities and energy businesses

Certain energy subsidiaries prepare their financial statements in accordance with authoritative guidance for regulated operations, reflecting the economic effects of regulation from the ability to recover certain costs from customers and the requirement to return revenues to customers in the future through the regulated rate-setting process. Accordingly, certain costs are deferred as regulatory assets and certain income is accrued as regulatory liabilities. Regulatory assets and liabilities will be amortized into operating expenses and revenues over various future periods.

Regulatory assets and liabilities are continually assessed for probable future inclusion in regulatory rates by considering factors such as applicable regulatory or legislative changes and recent rate orders received by other regulated entities. If future inclusion in regulatory rates ceases to be probable, the amount no longer probable of inclusion in regulatory rates is charged or credited to earnings (or other comprehensive income, if applicable) or returned to customers.

(s) Foreign currency

The accounts of our non-U.S. based subsidiaries are measured, in most instances, using functional currencies other than the U.S. Dollar. Revenues and expenses of these subsidiaries are translated into U.S. Dollars at the average exchange rate for the period and assets and liabilities are translated at the exchange rate as of the end of the reporting period. Gains or losses from translating the financial statements of these subsidiaries are included in shareholders' equity as a component of accumulated other comprehensive income. Gains and losses arising from transactions denominated in a currency other than the functional currency of the reporting entity, including gains and losses from the remeasurement of assets and liabilities due to changes in exchange rates, are included in earnings.

Notes to Consolidated Financial Statements (Continued)

(1) Significant accounting policies and practices (Continued)

(t) Income taxes

Berkshire files a consolidated federal income tax return in the United States, which includes eligible subsidiaries. In addition, we file income tax returns in state, local and foreign jurisdictions as applicable. Provisions for current income tax liabilities are calculated and accrued on income and expense amounts expected to be included in the income tax returns for the current year. Income taxes reported in earnings also include deferred income tax provisions.

Deferred income tax assets and liabilities are computed on differences between the financial statement bases and tax bases of assets and liabilities at the enacted tax rates. Changes in deferred income tax assets and liabilities associated with components of other comprehensive income are charged or credited directly to other comprehensive income. Otherwise, changes in deferred income tax assets and liabilities are included as a component of income tax expense. The effect on deferred income tax assets and liabilities attributable to changes in enacted tax rates are charged or credited to income tax expense in the period of enactment. Valuation allowances are established for certain deferred tax assets when realization is not likely.

Assets and liabilities are established for uncertain tax positions taken or positions expected to be taken in income tax returns when such positions, in our judgment, do not meet a “more-likely-than-not” threshold based on the technical merits of the positions. Estimated interest and penalties related to uncertain tax positions are included as a component of income tax expense.

(u) New accounting pronouncements to be adopted subsequent to December 31, 2017

The Financial Accounting Standards Board (“FASB”) issued ASU 2016-01 “Financial Instruments—Recognition and Measurement of Financial Assets and Financial Liabilities” in 2016, which requires that investments in equity securities (excluding equity method investments) be measured at fair value with changes in fair value recognized in net earnings. Under existing GAAP, changes in fair value of available-for-sale equity securities are recorded in other comprehensive income. Given the magnitude of our investments in equity securities and the inherent volatility of prices for equity securities, the adoption of ASU 2016-01 will have a significant impact on our future reported net earnings, although it will not affect our comprehensive income or total shareholders’ equity. We adopted ASU 2016-01 as of January 1, 2018. As of that date, we reclassified the accumulated net unrealized appreciation relating to our investments in equity securities at December 31, 2017 (approximately \$61.5 billion) from accumulated other comprehensive income to retained earnings.

The FASB issued ASU 2014-09 “Revenue from Contracts with Customers” in 2014. ASU 2014-09 applies to contracts with customers, excluding, most notably, insurance, reinsurance and leasing contracts. Subsequently the FASB issued additional guidance that modified or clarified ASU 2014-09. All guidance is collectively referred to as Accounting Standard Codification (“ASC”) 606. The framework prescribed by ASC 606 includes a five-step process for recognizing revenue. A core principle is that revenues are recognized as the control of distinct goods or services are transferred to customers in amounts that reflect the consideration the seller expects to be entitled. Under ASC 606, revenues and related costs with respect to certain of our contracts with customers will be recognized over time rather than when the products or services are delivered. In addition, certain of our contracts will be treated as leases for accounting purposes, rather than contracts with customers subject to ASC 606. We adopted ASC 606 as of January 1, 2018, under the modified retrospective method. The principal impact of the initial adoption of ASC 606 resulted in an increase to both assets (primarily property, plant and equipment) and liabilities of approximately \$3.5 billion.

In 2016, the FASB issued ASU 2016-02 “Leases.” ASU 2016-02 requires a lessee to recognize in the statement of financial position a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term and also requires additional qualitative and quantitative disclosures. ASU 2016-02 is effective for reporting periods beginning after December 15, 2018, with early adoption permitted. We are currently evaluating the effect this standard will have on our Consolidated Financial Statements.

In 2016, the FASB issued ASU 2016-13 “Financial Instruments—Credit Losses,” which provides for the recognition and measurement at the reporting date of all expected credit losses for financial assets held at amortized cost and available-for-sale debt securities. Currently, credit losses are recognized and measured when such losses become probable based on the prevailing facts and circumstances. ASU 2016-13 is effective for reporting periods beginning after December 15, 2019. We are currently evaluating the effect this standard will have on our Consolidated Financial Statements.

Notes to Consolidated Financial Statements (Continued)
(1) Significant accounting policies and practices (Continued)
(u) New accounting pronouncements to be adopted subsequent to December 31, 2017 (Continued)

In January 2017, the FASB issued ASU 2017-04 “Simplifying the Test for Goodwill Impairment.” ASU 2017-04 eliminates the requirement to determine the implied value of goodwill in measuring an impairment loss. Upon adoption, the measurement of a goodwill impairment will represent the excess of the reporting unit’s carrying value over fair value, limited to the carrying value of goodwill. ASU 2017-04 is effective for goodwill impairment tests in fiscal years beginning after December 15, 2019, with early adoption permitted.

(2) Significant business acquisitions

Our long-held acquisition strategy is to acquire businesses that have consistent earning power, good returns on equity and able and honest management. Financial results attributable to business acquisitions are included in our Consolidated Financial Statements beginning on their respective acquisition dates.

On January 29, 2016, Berkshire acquired all outstanding common stock of Precision Castparts Corp. (“PCC”) for \$235 per share in cash pursuant to a definitive merger agreement dated August 8, 2015. The aggregate consideration paid was approximately \$32.7 billion, which included the value of PCC shares we already owned. We funded the acquisition with a combination of existing cash balances and proceeds from a temporary credit facility. PCC is a worldwide, diversified manufacturer of complex metal components and products, serving the aerospace, power and general industrial markets. PCC manufactures complex structural investment castings and forged components for aerospace markets, machined airframe components and highly engineered critical fasteners for aerospace applications, and in manufacturing airfoil castings for the aerospace and industrial gas turbine markets. PCC also produces titanium and nickel superalloy melted and mill products for the aerospace, chemical processing, oil and gas and pollution control industries, and manufactures extruded seamless pipe, fittings and forgings for power generation and oil and gas applications.

On February 29, 2016, we acquired a recapitalized Duracell Company (“Duracell”) from The Procter & Gamble Company (“P&G”) in exchange for shares of P&G common stock held by Berkshire subsidiaries, which had a fair value of approximately \$4.2 billion. Duracell manufactures high-performance alkaline batteries and wireless charging technologies. Goodwill from these acquisitions is not amortizable for income tax purposes. The fair values of identified assets acquired and liabilities assumed and residual goodwill at their respective acquisition dates are summarized as follows (in millions).

	PCC	Duracell
Cash and cash equivalents	\$ 250	\$ 1,807
Inventories	3,430	319
Property, plant and equipment	2,765	359
Goodwill	16,011	866
Other intangible assets	23,527	1,550
Other assets	1,916	242
Assets acquired	\$ 47,899	\$ 5,143
Accounts payable, accruals and other liabilities	\$ 2,442	\$ 410
Notes payable and other borrowings	5,251	—
Income taxes, principally deferred	7,548	494
Liabilities assumed	\$ 15,241	\$ 904
Net assets	\$ 32,658	\$ 4,239

In the first quarter of 2015, we acquired the Van Tuyl Group (now named Berkshire Hathaway Automotive), which included over 80 automotive dealerships and two related insurance businesses, two auto auctions and a distributor of automotive fluid maintenance products. In addition to selling new and pre-owned automobiles, the Berkshire Hathaway Automotive group offers repair and other services and products, including extended warranty services and other automotive protection plans. Consideration paid for the acquisition was \$4.1 billion. The goodwill related to Berkshire Hathaway Automotive is amortizable for income tax purposes.

Over the three years ending December 31, 2017, we completed several smaller-sized business acquisitions, most of which we consider as “bolt-on” acquisitions to several of our existing business operations. Aggregate consideration paid in 2017, 2016 and 2015 for bolt-on acquisitions was approximately \$2.7 billion, \$1.4 billion and \$1.1 billion, respectively. We do not believe that these acquisitions are material, individually or in the aggregate to our Consolidated Financial Statements.

Notes to Consolidated Financial Statements (Continued)
(3) Investments in fixed maturity securities

Investments in fixed maturity securities as of December 31, 2017 and 2016 are summarized by type below (in millions).

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
<i>December 31, 2017</i>				
U.S. Treasury, U.S. government corporations and agencies	\$ 3,975	\$ 4	\$ (26)	\$ 3,953
States, municipalities and political subdivisions	847	19	(12)	854
Foreign governments	8,572	274	(24)	8,822
Corporate bonds	6,279	588	(5)	6,862
Mortgage-backed securities	772	92	(2)	862
	<u>\$20,445</u>	<u>\$ 977</u>	<u>\$ (69)</u>	<u>\$21,353</u>
<i>December 31, 2016</i>				
U.S. Treasury, U.S. government corporations and agencies	\$ 4,519	\$ 16	\$ (8)	\$ 4,527
States, municipalities and political subdivisions	1,159	58	(1)	1,216
Foreign governments	8,860	207	(66)	9,001
Corporate bonds	6,899	714	(9)	7,604
Mortgage-backed securities	967	123	(6)	1,084
	<u>\$22,404</u>	<u>\$ 1,118</u>	<u>\$ (90)</u>	<u>\$23,432</u>

Investments in foreign government securities were issued by national and provincial government entities as well as instruments that are unconditionally guaranteed by such entities. As of December 31, 2017, approximately 92% of our foreign government holdings were rated AA or higher by at least one of the major rating agencies. Approximately 81% of foreign government holdings were issued or guaranteed by the United Kingdom, Germany, Australia or Canada.

The amortized cost and estimated fair value of fixed maturity securities at December 31, 2017 are summarized below by contractual maturity dates. Actual maturities may differ from contractual maturities due to early call or prepayment rights held by issuers. Amounts are in millions.

	Due in one year or less	Due after one year through five years	Due after five years through ten years	Due after ten years	Mortgage-backed securities	Total
Amortized cost	\$6,123	\$ 11,020	\$ 510	\$ 2,020	\$ 772	\$20,445
Fair value	6,175	11,183	557	2,576	862	21,353

(4) Investments in equity securities

Investments in equity securities as of December 31, 2017 and 2016 are summarized based on the primary industry of the investee in the table below (in millions).

	Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
<i>December 31, 2017 *</i>				
Banks, insurance and finance	\$ 27,318	\$ 53,491	\$ —	\$ 80,809
Consumer products	24,855	26,088	(68)	50,875
Commercial, industrial and other	24,029	14,969	(142)	38,856
	<u>\$ 76,202</u>	<u>\$ 94,548</u>	<u>\$ (210)</u>	<u>\$ 170,540</u>

* Approximately 65% of the aggregate fair value was concentrated in five companies (American Express Company – \$15.1 billion; Apple Inc. – \$28.2 billion; Bank of America Corporation – \$20.7 billion; The Coca-Cola Company – \$18.4 billion and Wells Fargo & Company – \$29.3 billion).

Notes to Consolidated Financial Statements (Continued)
(4) Investments in equity securities (Continued)

	Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
<i>December 31, 2016 *</i>				
Banks, insurance and finance	\$ 19,852	\$ 30,572	\$ —	\$ 50,424
Consumer products	10,657	16,760	(9)	27,408
Commercial, industrial and other	35,868	9,033	(701)	44,200
Other investments	7,720	9,536	—	17,256
	<u>\$ 74,097</u>	<u>\$ 65,901</u>	<u>\$ (710)</u>	<u>\$ 139,288</u>

* Approximately 60% of the aggregate fair value was concentrated in five companies (American Express Company – \$11.2 billion; Bank of America Corporation – \$14.5 billion; The Coca-Cola Company – \$16.6 billion; International Business Machines Corporation – \$13.5 billion and Wells Fargo & Company – \$27.6 billion).

As of December 31, 2016, other investments included preferred stock and common stock warrants of Bank of America Corporation (“BAC”) and preferred stock of Restaurant Brands International, Inc. (“RBI”). In 2011, we acquired 50,000 shares of 6% Non-Cumulative Perpetual Preferred Stock of Bank of America Corporation (“BAC”) with a liquidation value of \$100,000 per share (“BAC Preferred”) and warrants to purchase up to 700,000,000 shares of common stock of BAC (“BAC Warrants”) at \$7.142857 per share (up to \$5 billion in the aggregate). On August 24, 2017, we exercised all of our BAC Warrants and acquired 700,000,000 shares of BAC common stock. We also surrendered substantially all of our BAC Preferred as payment of the \$5 billion cost to exercise the BAC Warrants and acquire the BAC common stock. Our investment in BAC is included in the banks, insurance and finance category at December 31, 2017 and in other investments at December 31, 2016.

On December 12, 2014, we acquired Class A 9% Cumulative Compounding Perpetual Preferred Shares of Restaurant Brands International, Inc. (“RBI”) having a stated value of \$3 billion (“RBI Preferred”). RBI is domiciled in Canada. On December 12, 2017, RBI redeemed all of our RBI Preferred investment. Prior to its redemption, we were entitled to dividends on the RBI Preferred at 9% per annum plus an additional amount, if necessary, to produce an after-tax yield as if the dividends were paid by a U.S.-based company.

As of December 31, 2017 and 2016, unrealized losses on equity securities in a continuous unrealized loss position for more than twelve consecutive months were \$94 million and \$551 million, respectively.

Investments in equity securities are reflected in our Consolidated Balance Sheets as follows (in millions).

	December 31,	
	2017	2016
Insurance and other	\$164,026	\$134,835
Railroad, utilities and energy *	1,961	1,186
Finance and financial products *	4,553	3,267
	<u>\$170,540</u>	<u>\$139,288</u>

* Included in other assets.

(5) Investments in The Kraft Heinz Company

In June 2013, Berkshire invested \$12.25 billion in a newly-formed company, H.J. Heinz Holding Corporation (“Heinz Holding”). The investment consisted of 425,000,000 shares of common stock, warrants to acquire approximately 46,000,000 additional shares of common stock at \$0.01 per share and cumulative compounding preferred stock (“Preferred Stock”) with a liquidation preference of \$8 billion. An affiliate of the global investment firm 3G Capital (such affiliate, “3G”) also acquired 425,000,000 shares of Heinz Holding common stock for \$4.25 billion. At that time, Berkshire and 3G each owned a 50% share of Heinz Holding common stock. Heinz Holding then acquired H.J. Heinz Company.

Notes to Consolidated Financial Statements (Continued)
(5) Investments in The Kraft Heinz Company (Continued)

In June 2015, Berkshire exercised the aforementioned common stock warrants. On July 1, 2015, Berkshire and 3G acquired new shares of Heinz Holding common stock for \$5.26 billion and \$4.74 billion, respectively. After these transactions, Berkshire owned approximately 52.5% of the outstanding shares of Heinz Holding. On July 2, 2015, Heinz Holding acquired all of the outstanding common stock of Kraft Foods Group, Inc. ("Kraft"), at which time Heinz Holding was renamed The Kraft Heinz Company ("Kraft Heinz"). In connection with its acquisition of Kraft, Kraft Heinz issued one new share of Kraft Heinz common stock for each share of Kraft common stock, which reduced Berkshire's and 3G's ownership interests in Kraft Heinz to 26.8% and 24.2%, respectively. We accounted for our investment in Heinz Holding common stock and continue to account for our investment in Kraft Heinz common stock on the equity method. In applying the equity method, the investor treats an investee's issuance of shares as if the investor had sold a proportionate share of its investment. As a result, we recorded a non-cash pre-tax holding gain of approximately \$6.8 billion in 2015, representing the excess of the fair value of Kraft Heinz common stock at the date of the merger over the carrying value associated with the reduction in our ownership.

Berkshire currently owns 26.7% of the outstanding shares of Kraft Heinz common stock. The carrying value of this investment was approximately \$17.6 billion at December 31, 2017 and \$15.3 billion at December 31, 2016. Our earnings determined under the equity method during 2017 were \$2.9 billion, which includes certain one-time effects of the Tax Cuts and Jobs Act of 2017 on Kraft Heinz's net earnings. We received dividends on the common stock of \$797 million during 2017 and \$952 million in 2016, which we recorded as reductions of our investment. During 2016, we also received dividends of \$180 million on our Preferred Stock investment, which Kraft Heinz redeemed for cash of \$8.32 billion on June 7, 2016.

Kraft Heinz is one of the world's largest manufacturers and marketers of food and beverage products, including condiments and sauces, cheese and dairy, meals, meats, refreshment beverages, coffee and other grocery products. Summarized consolidated financial information of Kraft Heinz follows (in millions).

	December 30, 2017	December 31, 2016
Assets	\$120,232	\$120,480
Liabilities	53,985	62,906

	Year ending December 30, 2017	Year ending December 31, 2016	Year ending January 3, 2016
Sales	\$ 26,232	\$ 26,487	\$18,338
Net earnings attributable to Kraft Heinz	\$ 10,999	\$ 3,632	\$634
Net earnings (loss) attributable to common shareholders	\$ 10,999	\$ 3,452	\$(266)

(6) Investment gains/losses

Investment gains/losses for each of the three years ending December 31, 2017 are summarized below (in millions).

	2017	2016	2015
Fixed maturity securities—			
Gross gains	\$ 103	\$ 58	\$ 104
Gross losses	(22)	(51)	(171)
Equity securities—			
Gross gains	2,237	7,853	9,526
Gross losses	(919)	(415)	(129)
Other	11	108	43
	<u>\$ 1,410</u>	<u>\$ 7,553</u>	<u>\$ 9,373</u>

Notes to Consolidated Financial Statements (Continued)
(6) Investment gains/losses (Continued)

We record investments in equity and fixed maturity securities classified as available-for-sale at fair value and record the difference between fair value and cost in other comprehensive income. We recognize investment gains and losses when we sell or otherwise dispose of such securities. Gross gains from equity securities of approximately \$1.0 billion in 2017 related to the surrender of substantially all of our BAC Preferred as described in Note 4. Gross gains from equity securities in 2016 included approximately \$4.2 billion from the redemptions of our investments in Wm. Wrigley Jr. Company and Kraft Heinz preferred stock and from the sale of Dow Chemical Company common stock received in the conversion of our Dow Chemical preferred stock investment. In 2016, we also recorded a non-cash holding gain of approximately \$1.1 billion from the exchange of P&G common stock in connection with the acquisition of Duracell. See Note 2. Gross gains from equity securities in 2015 included a non-cash holding gain of approximately \$6.8 billion in connection with our investment in Kraft Heinz common stock. See Note 5.

(7) Inventories

Inventories are comprised of the following (in millions).

	December 31,	
	2017	2016
Raw materials	\$ 2,997	\$ 2,789
Work in process and other	2,315	2,506
Finished manufactured goods	4,179	4,033
Goods acquired for resale	6,696	6,399
	<u>\$ 16,187</u>	<u>\$ 15,727</u>

(8) Receivables

Receivables of insurance and other businesses are comprised of the following (in millions).

	December 31,	
	2017	2016
Insurance premiums receivable	\$11,058	\$10,462
Reinsurance recoverable on unpaid losses	3,201	3,338
Trade and other receivables	14,681	13,630
Allowances for uncollectible accounts	(362)	(333)
	<u>\$28,578</u>	<u>\$27,097</u>

Loans and finance receivables of finance and financial products businesses are summarized as follows (in millions).

	December 31,	
	2017	2016
Loans and finance receivables before allowances and discounts	\$14,126	\$13,728
Allowances for uncollectible loans	(180)	(182)
Unamortized acquisition discounts	(198)	(246)
	<u>\$13,748</u>	<u>\$13,300</u>

Loans and finance receivables are predominantly installment loans originated or acquired by our manufactured housing business. Provisions for loan losses for 2017 and 2016 were \$160 million and \$144 million, respectively. Loan charge-offs, net of recoveries, were \$162 million in 2017 and \$144 million in 2016. At December 31, 2017, approximately 98% of the loan balances were evaluated collectively for impairment. As part of the evaluation process, credit quality indicators are reviewed and loans are designated as performing or non-performing. At December 31, 2017, we considered approximately 99% of the loan balances to be performing and approximately 95% of the loan balances to be current as to payment status. In June 2017, we agreed to provide a Canada-based financial institution with a C\$2 billion (approximately \$1.6 billion) one-year secured revolving credit facility. The agreement expires on June 29, 2018. There was no outstanding loan balance as of December 31, 2017.

Notes to Consolidated Financial Statements (Continued)
(9) Property, plant and equipment and assets held for lease

A summary of property, plant and equipment of our insurance and other businesses follows (in millions).

	December 31,	
	2017	2016
Land	\$ 2,292	\$ 2,108
Buildings and improvements	8,810	8,360
Machinery and equipment	21,935	20,463
Furniture, fixtures and other	4,387	4,080
	37,424	35,011
Accumulated depreciation	(17,320)	(15,686)
	<u>\$ 20,104</u>	<u>\$ 19,325</u>

A summary of property, plant and equipment of our railroad and our utilities and energy businesses follows (in millions). The utility generation, transmission and distribution systems and interstate natural gas pipeline assets are owned by regulated public utility and natural gas pipeline subsidiaries.

	December 31,	
	2017	2016
Railroad:		
Land	\$ 6,088	\$ 6,063
Track structure and other roadway	51,320	48,277
Locomotives, freight cars and other equipment	12,543	12,075
Construction in progress	989	965
	70,940	67,380
Accumulated depreciation	(8,627)	(6,130)
	<u>62,313</u>	<u>61,250</u>
Utilities and energy:		
Utility generation, transmission and distribution systems	74,660	71,536
Interstate natural gas pipeline assets	7,176	6,942
Independent power plants and other assets	7,499	6,596
Construction in progress	2,556	2,098
	91,891	87,172
Accumulated depreciation	(26,020)	(24,663)
	<u>65,871</u>	<u>62,509</u>
	<u>\$ 128,184</u>	<u>\$ 123,759</u>

Assets held for lease and property, plant and equipment of our finance and financial products businesses are summarized below (in millions). Assets held for lease includes railcars, intermodal tank containers, cranes, over-the-road trailers, storage units and furniture. As of December 31, 2017, the minimum future lease rentals to be received on assets held for lease (including rail cars leased from others) were as follows (in millions): 2018 – \$1,103; 2019 – \$857; 2020 – \$641; 2021 – \$439; 2022 – \$283; and thereafter – \$407.

	December 31,	
	2017	2016
Assets held for lease	\$ 12,318	\$ 11,902
Land	231	224
Buildings, machinery and other	1,444	1,302
	13,993	13,428
Accumulated depreciation	(4,062)	(3,739)
	<u>\$ 9,931</u>	<u>\$ 9,689</u>

Notes to Consolidated Financial Statements (Continued)
(9) Property, plant and equipment and assets held for lease (Continued)

Depreciation expense for each of the three years ending December 31, 2017 is summarized below (in millions).

	2017	2016	2015
Insurance and other	\$ 2,217	\$ 2,148	\$ 1,680
Railroad, utilities and energy	4,852	4,639	4,383
Finance and financial products	650	624	610
	<u>\$ 7,719</u>	<u>\$ 7,411</u>	<u>\$ 6,673</u>

(10) Goodwill and other intangible assets

Reconciliations of the changes in the carrying value of goodwill during 2017 and 2016 follows (in millions).

	December 31,	
	2017	2016
Balance at beginning of year	\$ 79,486	\$ 62,708
Acquisitions of businesses	1,545	17,650
Other, including foreign currency translation	227	(872)
Balance at end of year	<u>\$ 81,258</u>	<u>\$ 79,486</u>

Our other intangible assets and related accumulated amortization are summarized as follows (in millions).

	December 31, 2017		December 31, 2016	
	Gross carrying amount	Accumulated amortization	Gross carrying amount	Accumulated amortization
Insurance and other	\$ 40,225	\$ 7,707	\$ 39,976	\$ 6,495
Railroad, utilities and energy	988	324	898	293
	<u>\$ 41,213</u>	<u>\$ 8,031</u>	<u>\$ 40,874</u>	<u>\$ 6,788</u>
Trademarks and trade names	\$ 5,381	\$ 692	\$ 5,175	\$ 616
Patents and technology	4,341	2,493	4,341	2,328
Customer relationships	28,322	3,722	28,243	2,879
Other	3,169	1,124	3,115	965
	<u>\$ 41,213</u>	<u>\$ 8,031</u>	<u>\$ 40,874</u>	<u>\$ 6,788</u>

Intangible asset amortization expense was \$1,469 million in 2017, \$1,490 million in 2016 and \$1,106 million in 2015. Estimated amortization expense over the next five years is as follows (in millions): 2018 – \$1,400; 2019 – \$1,270; 2020 – \$1,175; 2021 – \$1,086 and 2022 – \$1,031. Intangible assets with indefinite lives as of December 31, 2017 and 2016 were \$18,930 million and \$18,705 million, respectively, and primarily related to certain customer relationships and trademarks and trade names.

(11) Derivative contracts

We are party to derivative contracts primarily through our finance and financial products and our utilities and energy businesses. Currently, the derivative contracts of our finance and financial products businesses consist of equity index put option contracts written between 2004 and 2008. The liabilities and related notional values of such contracts follows (in millions).

	December 31, 2017		December 31, 2016	
	Liabilities	Notional Value	Liabilities	Notional Value
Equity index put options	\$ 2,172	\$28,753(1)	\$ 2,890	\$ 26,497(1)

(1) Represents the aggregate undiscounted amounts payable assuming that the value of each index is zero at each contract's expiration date. Certain of these contracts are denominated in foreign currencies. Notional amounts are based on the foreign currency exchange rates as of each balance sheet date.

Notes to Consolidated Financial Statements (Continued)
(11) Derivative contracts (Continued)

We record derivative contract liabilities at fair value and include the changes in the fair values of such contracts in earnings as derivative gains/losses. A summary of the derivative gains/losses included in our Consolidated Statements of Earnings in each of the three years ending December 31, 2017 follows (in millions).

	2017	2016	2015
Equity index put options	\$ 718	\$ 662	\$ 1,008
Other	—	89	(34)
	<u>\$ 718</u>	<u>\$ 751</u>	<u>\$ 974</u>

The equity index put option contracts are European style options written prior to March 2008 on four major equity indexes. The contracts expire between June 2018 and January 2026. Future payments, if any, under any given contract will be required if the prevailing index value is below the contract strike price at the expiration date. We received aggregate premiums of \$4.2 billion on these contracts at the contract inception dates and we have no counterparty credit risk. The aggregate intrinsic value (the undiscounted liability assuming the contracts are settled based on the index values and foreign currency exchange rates as of the balance sheet date) was \$789 million at December 31, 2017 and \$1.0 billion at December 31, 2016. These contracts may not be unilaterally terminated or fully settled before the expiration dates and the ultimate amount of cash basis gains or losses on these contracts will not be determined until the contract expiration dates. The remaining weighted average life of all contracts was approximately 2.9 years at December 31, 2017.

A limited number of our equity index put option contracts contain collateral posting requirements with respect to changes in the fair value or intrinsic value of the contracts and/or a downgrade of Berkshire's credit ratings. As of December 31, 2017, we did not have any collateral posting requirements. If Berkshire's credit ratings (currently AA from Standard & Poor's and Aa2 from Moody's) are downgraded below either A- by Standard & Poor's or A3 by Moody's, collateral of up to \$1.1 billion could be required to be posted.

Our regulated utility subsidiaries are exposed to variations in the prices of fuel required to generate electricity, wholesale electricity purchased and sold and natural gas supplied for customers. Derivative instruments, including forward purchases and sales, futures, swaps and options, are used to manage a portion of these price risks. Derivative contract assets are included in other assets and were \$142 million as of December 31, 2017 and 2016. Derivative contract liabilities are included in accounts payable, accruals and other liabilities and were \$82 million as of December 31, 2017 and \$145 million as of December 31, 2016. Most of the net derivative contract assets or liabilities of our regulated utilities are probable of recovery through rates and are offset by regulatory liabilities or assets. Unrealized gains or losses on contracts accounted for as cash flow or fair value hedges are recorded in other comprehensive income or in net earnings, as appropriate.

(12) Supplemental cash flow information

A summary of supplemental cash flow information for each of the three years ending December 31, 2017 is presented in the following table (in millions).

	2017	2016	2015
Cash paid during the period for:			
Income taxes	\$3,286	\$ 4,719	\$4,535
Interest:			
Insurance and other businesses	871	555	346
Railroad, utilities and energy businesses	2,828	2,788	2,717
Finance and financial products businesses	389	389	403
Non-cash investing and financing activities:			
Liabilities assumed in connection with business acquisitions	747	16,555	2,812
Equity securities exchanged in connection with business acquisitions	—	4,239	—
Conversions and other exchanges of investments	—	4,154	1,597
Equity securities surrendered in connection with warrant exercise	4,965	—	—

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses

Our liabilities for unpaid losses and loss adjustment expenses (also referred to as “claim liabilities”) under short duration property and casualty insurance and reinsurance contracts are based upon estimates of the ultimate claim costs associated with claim occurrences as of the balance sheet date and include estimates for incurred-but-not-reported (“IBNR”) claims. A reconciliation of the changes in claim liabilities, excluding liabilities under retroactive reinsurance contracts (see Note 14), for each of the three years ending December 31, 2017 is as follows (in millions).

	2017	2016	2015
Balances – beginning of year:			
Gross liabilities	\$ 53,379	\$ 50,519	\$ 48,208
Reinsurance recoverable on unpaid losses	(3,338)	(3,307)	(3,116)
Net liabilities	50,041	47,212	45,092
Incurred losses and loss adjustment expenses:			
Current accident year events	37,702	30,636	27,829
Prior accident years’ events	(544)	(1,523)	(2,015)
Discount accretion	—	80	82
Total incurred losses and loss adjustment expenses	37,158	29,193	25,896
Paid losses and loss adjustment expenses:			
Current accident year events	(17,425)	(14,898)	(13,070)
Prior accident years’ events	(12,507)	(10,929)	(10,229)
Total payments	(29,932)	(25,827)	(23,299)
Foreign currency translation adjustment	654	(537)	(545)
Business acquisition	—	—	68
Balances – end of year:			
Net liabilities	57,921	50,041	47,212
Reinsurance recoverable on unpaid losses	3,201	3,338	3,307
Gross liabilities	<u>\$ 61,122</u>	<u>\$ 53,379</u>	<u>\$ 50,519</u>

Incurred losses and loss adjustment expenses in the preceding table were recorded in earnings in each period and related to insured events occurring in the current year (“current accident year”) and events occurring in all prior years (“prior accident years”). We incurred current accident year losses of approximately \$3 billion in 2017 with respect to hurricanes Harvey, Irma and Maria, an earthquake in Mexico, a cyclone in Australia and wildfires in California.

Incurred losses and loss adjustment expenses also included net reductions of estimated ultimate liabilities for prior accident years of \$544 million, \$1.5 billion and \$2.0 billion in 2017, 2016 and 2015, respectively. Overall, we decreased estimated ultimate liabilities with respect to primary insurance by \$249 million in 2017, \$569 million in 2016 and \$793 million in 2015. In each year, estimated ultimate claim liabilities for prior accident years were generally lower for medical malpractice and workers’ compensation insurance. For primary private passenger automobile insurance claims, we increased liabilities for prior years’ claims in 2017, primarily due to increased average claims severities, and decreased liabilities for prior years’ claims in 2016 and 2015. We decreased estimated ultimate liabilities with respect to property and casualty reinsurance by \$295 million in 2017, \$955 million in 2016 and \$1.2 billion in 2015. The decrease in 2017 included increased losses from a United Kingdom government-mandated change to the computation of certain personal injury lump sum settlements and higher than expected property losses.

Estimated claim liabilities for environmental, asbestos and other latent injury exposures, net of reinsurance recoverables, were approximately \$1.6 billion at December 31, 2017 and 2016. These liabilities are subject to change due to changes in the legal and regulatory environment as described in Note 14. We are unable to reliably estimate additional losses or a range of losses that are reasonably possible for these claims.

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses (Continued)

A reconciliation of certain net unpaid losses and allocated loss adjustment expenses (the latter referred to as “ALAE”) of GEICO, Berkshire Hathaway Reinsurance Group (“BHRG”, which includes the NICO Group and General Re Group) and Berkshire Hathaway Primary Group (“BH Primary”) to our consolidated unpaid losses and loss adjustment expenses as of December 31, 2017, along with a discussion regarding each group’s liability estimation processes, follows (in millions).

	<u>GEICO</u>	<u>BHRG Property</u>	<u>BHRG Casualty</u>	<u>BH Primary</u>	<u>Total</u>
Unpaid losses and ALAE, net	\$ 15,655	\$ 8,838	\$ 19,219	\$ 11,867	\$ 55,579
Reinsurance recoverable	859	289	1,028	1,025	3,201
Unpaid unallocated loss adjustment expenses					2,342
Unpaid losses and loss adjustment expenses					<u>\$ 61,122</u>

GEICO

GEICO’s claim liabilities predominantly relate to various types of private passenger auto liability and physical damage claims. For GEICO, we establish and evaluate unpaid claim liabilities using standard actuarial loss development methods and techniques. The actuarial methods utilize historical claims data, adjusted when deemed appropriate to reflect perceived changes in loss patterns. Claim liabilities include average, case, case development and IBNR estimates.

We establish average liabilities based on expected severities for newly reported physical damage and liability claims prior to establishing an individual case reserve when we have insufficient time and information to make specific claim estimates and for a large number of minor physical damage claims that are paid shortly after being reported. We establish liability case loss estimates, which includes loss adjustment expenses, once the facts and merits of the claim are evaluated.

Estimates for liability coverages are more uncertain primarily due to the longer claim-tails, the greater chance of protracted litigation and the incompleteness of facts at the time the case estimate is first established. The “claim-tail” is the time period between the claim occurrence date and settlement date. As a result, we establish additional case development liabilities, which are usually percentages of the case liabilities. For unreported claims, IBNR liabilities are estimated by projecting the ultimate number of claims expected (reported and unreported) for each significant coverage and deducting reported claims to produce estimated unreported claims. The product of the average cost per unreported claim and the number of unreported claims produces the IBNR liability estimate. We may record supplemental IBNR liabilities in certain situations when actuarial techniques are difficult to apply.

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses (Continued)

GEICO's aggregate incurred and paid loss and ALAE data by accident year for these claims, net of reinsurance, follows. IBNR and case development liabilities are as of December 31, 2017. Claim counts are established when accidents that may result in a liability are reported and are based on policy coverage. Each claim event may generate claims under multiple coverages, and thus may result in multiple counts. The "Cumulative Number of Reported Claims" includes the combined number of reported claims for all policy coverages and excludes projected IBNR claims. Dollars are in millions.

Incurred Losses and ALAE through December 31,						IBNR and Case Development Liabilities	Cumulative Number of Reported Claims (in thousands)
Accident Year	2013*	2014*	2015*	2016*	2017		
2013	\$ 13,085	\$ 12,900	\$ 12,943	\$ 12,920	\$ 12,961	\$ 105	7,105
2014		14,680	14,572	14,559	14,589	236	7,972
2015			16,887	16,875	16,993	682	8,915
2016				19,106	19,390	1,806	9,601
2017					22,675	4,343	10,513
Incurred losses and ALAE					\$ 86,608		

Cumulative Paid Losses and ALAE through December 31,					
Accident Year	2013*	2014*	2015*	2016*	2017
2013	\$ 8,006	\$ 10,573	\$ 11,650	\$ 12,256	\$ 12,618
2014		9,199	12,036	13,140	13,850
2015			10,606	13,858	15,285
2016				12,020	15,862
2017					13,878
Paid losses and ALAE					71,493
Net unpaid losses and ALAE for 2013 – 2017 accident years					15,115
Net unpaid losses and ALAE for accident years before 2013					540
Net unpaid losses and ALAE					\$ 15,655

* Unaudited supplemental information

BHRG

We use a variety of actuarial methodologies to establish BHRG's property and casualty claims liabilities. We use certain methodologies, such as paid and incurred loss development techniques, incurred and paid loss Bornhuetter-Ferguson techniques and frequency and severity techniques, as well as ground-up techniques when appropriate.

Our claims liabilities are principally a function of reported losses from ceding companies, case development and IBNR liability estimates. Case loss estimates are reported under our contracts either individually or in bulk as provided under the terms of the contracts. We may independently evaluate case losses reported by the ceding company, and if deemed appropriate, we may establish case liabilities based on our estimates. Estimated IBNR liabilities are driven by expected case loss emergence patterns and expected loss ratios, which may be evaluated as groups or portfolios of contracts with similar exposures, or on an individual contract-by-contract basis. Case and IBNR liability estimates for major catastrophe events may be based on a per-contract assessment of the ultimate cost associated with the individual loss event. Claim count data is not provided, as such information is not provided consistently by ceding companies under our contracts or is otherwise considered unreliable.

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses (Continued)

We disaggregated net losses and ALAE for BHRG based on losses that are expected to have shorter claim-tails (property) and those expected to have longer claim-tails (casualty). Under certain contracts, the coverage can apply to multiple lines of business written by the ceding company, whether property, casualty or combined, and the ceding company may not report loss data by such lines consistently, if at all. In those instances, we allocated losses to property and casualty coverages based on internal estimates. In the following tables, BHRG's incurred and paid loss and ALAE data is separately presented for property and casualty coverage by accident year, net of reinsurance. IBNR and case development liabilities are as of December 31, 2017. Dollars are in millions.

BHRG Property

Incurred Losses and ALAE through December 31,											IBNR and Case Development Liabilities
Accident Year	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017	
2008	\$ 3,030	\$ 2,720	\$ 2,773	\$ 2,483	\$ 2,392	\$ 2,432	\$ 2,386	\$ 2,353	\$2,344	\$2,336	\$ 6
2009		2,385	2,057	2,250	2,171	2,075	2,048	2,006	2,001	2,000	8
2010			2,545	2,538	2,424	2,289	2,200	2,164	2,146	2,126	32
2011				4,192	4,127	3,850	3,764	3,761	3,729	3,706	84
2012					3,153	2,851	2,645	2,404	2,351	2,347	95
2013						3,230	3,074	2,727	2,636	2,614	172
2014							2,646	2,458	2,344	2,199	223
2015								3,268	3,115	2,557	232
2016									3,294	3,938	1,072
2017										5,276	1,993
Incurred losses and ALAE										\$ 29,099	

Cumulative Paid Losses and ALAE through December 31,											
Accident Year	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017	
2008	\$ 481	\$ 1,449	\$ 1,825	\$ 2,055	\$ 2,159	\$ 2,205	\$ 2,240	\$ 2,296	\$ 2,307	\$ 2,308	
2009		405	1,122	1,627	1,792	1,861	1,931	1,965	1,975	1,977	
2010			339	1,081	1,520	1,789	1,950	2,007	2,054	2,079	
2011				661	2,308	2,963	3,233	3,344	3,433	3,475	
2012					265	1,232	1,813	1,952	2,041	2,116	
2013						522	1,447	1,892	2,090	2,211	
2014							467	1,259	1,591	1,731	
2015								571	1,604	1,959	
2016									706	1,807	
2017										1,028	
Paid losses and ALAE										20,691	
Net unpaid losses and ALAE for 2008 – 2017 accident years										8,408	
Net unpaid losses and ALAE for accident years before 2008										430	
Net unpaid losses and ALAE										\$ 8,838	

* Unaudited supplemental information

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses (Continued)
BHRG Casualty

Accident Year	Incurred Losses and ALAE through December 31,										IBNR and Case Development Liabilities
	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017	
2008	\$ 2,448	\$ 2,602	\$ 2,279	\$ 2,358	\$ 2,309	\$ 2,161	\$ 2,101	\$ 2,042	\$ 2,009	\$ 2,010	\$ 226
2009		2,393	2,711	2,571	2,500	2,437	2,362	2,315	2,252	2,213	225
2010			2,320	2,413	2,345	2,282	2,162	2,111	2,066	1,903	166
2011				2,628	2,720	2,589	2,529	2,440	2,348	2,340	419
2012					2,811	2,995	2,829	2,892	2,819	2,705	663
2013						2,152	2,290	2,320	2,162	2,107	644
2014							1,891	2,090	2,059	2,021	736
2015								1,895	2,102	2,130	803
2016									1,923	2,132	1,012
2017										2,209	1,428
	Incurred losses and ALAE										\$ 21,770

Accident	Cumulative Paid Losses and ALAE through December 31,									
Year	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017
2008	\$ 253	\$664	\$959	\$ 1,067	\$ 1,168	\$ 1,250	\$ 1,325	\$ 1,367	\$ 1,405	\$ 1,442
2009		249	858	947	1,219	1,439	1,596	1,632	1,669	1,695
2010			120	553	846	1,035	1,288	1,384	1,448	1,493
2011				293	822	1,167	1,409	1,498	1,591	1,670
2012					311	754	1,147	1,378	1,535	1,660
2013						293	527	814	943	1,048
2014							152	485	651	761
2015								198	497	722
2016									254	561
2017										232
									Paid losses and ALAE	11,284
									Net unpaid losses and ALAE for 2008 – 2017 accident years	10,486
									Net unpaid losses and ALAE for accident years before 2008	8,733
									Net unpaid losses and ALAE	\$ 19,219

* Unaudited supplemental information

BH Primary

BH Primary's liabilities for unpaid losses and ALAE primarily derive from workers' compensation, medical professional and other liability insurance. Other liability insurance includes commercial auto and general liability policies. We periodically evaluate ultimate unpaid loss and ALAE estimates for the workers' compensation and general liability lines using a combination of commonly accepted actuarial methodologies, such as the Bornhuetter-Ferguson and chain-ladder approaches using paid and incurred loss data. Paid and incurred loss data is segregated into groups such as coverages, territories or other characteristics. We establish case liabilities for reported claims based upon the facts and circumstances of the claim. The excess of the ultimate projected losses, including the expected development of case estimates, and the case-basis liabilities is included in IBNR liabilities. For medical professional liabilities, we use a combination of the aforementioned methods, as well as other loss severity based methods. From these estimates, we determine our best estimate. Periodically, we study developments in older accident years and adjust initial loss estimates to reflect recent development based upon claim age, coverage and litigation experience. The cumulative number of reported claims reflects the number of individual claimants, and includes claims that ultimately result in no liability or payment.

Notes to Consolidated Financial Statements (Continued)
(13) Unpaid losses and loss adjustment expenses (Continued)

BH Primary's incurred and paid loss and ALAE data by accident year, net of reinsurance, is presented in the following tables. IBNR and case development liabilities are as of December 31, 2017. Dollars are in millions.

Accident Year	Incurred Losses and ALAE through December 31,										IBNR and Case Development Liabilities	Cumulative Number of Reported Claims (in thousands)
	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017		
2008	\$ 1,573	\$ 1,503	\$ 1,448	\$ 1,369	\$ 1,250	\$ 1,182	\$ 1,135	\$ 1,103	\$ 1,073	\$ 1,063	\$ 69	71
2009		1,528	1,435	1,392	1,322	1,229	1,164	1,109	1,073	1,047	75	60
2010			1,516	1,437	1,378	1,321	1,234	1,163	1,119	1,068	107	61
2011				1,563	1,461	1,446	1,359	1,290	1,249	1,189	168	67
2012					1,710	1,675	1,631	1,559	1,518	1,423	250	79
2013						2,199	2,127	2,052	1,977	1,900	424	100
2014							2,906	2,737	2,687	2,580	736	138
2015								3,519	3,406	3,266	1,095	163
2016									4,149	4,024	1,917	171
2017										5,024	3,161	166
	Incurred losses and ALAE										\$ 22,584	

Accident Year	Cumulative Paid Losses and ALAE through December 31,									
	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016*	2017
2008	\$181	\$369	\$535	\$676	\$771	\$852	\$903	\$932	\$ 950	\$ 968
2009		136	335	507	643	752	838	891	921	933
2010			153	366	522	661	768	846	889	916
2011				167	331	533	682	824	903	946
2012					165	444	642	820	956	1,049
2013						279	621	903	1,118	1,272
2014							387	833	1,192	1,504
2015								499	1,060	1,498
2016									634	1,302
2017										761
	Paid losses and ALAE									11,149
	Net unpaid losses and ALAE for 2008 – 2017 accident years									11,435
	Net unpaid losses and ALAE for accident years before 2008									432
	Net unpaid losses and ALAE									\$11,867

* Unaudited supplemental information

Supplemental unaudited average historical claims duration information based on the net losses and ALAE incurred and paid accident year data in the preceding tables follows. The percentages show the average portions of net losses and ALAE paid by each succeeding year, with year 1 representing the current accident year.

In Years	Average Annual Percentage Payout of Incurred Losses by Age, Net of Reinsurance									
	1	2	3	4	5	6	7	8	9	10
GEICO	61.9%	19.6%	8.1%	4.9%	2.8%					
BHRG Property	18.7%	37.5%	18.8%	8.3%	4.5%	2.7%	1.6%	1.4%	0.3%	0.0%
BHRG Casualty	10.7%	18.4%	12.0%	8.3%	7.1%	5.0%	3.0%	2.0%	1.5%	1.8%
BH Primary	14.6%	17.7%	15.0%	12.5%	9.8%	7.3%	4.4%	2.7%	1.4%	1.7%

Notes to Consolidated Financial Statements (Continued)
(14) Retroactive reinsurance contracts

Retroactive reinsurance policies provide indemnification of losses and loss adjustment expenses of short-duration insurance contracts with respect to underlying loss events that occurred prior to the contract inception date. Claims payments may commence immediately after the contract date or, if applicable, once a contractual retention amount has been reached. Reconciliations of the changes in estimated liabilities for retroactive reinsurance unpaid losses and loss adjustment expenses (“claim liabilities”) and related deferred charge reinsurance assumed assets for each of the three years ended December 31, 2017 follows (in millions).

	2017		2016		2015	
	Unpaid losses and loss adjustment expenses	Deferred charges reinsurance assumed	Unpaid losses and loss adjustment expenses	Deferred charges reinsurance assumed	Unpaid losses and loss adjustment expenses	Deferred charges reinsurance assumed
Balances – beginning of year	\$ 24,972	\$ (8,047)	\$ 24,058	\$ (7,687)	\$ 24,702	\$ (7,772)
Incurred losses and loss adjustment expenses						
Current year contracts	19,005	(7,730)	2,136	(874)	—	—
Prior years’ contracts	(41)	499	(63)	514	546	85
Total	18,964	(7,231)	2,073	(360)	546	85
Paid losses and loss adjustment expenses	(999)	—	(1,159)	—	(1,190)	—
Balances – end of year	\$ 42,937	\$ (15,278)	\$ 24,972	\$ (8,047)	\$ 24,058	\$ (7,687)
Incurred losses and loss adjustment expenses, net of deferred charges	\$ 11,733		\$ 1,713		\$ 631	

In the preceding table, classifications of incurred losses and loss adjustment expenses are based on the inception dates of the contracts. We do not believe that analysis of losses incurred and paid by accident year of the underlying event is relevant or meaningful given that our exposure to losses incepts when the contract incepts. Further, we believe the classifications of reported claims and case development liabilities has little or no practical analytical value.

In 2017, we entered into an agreement through a Berkshire subsidiary, National Indemnity Company (“NICO”), with various subsidiaries of American International Group, Inc. (collectively, “AIG”), which became effective on February 2, 2017. Under this agreement, NICO agreed to indemnify AIG for 80% of up to \$25 billion of losses and allocated loss adjustment expenses in excess of \$25 billion retained by AIG, with respect to certain commercial insurance loss events occurring prior to 2016. As of the effective date, we recorded premiums earned of \$10.2 billion, and we also recorded a liability for unpaid losses and loss adjustment expenses of \$16.4 billion and a deferred charge reinsurance assumed asset of \$6.2 billion. Berkshire agreed to guarantee the timely payment of all amounts due to AIG under the agreement.

In the fourth quarter of 2017, we increased our estimated ultimate claim liabilities under the aforementioned AIG contract by approximately \$1.8 billion based on higher than expected loss payments reported by AIG under the contractual retention. We also increased the related deferred charge asset by \$1.7 billion based on our re-estimation of the amounts and timing of future claim payments. As of yearend 2017, our net liability from this contract was approximately \$10.7 billion, representing the excess of the estimated ultimate claim liabilities of approximately \$18.2 billion over the remaining deferred charge asset balance of approximately \$7.5 billion.

Incurred losses and loss adjustment expenses related to contracts written in prior years were \$458 million in 2017, \$451 million in 2016 and \$631 million in 2015, which included recurring amortization of deferred charges and the effect of changes in the timing and amount of expected future loss payments.

In establishing retroactive reinsurance claim liabilities, we analyze historical aggregate loss payment patterns and project losses into the future under various probability-weighted scenarios. We expect the claim-tail to be very long for many contracts, with some lasting several decades. We monitor claim payment activity and review ceding company reports and other information concerning the underlying losses. We reassess and revise the expected timing and amounts of ultimate losses periodically or when significant events are revealed through our monitoring and review processes.

Notes to Consolidated Financial Statements (Continued)
(14) Retroactive reinsurance contracts (Continued)

Our retroactive reinsurance claim liabilities include estimated liabilities for environmental, asbestos and other latent injury exposures of approximately \$14.0 billion at December 31, 2017 and \$13.7 billion at December 31, 2016. Retroactive reinsurance contracts are generally subject to aggregate policy limits and thus, our exposure to such claims under these contracts is likewise limited. We monitor evolving case law and its effect on environmental and other latent injury claims. Changing government regulations, newly identified toxins, newly reported claims, new theories of liability, new contract interpretations and other factors could result in increases in these liabilities, which could be material to our results of operations. We are unable to reliably estimate the amount of additional net loss or the range of net loss that is reasonably possible.

(15) Notes payable and other borrowings

Notes payable and other borrowings are summarized below (in millions). The weighted average interest rates and maturity date ranges shown in the following tables are based on borrowings as of December 31, 2017.

	Weighted Average Interest Rate	December 31,	
		2017	2016
<i>Insurance and other:</i>			
Issued by Berkshire:			
U.S. Dollar denominated borrowings due 2018-2047	2.8%	\$10,603	\$11,709
Euro denominated borrowings due 2020-2035	1.1%	8,164	5,994
Short-term subsidiary borrowings	3.4%	1,832	2,094
Other subsidiary borrowings due 2018-2045	3.6%	6,725	7,378
		<u>\$27,324</u>	<u>\$27,175</u>

In January 2017, Berkshire issued €1.1 billion in senior unsecured notes. The notes consisted of €550 million of 0.25% notes due in 2021 and €550 million of 0.625% notes due in 2023. In January 2017, senior notes of \$1.1 billion matured. In 2017, the carrying value of Berkshire's Euro denominated senior notes increased \$990 million due to changes in the Euro/U.S. Dollar exchange rates. This increase produced a corresponding charge to pre-tax earnings of \$990 million which was recorded as additional non-cash interest expense.

	Weighted Average Interest Rate	December 31,	
		2017	2016
<i>Railroad, utilities and energy:</i>			
Issued by Berkshire Hathaway Energy Company ("BHE") and its subsidiaries:			
BHE senior unsecured debt due 2018-2045	5.1%	\$ 6,452	\$ 7,818
Subsidiary and other debt due 2018-2064	4.8%	28,739	27,354
Short-term debt	2.0%	4,488	1,869
Issued by BNSF due 2018-2097	4.8%	22,499	22,044
		<u>\$62,178</u>	<u>\$59,085</u>

BHE subsidiary debt represents amounts issued pursuant to separate financing agreements. Substantially all of the assets of certain BHE subsidiaries are, or may be, pledged or encumbered to support or otherwise secure debt. These borrowing arrangements generally contain various covenants including, but not limited to, leverage ratios, interest coverage ratios and debt service coverage ratios, among other covenants. During 2017, BHE and its subsidiaries issued approximately \$1.9 billion of term debt with maturity dates ranging from 2022 to 2057 with a weighted average interest rate of 3.2%.

BHE's short-term debt outstanding increased, in part to fund the prepayment of approximately \$1.0 billion of BHE senior unsecured debt in connection with a tender offer in December 2017. BHE recognized a pre-tax loss of \$410 million, which was included in interest expense in the Consolidated Statement of Earnings. In January 2018, BHE issued \$2.2 billion of senior notes with maturity dates ranging from 2021 to 2048 with a weighted average interest rate of 3.2%. Proceeds from this debt issuance were used to repay short-term debt and for general corporate purposes.

BNSF's borrowings are primarily senior unsecured debentures. In March 2017, BNSF issued \$1.25 billion of senior unsecured debentures consisting of \$500 million of 3.25% debentures due in 2027 and \$750 million of 4.125% debentures due in 2047. As of December 31, 2017, BNSF, BHE and their subsidiaries were in compliance with all applicable debt covenants. Berkshire does not guarantee any debt, borrowings or lines of credit of BNSF, BHE or their subsidiaries.

Notes to Consolidated Financial Statements (Continued)
(15) Notes payable and other borrowings (Continued)

	Weighted Average Interest Rate	December 31,	
		2017	2016
<i>Finance and financial products:</i>			
Issued by Berkshire Hathaway Finance Corporation (“BHFC”) due 2018-2043	2.8%	\$12,926	\$14,423
Issued by other subsidiaries due 2018-2036	4.5%	159	961
		\$13,085	\$15,384

In January 2017, BHFC issued \$1.3 billion of senior notes consisting of \$950 million of floating rate notes due in 2019 and \$350 million of floating rate notes due in 2020. During 2017, senior notes of \$2.8 billion matured. The borrowings of BHFC, a wholly owned finance subsidiary of Berkshire, are fully and unconditionally guaranteed by Berkshire.

As of December 31, 2017, our subsidiaries had unused lines of credit and commercial paper capacity aggregating approximately \$7.7 billion to support short-term borrowing programs and provide additional liquidity. Such unused lines of credit included about \$4.0 billion related to BHE and its subsidiaries. In addition to BHFC's borrowings, at December 31, 2017, Berkshire guaranteed approximately \$1.9 billion of other subsidiary borrowings. Generally, Berkshire's guarantee of a subsidiary's debt obligation is an absolute, unconditional and irrevocable guarantee for the full and prompt payment when due of all payment obligations.

Principal repayments expected during each of the next five years are as follows (in millions).

	2018	2019	2020	2021	2022
Insurance and other	\$ 4,741	\$ 844	\$ 1,800	\$ 2,527	\$ 850
Railroad, utilities and energy	8,659	2,939	2,245	1,804	3,395
Finance and financial products	4,661	4,016	931	750	775
	<u>\$ 18,061</u>	<u>\$ 7,799</u>	<u>\$ 4,976</u>	<u>\$ 5,081</u>	<u>\$ 5,020</u>

(16) Income taxes

The liabilities for income taxes reflected in our Consolidated Balance Sheets are as follows (in millions).

	December 31,	
	2017	2016
Currently payable (receivable)	\$ (129)	\$ 500
Deferred	56,182	76,457
Other	554	485
	<u>\$56,607</u>	<u>\$ 77,442</u>

On December 22, 2017, President Trump signed into law the Tax Cuts and Jobs Act of 2017 ("TCJA"). Among its provisions, the TCJA reduces the statutory U.S. Corporate income tax rate from 35% to 21% effective January 1, 2018. The TCJA also provides for a one-time tax on certain accumulated undistributed post-1986 earnings of foreign subsidiaries. Further, the TCJA includes provisions that, in certain instances, impose U.S. income tax liabilities on future earnings of foreign subsidiaries and limit the deductibility of future interest expenses. The TCJA also provides for accelerated deductions of certain capital expenditures made after September 27, 2017 through bonus depreciation. The application of the TCJA may change due to regulations subsequently issued by the U.S. Treasury Department.

Upon the enactment of the TCJA, we recorded a reduction in our deferred income tax liabilities of approximately \$35.6 billion for the effect of the aforementioned change in the U.S. statutory income tax rate. As a result, we recorded an income tax benefit of approximately \$29.6 billion and we increased regulatory liabilities of our regulated utility subsidiaries by approximately \$6.0 billion for the portion of the deferred income tax liability reduction that we will be required to, effectively, refund to customers in the rate setting process. We also recognized an income tax charge of approximately \$1.4 billion with respect to the deemed repatriation of the accumulated undistributed post-1986 earnings of our foreign subsidiaries. Thus, upon the enactment of the TCJA, we included a net income tax benefit in our 2017 earnings of approximately \$28.2 billion.

Notes to Consolidated Financial Statements (Continued)
(16) Income taxes (Continued)

In December 2017, the Securities and Exchange Commission issued Staff Accounting Bulletin 118 ("SAB 118") to provide clarification in implementing the TCJA when registrants do not have the necessary information available to complete the accounting for an element of the TCJA in the period of its enactment. SAB 118 provides for tax amounts to be classified as provisional and subject to remeasurement for up to one year from the enactment date for such elements when the accounting effect is not complete, but can be reasonably estimated.

We consider our estimate of the tax on accumulated undistributed earnings of foreign subsidiaries to be provisional and subject to remeasurement when we obtain the necessary additional information to complete the accounting. While we believe our estimate to be reasonable, it will take additional time to validate the inputs to the foreign earnings and profits calculations, the basis on which the repatriation tax is determined, and how the applicable states will address the U.S. repatriation tax. We currently expect that our accounting for the repatriation tax under the TCJA will be completed by the end of 2018.

We have not established deferred income taxes on accumulated undistributed earnings of certain foreign subsidiaries, which are expected to be reinvested indefinitely. Repatriation of all accumulated earnings of foreign subsidiaries would be impracticable to the extent that such earnings represent capital to support normal business operations. Although no U.S. federal taxes will be imposed on future distributions of foreign earnings, in certain jurisdictions the distributions could be subject to withholding and other local taxes.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities are shown below (in millions).

	December 31,	
	2017	2016
Deferred tax liabilities:		
Investments – unrealized appreciation and cost basis differences	\$ 24,251	\$ 27,669
Deferred charges reinsurance assumed	3,226	2,876
Property, plant and equipment	26,671	39,345
Goodwill and other intangible assets	7,204	11,344
Other	3,216	5,550
	<u>64,568</u>	<u>86,784</u>
Deferred tax assets:		
Unpaid losses and loss adjustment expenses	(1,231)	(1,363)
Unearned premiums	(345)	(1,021)
Accrued liabilities	(2,501)	(3,821)
Other	(4,309)	(4,122)
	<u>(8,386)</u>	<u>(10,327)</u>
Net deferred tax liability	<u>\$56,182</u>	<u>\$ 76,457</u>

Income tax expense reflected in our Consolidated Statements of Earnings for each of the three years ending December 31, 2017 is as follows (in millions).

	2017	2016	2015
Federal	\$(23,427)	\$ 7,796	\$ 9,253
State	894	556	578
Foreign	1,018	888	701
	<u>\$(21,515)</u>	<u>\$ 9,240</u>	<u>\$10,532</u>
Current	\$ 3,299	\$ 6,565	\$ 5,426
Deferred	(24,814)	2,675	5,106
	<u>\$(21,515)</u>	<u>\$ 9,240</u>	<u>\$10,532</u>

Notes to Consolidated Financial Statements (Continued)
(16) Income taxes (Continued)

Income tax expense is reconciled to hypothetical amounts computed at the U.S. federal statutory rate for each of the three years ending December 31, 2017 in the table below (in millions).

	2017	2016	2015
Earnings before income taxes	<u>\$ 23,838</u>	<u>\$33,667</u>	<u>\$34,946</u>
Hypothetical income tax expense computed at the U.S. federal statutory rate	\$ 8,343	\$11,783	\$12,231
Dividends received deduction and tax exempt interest	(905)	(789)	(1,146)
State income taxes, less U.S. federal income tax benefit	465	361	374
Foreign tax rate differences	(339)	(421)	(459)
U.S. income tax credits	(636)	(518)	(461)
Non-taxable exchange of investments	—	(1,143)	—
Net benefit from the enactment of the TCJA	(28,200)	—	—
Other differences, net	<u>(243)</u>	<u>(33)</u>	<u>(7)</u>
	<u>\$ (21,515)</u>	<u>\$ 9,240</u>	<u>\$10,532</u>

We file income tax returns in the United States and in state, local and foreign jurisdictions. We are under examination by the taxing authorities in many of these jurisdictions. We have settled income tax liabilities with U.S. federal taxing authorities (the “IRS”) for years before 2010. The IRS continues to audit Berkshire’s consolidated U.S. federal income tax returns for the 2010 through 2013 tax years and we currently believe it is reasonably possible that these examinations will be settled during 2018. We are also under audit or subject to audit with respect to income taxes in many state and foreign jurisdictions. It is reasonably possible that certain of these income tax examinations will be settled within the next twelve months. We currently do not believe that the outcome of unresolved issues or claims will be material to our Consolidated Financial Statements.

At December 31, 2017 and 2016, net unrecognized tax benefits were \$554 million and \$485 million, respectively. Included in the balance at December 31, 2017, were \$445 million of tax positions that, if recognized, would impact the effective tax rate. The remaining balance in net unrecognized tax benefits principally relates to tax positions where the ultimate recognition is highly certain but there is uncertainty about the timing of such recognition. Because of the impact of deferred income tax accounting, the differences in recognition periods would not affect the annual effective tax rate but would accelerate the payment of cash to the taxing authority to an earlier period. As of December 31, 2017, we do not expect any material changes to the estimated amount of unrecognized tax benefits in the next twelve months.

(17) Dividend restrictions – Insurance subsidiaries

Payments of dividends by our insurance subsidiaries are restricted by insurance statutes and regulations. Without prior regulatory approval, our principal insurance subsidiaries may declare up to approximately \$16 billion as ordinary dividends during 2018.

Combined shareholders’ equity of U.S. based insurance subsidiaries determined pursuant to statutory accounting rules (Surplus as Regards Policyholders) was approximately \$170 billion at December 31, 2017 and \$136 billion at December 31, 2016. Statutory surplus differs from the corresponding amount based on GAAP due to differences in accounting for certain assets and liabilities. For instance, deferred charges reinsurance assumed, deferred policy acquisition costs, unrealized gains on certain investments and related deferred income taxes are recognized for GAAP but not for statutory reporting purposes. In addition, the carrying values of certain assets, such as goodwill and the carrying values of non-insurance entities owned by our insurance subsidiaries, are not fully recognized for statutory reporting purposes.

Notes to Consolidated Financial Statements (Continued)
(18) Fair value measurements

Our financial assets and liabilities are summarized below as of December 31, 2017 and December 31, 2016 with fair values shown according to the fair value hierarchy (in millions). The carrying values of cash and cash equivalents, U.S. Treasury Bills, receivables and accounts payable, accruals and other liabilities are considered to be reasonable estimates of their fair values.

	Carrying Value	Fair Value	Quoted Prices (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2017					
Investments in fixed maturity securities:					
U.S. Treasury, U.S. government corporations and agencies	\$ 3,953	\$ 3,953	\$ 2,360	\$ 1,593	\$ —
States, municipalities and political subdivisions	854	854	—	854	—
Foreign governments	8,822	8,822	6,946	1,876	—
Corporate bonds	6,862	6,862	—	6,856	6
Mortgage-backed securities	862	862	—	862	—
Investments in equity securities	170,540	170,540	170,494	46	—
Investment in Kraft Heinz common stock	17,635	25,306	25,306	—	—
Loans and finance receivables	13,748	14,136	—	17	14,119
Derivative contract assets <i>(1)</i>	142	142	1	28	113
Derivative contract liabilities:					
Railroad, utilities and energy <i>(1)</i>	82	82	3	69	10
Equity index put options	2,172	2,172	—	—	2,172
Notes payable and other borrowings:					
Insurance and other	27,324	28,180	—	28,180	—
Railroad, utilities and energy	62,178	70,538	—	70,538	—
Finance and financial products	13,085	13,582	—	13,577	5
December 31, 2016					
Investments in fixed maturity securities:					
U.S. Treasury, U.S. government corporations and agencies	\$ 4,527	\$ 4,527	\$ 3,099	\$ 1,428	\$ —
States, municipalities and political subdivisions	1,216	1,216	—	1,216	—
Foreign governments	9,001	9,001	7,237	1,764	—
Corporate bonds	7,604	7,604	—	7,540	64
Mortgage-backed securities	1,084	1,084	—	1,084	—
Investments in equity securities	139,288	139,288	122,031	—	17,257
Investment in Kraft Heinz common stock	15,345	28,418	28,418	—	—
Loans and finance receivables	13,300	13,717	—	13	13,704
Derivative contract assets <i>(1)</i>	142	142	5	43	94
Derivative contract liabilities:					
Railroad, utilities and energy <i>(1)</i>	145	145	3	114	28
Equity index put options	2,890	2,890	—	—	2,890
Notes payable and other borrowings:					
Insurance and other	27,175	27,712	—	27,712	—
Railroad, utilities and energy	59,085	65,774	—	65,774	—
Finance and financial products	15,384	15,825	—	15,469	356

(1) Assets are included in other assets and liabilities are included in accounts payable, accruals and other liabilities.

Notes to Consolidated Financial Statements (Continued)
(18) Fair value measurements (Continued)

The fair values of substantially all of our financial instruments were measured using market or income approaches. The hierarchy for measuring fair value consists of Levels 1 through 3, which are described below.

Level 1 – Inputs represent unadjusted quoted prices for identical assets or liabilities exchanged in active markets.

Level 2 – Inputs include directly or indirectly observable inputs (other than Level 1 inputs) such as quoted prices for similar assets or liabilities exchanged in active or inactive markets; quoted prices for identical assets or liabilities exchanged in inactive markets; other inputs that may be considered in fair value determinations of the assets or liabilities, such as interest rates and yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates; and inputs that are derived principally from or corroborated by observable market data by correlation or other means. Pricing evaluations generally reflect discounted expected future cash flows, which incorporate yield curves for instruments with similar characteristics, such as credit ratings, estimated durations and yields for other instruments of the issuer or entities in the same industry sector.

Level 3 – Inputs include unobservable inputs used in the measurement of assets and liabilities. Management is required to use its own assumptions regarding unobservable inputs because there is little, if any, market activity in the assets or liabilities and it may be unable to corroborate the related observable inputs. Unobservable inputs require management to make certain projections and assumptions about the information that would be used by market participants in valuing assets or liabilities.

Reconciliations of assets and liabilities measured and carried at fair value on a recurring basis with the use of significant unobservable inputs (Level 3) for each of the three years ending December 31, 2017 follow (in millions).

	Investments in fixed maturity securities	Investments in equity securities	Net derivative contract liabilities
Balance December 31, 2014	\$ 8	\$ 21,996	\$ (4,759)
Gains (losses) included in:			
Earnings	—	—	1,080
Other comprehensive income	(2)	(593)	(7)
Regulatory assets and liabilities	—	—	(19)
Acquisitions	101	—	—
Dispositions and settlements	(7)	—	(83)
Transfers into/out of Level 3	—	—	3
Balance December 31, 2015	100	21,403	(3,785)
Gains (losses) included in:			
Earnings	—	3,593	880
Other comprehensive income	(4)	876	(2)
Regulatory assets and liabilities	—	—	(11)
Acquisitions	10	—	—
Dispositions and settlements	(41)	(8,615)	(101)
Transfers into/out of Level 3	(1)	—	195
Balance December 31, 2016	64	17,257	(2,824)
Gains (losses) included in:			
Earnings	—	—	888
Other comprehensive income	1	1,156	(3)
Regulatory assets and liabilities	—	—	(1)
Dispositions and settlements	(59)	—	(129)
Transfers into/out of Level 3	—	(18,413)	—
Balance December 31, 2017	\$ 6	\$ —	\$ (2,069)

Notes to Consolidated Financial Statements (Continued)
(18) Fair value measurements (Continued)

Gains and losses included in earnings are included as components of investment gains/losses, derivative gains/losses and other revenues, as appropriate and are primarily related to changes in the values of derivative contracts and settlement transactions. Gains and losses included in other comprehensive income are primarily the net change in unrealized appreciation of investments and the reclassification of investment appreciation in net earnings, as appropriate in our Consolidated Statements of Comprehensive Income.

As disclosed in Note 4, we exercised our BAC Warrants to acquire BAC common stock on August 24, 2017. As payment of the cost to acquire the BAC common stock, we surrendered substantially all of our BAC Preferred. Additionally, RBI redeemed our RBI Preferred investment on December 12, 2017. In the second quarter of 2017, we concluded the Level 3 inputs used in the previous fair value determinations of the BAC Warrants, BAC Preferred Stock and RBI Preferred were not significant and we transferred these measurements from Level 3 to Level 2. In 2016, our Wrigley preferred stock investment was disposed and our Dow preferred stock investment was converted into Dow common stock.

Quantitative information as of December 31, 2017, with respect to assets and liabilities measured and carried at fair value on a recurring basis with the use of significant unobservable inputs (Level 3) follows (in millions).

	<u>Fair Value</u>	<u>Principal Valuation Techniques</u>	<u>Unobservable Inputs</u>	<u>Weighted Average</u>
Derivative liabilities:				
Equity index put options	\$ 2,172	Option pricing model	Volatility	17%

Our equity index put option contracts are illiquid and contain contract terms that are not standard in derivatives markets. For example, we are not required to post collateral under most of our contracts and certain of the contracts have relatively long durations. For these and other reasons, we classified these contracts as Level 3. The methods we use to value these contracts are those that we believe market participants would use in determining exchange prices with respect to our contracts.

We value equity index put option contracts based on the Black-Scholes option valuation model. Inputs to this model include index price, contract duration and dividend and interest rate inputs (including a Berkshire non-performance input) which are observable. However, we believe that the valuation of long-duration options using any model is inherently subjective and, given the lack of observable transactions and prices, acceptable values may be subject to wide ranges. Volatility inputs represent our expectations, which consider the remaining duration of each contract and assume that the contracts will remain outstanding until the expiration dates. Increases or decreases in the volatility inputs will produce increases or decreases in the fair values of the liabilities.

Notes to Consolidated Financial Statements (Continued)
(19) Common stock

Changes in Berkshire's issued, treasury and outstanding common stock during the three years ending December 31, 2017 are shown in the table below.

	Class A, \$5 Par Value (1,650,000 shares authorized)			Class B, \$0.0033 Par Value (3,225,000,000 shares authorized)		
	Issued	Treasury	Outstanding	Issued	Treasury	Outstanding
Balance December 31, 2014	838,019	(11,680)	826,339	1,226,265,250	(1,409,762)	1,224,855,488
Conversions of Class A common stock to Class B common stock and exercises of replacement stock options issued in a business acquisition	(17,917)	—	(17,917)	27,601,348	—	27,601,348
Balance December 31, 2015	820,102	(11,680)	808,422	1,253,866,598	(1,409,762)	1,252,456,836
Conversions of Class A common stock to Class B common stock and exercises of replacement stock options issued in a business acquisition	(32,044)	—	(32,044)	49,457,329	—	49,457,329
Balance December 31, 2016	788,058	(11,680)	776,378	1,303,323,927	(1,409,762)	1,301,914,165
Conversions of Class A common stock to Class B common stock and exercises of replacement stock options issued in a business acquisition	(25,303)	—	(25,303)	38,742,822	—	38,742,822
Balance December 31, 2017	762,755	(11,680)	751,075	1,342,066,749	(1,409,762)	1,340,656,987

Each Class A common share is entitled to one vote per share. Class B common stock possesses dividend and distribution rights equal to one-fifteen-hundredth (1/1,500) of such rights of Class A common stock. Each Class B common share possesses voting rights equivalent to one-ten-thousandth (1/10,000) of the voting rights of a Class A share. Unless otherwise required under Delaware General Corporation Law, Class A and Class B common shares vote as a single class. Each share of Class A common stock is convertible, at the option of the holder, into 1,500 shares of Class B common stock. Class B common stock is not convertible into Class A common stock. On an equivalent Class A common stock basis, there were 1,644,846 shares outstanding as of December 31, 2017 and 1,644,321 shares outstanding as of December 31, 2016. In addition to our common stock, 1,000,000 shares of preferred stock are authorized, but none are issued.

Berkshire's Board of Directors has approved a common stock repurchase program permitting Berkshire to repurchase its Class A and Class B shares at prices no higher than a 20% premium over the book value of the shares. The program allows share repurchases in the open market or through privately negotiated transactions and does not specify a maximum number of shares to be repurchased. However, repurchases will not be made if they would reduce the total value of Berkshire's consolidated cash, cash equivalents and U.S. Treasury Bills holdings below \$20 billion. The repurchase program does not obligate Berkshire to repurchase any specific dollar amount or number of Class A or Class B shares and there is no expiration date to the program. There were no share repurchases under the program over the last three years.

Notes to Consolidated Financial Statements (Continued)
(20) Accumulated other comprehensive income

A summary of the net changes in after-tax accumulated other comprehensive income attributable to Berkshire Hathaway shareholders and significant amounts reclassified from accumulated other comprehensive income into net earnings for each of the three years ending December 31, 2017 follows (in millions).

	Unrealized appreciation of investments, net	Foreign currency translation	Prior service and actuarial gains/losses of defined benefit pension plans	Other	Accumulated other comprehensive income
Balance December 31, 2014	\$ 45,636	\$ (1,957)	\$ (1,039)	\$ 92	\$ 42,732
Other comprehensive income, net before reclassifications	(5,522)	(2,027)	191	(112)	(7,470)
Reclassifications into net earnings	(1,516)	128	86	22	(1,280)
Balance December 31, 2015	38,598	(3,856)	(762)	2	33,982
Other comprehensive income, net before reclassifications	9,011	(1,412)	94	(48)	7,645
Reclassifications into net earnings	(4,433)	—	75	29	(4,329)
Balance December 31, 2016	43,176	(5,268)	(593)	(17)	37,298
Other comprehensive income, net before reclassifications	19,826	2,151	65	16	22,058
Reclassifications into net earnings	(909)	3	108	13	(785)
Balance December 31, 2017	\$ 62,093	\$ (3,114)	\$ (420)	\$ 12	\$ 58,571
Reclassifications into net earnings:					
Year ending December 31, 2015:					
Investment gains/losses	\$ (2,332)	\$ 197	\$ —	\$ —	\$ (2,135)
Other	—	—	129	35	164
Reclassifications before income taxes	(2,332)	197	129	35	(1,971)
Applicable income taxes	(816)	69	43	13	(691)
	<u>\$ (1,516)</u>	<u>\$ 128</u>	<u>\$ 86</u>	<u>\$ 22</u>	<u>\$ (1,280)</u>
Year ending December 31, 2016:					
Investment gains/losses	\$ (6,820)	\$ —	\$ —	\$ —	\$ (6,820)
Other	—	—	104	51	155
Reclassifications before income taxes	(6,820)	—	104	51	(6,665)
Applicable income taxes	(2,387)	—	29	22	(2,336)
	<u>\$ (4,433)</u>	<u>\$ —</u>	<u>\$ 75</u>	<u>\$ 29</u>	<u>\$ (4,329)</u>
Year ending December 31, 2017:					
Investment gains/losses	\$ (1,399)	\$ —	\$ —	\$ —	\$ (1,399)
Other	—	3	155	19	177
Reclassifications before income taxes	(1,399)	3	155	19	(1,222)
Applicable income taxes	(490)	—	47	6	(437)
	<u>\$ (909)</u>	<u>\$ 3</u>	<u>\$ 108</u>	<u>\$ 13</u>	<u>\$ (785)</u>

Notes to Consolidated Financial Statements (Continued)
(21) Pension plans

Several of our subsidiaries sponsor defined benefit pension plans covering certain employees. Benefits under the plans are generally based on years of service and compensation, although benefits under certain plans are based on years of service and fixed benefit rates. Our subsidiaries may make contributions to the plans to meet regulatory requirements and may also make discretionary contributions. The components of our net periodic pension expense for each of the three years ending December 31, 2017 were as follows (in millions).

	2017	2016	2015
Service cost	\$ 273	\$ 282	\$ 266
Interest cost	635	691	591
Expected return on plan assets	(939)	(908)	(782)
Amortization of actuarial losses and other	157	148	179
Net periodic pension expense	<u>\$ 126</u>	<u>\$ 213</u>	<u>\$ 254</u>

The accumulated benefit obligation is the actuarial present value of benefits earned based on service and compensation prior to the valuation date. The projected benefit obligation ("PBO") is the actuarial present value of benefits earned based upon service and compensation prior to the valuation date and, if applicable, includes assumptions regarding future compensation levels. Benefit obligations under qualified U.S. defined benefit pension plans are funded through assets held in trusts. Pension obligations under certain non-U.S. plans and non-qualified U.S. plans are unfunded and the aggregate PBOs of such plans were approximately \$1.3 billion and \$1.2 billion as of December 31, 2017 and 2016, respectively.

Reconciliations of the changes in plan assets and PBOs related to BHE's pension plans and all other pension plans for each of the two years ending December 31, 2017 are in the following tables (in millions). The costs of pension plans covering employees of certain regulated subsidiaries of BHE are generally recoverable through the regulated rate making process.

	2017			2016		
	BHE	All other	Consolidated	BHE	All other	Consolidated
Benefit obligations						
Accumulated benefit obligation end of year	\$ 4,920	\$12,604	\$ 17,524	\$ 4,787	\$11,912	\$ 16,699
PBO beginning of year	\$ 5,077	\$12,673	\$ 17,750	\$ 5,076	\$10,183	\$ 15,259
Service cost	47	226	273	49	233	282
Interest cost	174	461	635	198	493	691
Benefits paid	(271)	(626)	(897)	(309)	(705)	(1,014)
Business acquisitions	—	—	—	—	2,684	2,684
Actuarial (gains) or losses and other	180	883	1,063	63	(215)	(152)
PBO end of year	<u>\$ 5,207</u>	<u>\$13,617</u>	<u>\$ 18,824</u>	<u>\$ 5,077</u>	<u>\$12,673</u>	<u>\$ 17,750</u>
Plan assets						
Plan assets beginning of year	\$ 4,694	\$10,703	\$ 15,397	\$ 4,765	\$ 8,066	\$ 12,831
Employer contributions	122	159	281	133	214	347
Benefits paid	(271)	(626)	(897)	(309)	(705)	(1,014)
Actual return on plan assets	535	1,601	2,136	512	1,083	1,595
Business acquisitions	—	—	—	—	2,314	2,314
Other	49	48	97	(407)	(269)	(676)
Plan assets end of year	<u>\$ 5,129</u>	<u>\$11,885</u>	<u>\$ 17,014</u>	<u>\$ 4,694</u>	<u>\$10,703</u>	<u>\$ 15,397</u>
Funded status – net liability	<u>\$ 78</u>	<u>\$ 1,732</u>	<u>\$ 1,810</u>	<u>\$ 383</u>	<u>\$ 1,970</u>	<u>\$ 2,353</u>

The funded status of our defined benefit pension plans at December 31, 2017 reflected in assets was \$1,176 million and in liabilities was \$2,986 million. At December 31, 2016, the funded status included in assets was \$644 million and in liabilities was \$2,997 million.

Notes to Consolidated Financial Statements (Continued)
(21) Pension plans (Continued)

Weighted average interest rate assumptions used in determining PBOs and net periodic pension expense were as follows.

	2017	2016	2015
Applicable to pension benefit obligations:			
Discount rate	3.3%	3.8%	4.1%
Expected long-term rate of return on plan assets	6.4	6.1	6.5
Rate of compensation increase	2.8	3.0	3.4
Discount rate applicable to net periodic pension expense	3.9	4.2	3.8

Benefits payments expected over the next ten years are as follows (in millions): 2018 – \$1,058; 2019 – \$1,004; 2020 – \$1,024; 2021 – \$1,019; 2022 – \$1,019; and 2023 to 2027 – \$5,095. Sponsoring subsidiaries expect to contribute \$251 million to defined benefit pension plans in 2018.

Fair value measurements of plan assets as of December 31, 2017 and 2016 follow (in millions).

	Fair Value				Investment funds and partnerships at net asset value
	Total	Level 1	Level 2	Level 3	
<i>December 31, 2017</i>					
Cash and equivalents	\$ 738	\$ 594	\$ 144	\$ —	\$ —
Equity securities	9,824	9,641	23	160	—
Government obligations	1,536	1,497	39	—	—
Other fixed maturity securities	799	148	619	32	—
Investment funds and other	4,117	150	1,501	274	2,192
	<u>\$17,014</u>	<u>\$12,030</u>	<u>\$ 2,326</u>	<u>\$ 466</u>	<u>\$2,192</u>
<i>December 31, 2016</i>					
Cash and equivalents	\$ 847	\$ 637	\$ 210	\$ —	\$ —
Equity securities	8,645	8,476	27	142	—
Government obligations	1,291	1,076	215	—	—
Other fixed maturity securities	770	144	595	31	—
Investment funds and other	3,844	233	1,434	153	2,024
	<u>\$15,397</u>	<u>\$10,566</u>	<u>\$ 2,481</u>	<u>\$ 326</u>	<u>\$2,024</u>

Refer to Note 18 for a discussion of the three levels in the hierarchy of fair values. Plan assets are generally invested with the long-term objective of producing earnings to adequately cover expected benefit obligations, while assuming a prudent level of risk. Allocations may change as a result of changing market conditions and investment opportunities. The expected rates of return on plan assets reflect subjective assessments of expected invested asset returns over a period of several years. Generally, past investment returns are not given significant consideration when establishing assumptions for expected long-term rates of return on plan assets. Actual experience will differ from the assumed rates.

A reconciliation of the pre-tax accumulated other comprehensive income (loss) related to defined benefit pension plans for each of the two years ending December 31, 2017 follows (in millions).

	2017	2016
Balance beginning of year	\$ (839)	\$(1,193)
Amount included in net periodic pension expense	155	104
Actuarial gains and other	70	250
Balance end of year	<u>\$ (614)</u>	<u>\$ (839)</u>

Notes to Consolidated Financial Statements (Continued)
(21) Pension plans (Continued)

Several of our subsidiaries also sponsor defined contribution retirement plans, such as 401(k) or profit sharing plans. Employee contributions are subject to regulatory limitations and the specific plan provisions. Several plans provide for employer matching contributions up to levels specified in the plans and provide for additional discretionary contributions as determined by management. Employer contributions expensed with respect to our defined contribution plans were \$1,001 million in 2017, \$912 million in 2016 and \$739 million in 2015.

(22) Contingencies and Commitments

We are parties in a variety of legal actions that routinely arise out of the normal course of business, including legal actions seeking to establish liability directly through insurance contracts or indirectly through reinsurance contracts issued by Berkshire subsidiaries. Plaintiffs occasionally seek punitive or exemplary damages. We do not believe that such normal and routine litigation will have a material effect on our financial condition or results of operations. Berkshire and certain of its subsidiaries are also involved in other kinds of legal actions, some of which assert or may assert claims or seek to impose fines and penalties. We believe that any liability that may arise as a result of other pending legal actions will not have a material effect on our consolidated financial condition or results of operations.

We lease certain manufacturing, warehouse, retail and office facilities as well as certain equipment. Rent expense under operating leases was \$1,579 million in 2017, \$1,573 million in 2016 and \$1,516 million in 2015. Future minimum rental payments for operating leases having non-cancellable terms in excess of one year are as follows (in millions).

2018	2019	2020	2021	2022	After 2022	Total
\$1,330	\$1,192	\$1,067	\$872	\$709	\$3,316	\$8,486

Our subsidiaries regularly make commitments in the ordinary course of business to purchase goods and services used in their businesses. The most significant of these relate to our railroad, utilities and energy businesses and our fractional aircraft ownership business. As of December 31, 2017, estimated future payments under such arrangements were as follows: \$13.0 billion in 2018, \$3.8 billion in 2019, \$3.1 billion in 2020, \$2.6 billion in 2021, \$2.4 billion in 2022 and \$15.0 billion after 2022.

In 2016, NICO entered into a definitive agreement to acquire Medical Liability Mutual Insurance Company (“MLMIC”), a writer of medical professional liability insurance domiciled in New York. MLMIC reported assets and policyholders’ surplus determined under statutory accounting principles as of September 30, 2017 were approximately \$5.8 billion and \$2.2 billion, respectively. The acquisition price will be approximately \$2.5 billion. The acquisition will involve the conversion of MLMIC from a mutual company to a stock company. The closing of the transaction is subject to various regulatory approvals and customary closing conditions and the approval of the MLMIC policyholders eligible to vote on the proposed demutualization and sale. We currently expect this acquisition will be completed in the third quarter of 2018.

On October 3, 2017, we entered into an investment agreement and an equity purchase agreement whereby we acquired a 38.6% interest in Pilot Travel Centers LLC, d/b/a Pilot Flying J (“Pilot Flying J”). Pilot Flying J, headquartered in Knoxville, Tennessee, is one of the largest operators of travel centers in North America, with more than 27,000 team members, 750 locations across the U.S. and Canada, and approximately \$20 billion in annual revenues. The Haslam family currently owns a 50.1% interest in Pilot Flying J and a third party owns the remaining 11.3% interest. We also entered into an agreement to acquire in 2023 an additional 41.4% interest in Pilot Flying J with the Haslam family retaining a 20% interest. As a result, Berkshire will become the majority owner of Pilot Flying J in 2023.

We own a 50% interest in a joint venture, Berkadia Commercial Mortgage LLC (“Berkadia”), with Leucadia National Corporation (“Leucadia”) owning the other 50% interest. Berkadia is a servicer of commercial real estate loans in the U.S., performing primary, master and special servicing functions for U.S. government agency programs, commercial mortgage-backed securities transactions, banks, insurance companies and other financial institutions. A significant source of funding for Berkadia’s operations is through the issuance of commercial paper, which is supported by a surety policy issued by a Berkshire insurance subsidiary. Leucadia is obligated to indemnify us for one-half of any losses incurred under the policy. Berkadia’s maximum outstanding balance of commercial paper borrowings is currently limited to \$1.5 billion. On December 31, 2017, Berkadia’s commercial paper outstanding was \$1.47 billion.

Notes to Consolidated Financial Statements (Continued)**(22) Contingencies and Commitments (Continued)**

Pursuant to the terms of agreements with noncontrolling shareholders in our less than wholly-owned subsidiaries, we may be obligated to acquire their equity interests. If we acquired all outstanding noncontrolling interests as of December 31, 2017, we estimate the cost would have been approximately \$5.3 billion. However, the timing and the amount of any such future payments that might be required are contingent on future actions of the noncontrolling owners.

(23) Business segment data

Our operating businesses include a large and diverse group of insurance, finance, manufacturing, service and retailing businesses. We organize our reportable business segments in a manner that reflects how management views those business activities. Certain businesses are grouped together for segment reporting based upon similar products or product lines, marketing, selling and distribution characteristics, even though those business units are operated under separate local management.

The tabular information that follows shows data of reportable segments reconciled to amounts reflected in our Consolidated Financial Statements. Intersegment transactions are not eliminated from segment results when management considers those transactions in assessing the results of the respective segments. Furthermore, our management does not consider investment and derivative gains/losses, amortization of certain purchase accounting adjustments related to Berkshire's business acquisitions or certain other corporate income and expense items in assessing the financial performance of operating units. Collectively, these items are included in reconciliations of segment amounts to consolidated amounts.

Business Identity**Business Activity****Insurance:**

GEICO

Underwriting private passenger automobile insurance mainly by direct response methods

Berkshire Hathaway Reinsurance Group

Underwriting excess-of-loss, quota-share and facultative reinsurance worldwide (General Re Group and NICO Group)

Berkshire Hathaway Primary Group

Underwriting multiple lines of property and casualty insurance policies for primarily commercial accounts

BNSF

Operation of one of the largest railroad systems in North America

Berkshire Hathaway Energy

Regulated electric and gas utility, including power generation and distribution activities and real estate brokerage activities

Manufacturing

Manufacturers of numerous products including industrial, consumer and building products

McLane Company

Wholesale distribution of groceries and non-food items

Service and retailing

Providers of numerous services including fractional aircraft ownership programs, aviation pilot training, electronic components distribution and various retailing businesses, including automotive dealerships

Finance and financial products

Manufactured housing and related consumer financing, transportation equipment, manufacturing and leasing and furniture leasing

Notes to Consolidated Financial Statements (Continued)
(23) Business segment data (Continued)

A disaggregation of our consolidated data for each of the three most recent years is presented in the tables which follow (in millions).

	Revenues			Earnings before income taxes		
	2017	2016	2015	2017	2016	2015
Operating Businesses:						
Insurance:						
Underwriting:						
GEICO	\$ 29,441	\$ 25,483	\$ 22,718	\$ (310)	\$ 462	\$ 460
Berkshire Hathaway Reinsurance Group	24,013	14,141	13,182	(3,648)	1,012	553
Berkshire Hathaway Primary Group	7,143	6,257	5,394	719	657	824
Insurance underwriting	60,597	45,881	41,294	(3,239)	2,131	1,837
Investment income	4,911	4,522	4,562	4,902	4,482	4,550
Total insurance	65,508	50,403	45,856	1,663	6,613	6,387
BNSF	21,387	19,829	21,967	6,328	5,693	6,775
Berkshire Hathaway Energy	18,939	17,859	18,231	2,584	2,973	2,851
Manufacturing	50,445	46,506	36,136	6,861	6,211	4,893
McLane Company	49,775	48,075	48,223	299	431	502
Service and retailing	26,313	25,478	23,466	2,083	1,820	1,720
Finance and financial products	8,376	7,675	6,964	2,058	2,130	2,086
	240,743	215,825	200,843	21,876	25,871	25,214
Reconciliation to consolidated amount:						
Investment and derivative gains/losses	2,128	8,304	10,347	2,128	8,304	10,347
Interest expense, not allocated to segments	—	—	—	(1,494)	(230)	(374)
Investments in Kraft Heinz	—	180	852	2,938	1,103	730
Corporate, eliminations and other	(734)	(705)	(1,099)	(1,610)	(1,381)	(971)
	<u>\$242,137</u>	<u>\$223,604</u>	<u>\$210,943</u>	<u>\$23,838</u>	<u>\$33,667</u>	<u>\$34,946</u>
	Interest expense			Income tax expense		
	2017	2016	2015	2017	2016	2015
Operating Businesses:						
Insurance	\$ —	\$ —	\$ —	\$ (55)	\$1,585	\$ 1,475
BNSF	1,016	992	928	2,369	2,124	2,527
Berkshire Hathaway Energy	2,254	1,715	1,830	178	403	450
Manufacturing	189	164	50	2,155	1,945	1,548
McLane Company	19	—	13	94	169	195
Service and retailing	56	50	40	726	669	651
Finance and financial products	397	411	384	723	702	708
	3,931	3,332	3,245	6,190	7,597	7,554
Reconciliation to consolidated amount:						
Investment and derivative gains/losses	—	—	—	742	1,807	3,622
Interest expense, not allocated to segments	1,494	230	374	(523)	(81)	(131)
Investments in Kraft Heinz	—	—	—	832	397	(111)
Income tax net benefit – Tax Cuts and Jobs Act of 2017	—	—	—	(28,200)	—	—
Corporate, eliminations and other	(31)	(65)	(104)	(556)	(480)	(402)
	<u>\$5,394</u>	<u>\$3,497</u>	<u>\$3,515</u>	<u>\$(21,515)</u>	<u>\$9,240</u>	<u>\$10,532</u>

Notes to Consolidated Financial Statements (Continued)
(23) Business segment data (Continued)

	Capital expenditures			Depreciation of tangible assets		
	2017	2016	2015	2017	2016	2015
Operating Businesses:						
Insurance	\$ 170	\$ 128	\$ 115	\$ 84	\$ 85	\$ 77
BNSF	3,256	3,819	5,651	2,304	2,079	1,932
Berkshire Hathaway Energy	4,571	5,090	5,875	2,548	2,560	2,451
Manufacturing	1,905	1,813	1,292	1,357	1,287	938
McLane Company	289	258	338	193	165	161
Service and retailing	587	804	574	583	611	504
Finance and financial products	930	1,042	2,237	650	624	610
	<u>\$11,708</u>	<u>\$12,954</u>	<u>\$16,082</u>	<u>\$7,719</u>	<u>\$7,411</u>	<u>\$6,673</u>
	Goodwill at year-end		Identifiable assets at year-end			
	2017	2016	2017	2016	2015	
Operating Businesses:						
Insurance	\$15,499	\$15,474	\$297,048	\$234,037	\$219,451	
BNSF	14,845	14,845	69,438	69,277	66,613	
Berkshire Hathaway Energy	9,935	9,266	80,195	76,428	74,221	
Manufacturing	32,981	32,041	72,630	69,900	34,141	
McLane Company	734	734	6,090	5,896	5,871	
Service and retailing	5,771	5,745	18,215	17,450	16,299	
Finance and financial products	1,493	1,381	40,392	40,329	37,621	
	<u>\$81,258</u>	<u>\$79,486</u>	<u>584,008</u>	<u>513,317</u>	<u>454,217</u>	
Reconciliation to consolidated amount:						
Corporate and other			36,829	28,051	35,332	
Goodwill			81,258	79,486	62,708	
			<u>\$702,095</u>	<u>\$620,854</u>	<u>\$552,257</u>	

Premiums written and earned by the property/casualty and life/health insurance businesses are summarized below (in millions).

	Property/Casualty			Life/Health		
	2017	2016	2015	2017	2016	2015
Premiums Written:						
Direct	\$39,377	\$34,001	\$30,544	\$ 866	\$1,060	\$ 821
Assumed	17,815	8,037	7,049	4,925	4,672	5,187
Ceded	(694)	(798)	(877)	(47)	(62)	(57)
	<u>\$56,498</u>	<u>\$41,240</u>	<u>\$36,716</u>	<u>\$5,744</u>	<u>\$5,670</u>	<u>\$5,951</u>
Premiums Earned:						
Direct	\$37,755	\$33,207	\$29,608	\$ 866	\$1,060	\$ 821
Assumed	17,813	7,848	6,584	4,866	4,671	5,192
Ceded	(677)	(843)	(854)	(26)	(62)	(57)
	<u>\$54,891</u>	<u>\$40,212</u>	<u>\$35,338</u>	<u>\$5,706</u>	<u>\$5,669</u>	<u>\$5,956</u>

Notes to Consolidated Financial Statements (Continued)
(23) Business segment data (Continued)

Insurance premiums written by geographic region (based upon the domicile of the insured or reinsured) are summarized below. Dollars are in millions.

	Property/Casualty			Life/Health		
	2017	2016	2015	2017	2016	2015
United States	\$50,604	\$35,878	\$31,171	\$3,320	\$3,473	\$3,247
Asia Pacific	3,307	3,616	3,472	879	715	673
Western Europe	1,516	1,406	1,638	909	822	1,263
All other	1,071	340	435	636	660	768
	<u>\$56,498</u>	<u>\$41,240</u>	<u>\$36,716</u>	<u>\$5,744</u>	<u>\$5,670</u>	<u>\$5,951</u>

Consolidated sales and service revenues were \$132.9 billion in 2017, \$125.7 billion in 2016 and \$112.4 billion in 2015. In 2017 and 2016, 85% of such revenues were attributable to the United States compared to 87% in 2015. The remainder of sales and service revenues were primarily in Europe, Canada and the Asia Pacific. Consolidated sales and service revenues included sales to Walmart Stores, Inc. of approximately \$14 billion in 2017 and 2016 and \$13 billion in 2015. Approximately 95% of our revenues for each of the last three years from railroad, utilities and energy businesses were in the United States. At December 31, 2017, approximately 89% of our consolidated net property, plant and equipment was located in the United States with the remainder primarily in Canada and Europe.

(24) Quarterly data

A summary of revenues and net earnings by quarter for each of the last two years follows. This information is unaudited. Amounts are in millions, except per share amounts.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2017				
Revenues	\$65,187	\$57,518	\$60,525	\$58,907
Net earnings attributable to Berkshire shareholders *	4,060	4,262	4,067	32,551
Net earnings attributable to Berkshire shareholders per equivalent Class A common share	2,469	2,592	2,473	19,790
2016				
Revenues	\$52,163	\$54,254	\$58,843	\$58,344
Net earnings attributable to Berkshire shareholders *	5,589	5,001	7,198	6,286
Net earnings attributable to Berkshire shareholders per equivalent Class A common share	3,401	3,042	4,379	3,823

* Includes after-tax investment and derivative gains/losses and a one-time income tax net benefit attributable to the enactment of the Tax Cuts and Jobs Act of 2017 as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Investment and derivative gains/losses – 2017	\$ 504	\$ 143	\$ 623	\$ 107
Investment and derivative gains/losses – 2016	1,852	394	2,347	1,904
Income tax net benefit – Tax Cuts and Jobs Act of 2017	—	—	—	28,200

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None

Item 9A. Controls and Procedures

At the end of the period covered by this Annual Report on Form 10-K, the Corporation carried out an evaluation, under the supervision and with the participation of the Corporation's management, including the Chairman (Chief Executive Officer) and the Senior Vice President (Chief Financial Officer), of the effectiveness of the design and operation of the Corporation's disclosure controls and procedures pursuant to Exchange Act Rule 13a-15. Based upon that evaluation, the Chairman (Chief Executive Officer) and the Senior Vice President (Chief Financial Officer) concluded that the Corporation's disclosure controls and procedures are effective in timely alerting them to material information relating to the Corporation (including its consolidated subsidiaries) required to be included in the Corporation's periodic SEC filings. The report called for by Item 308(a) of Regulation S-K is incorporated herein by reference to Management's Report on Internal Control Over Financial Reporting, included on page K-60 of this report. The attestation report called for by Item 308(b) of Regulation S-K is incorporated herein by reference to Report of Independent Registered Public Accounting Firm, included on page K-61 of this report. There has been no change in the Corporation's internal control over financial reporting during the quarter ended December 31, 2017 that has materially affected, or is reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Item 9B. Other Information

None

Part III

Except for the information set forth under the caption "Executive Officers of the Registrant" in Part I hereof, information required by this Part (Items 10, 11, 12, 13 and 14) is incorporated by reference from the Registrant's definitive proxy statement, filed pursuant to Regulation 14A, for the Annual Meeting of Shareholders of the Registrant to be held on May 5, 2018, which meeting will involve the election of directors.

Part IV

Item 15. Exhibits and Financial Statement Schedules

(a) *1. Financial Statements*

The following Consolidated Financial Statements, as well as the Report of Independent Registered Public Accounting Firm, are included in Part II Item 8 of this report:

	<u>PAGE</u>
Report of Independent Registered Public Accounting Firm	K-61
Consolidated Balance Sheets—	
December 31, 2017 and December 31, 2016	K-62
Consolidated Statements of Earnings—	
Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-64
Consolidated Statements of Comprehensive Income—	
Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-65
Consolidated Statements of Changes in Shareholders' Equity—	
Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-65
Consolidated Statements of Cash Flows—	
Years Ended December 31, 2017, December 31, 2016, and December 31, 2015	K-66
Notes to Consolidated Financial Statements	K-67

2. Financial Statement Schedule

Report of Independent Registered Public Accounting Firm	K-105
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Schedule I—Parent Company Condensed Financial Information

Balance Sheets as of December 31, 2017 and 2016, Statements of Earnings and Comprehensive Income and Cash Flows for the years ended December 31, 2017, December 31, 2016 and December 31, 2015 and Note to Condensed Financial Information	K-106
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Other schedules are omitted because they are not required, information therein is not applicable, or is reflected in the Consolidated Financial Statements or notes thereto.

(b) *Exhibits*

See the “Exhibit Index” at page K-108.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of
Berkshire Hathaway Inc.
Omaha, Nebraska

We have audited the consolidated financial statements of Berkshire Hathaway Inc. and subsidiaries (the “Company”) as of December 31, 2017 and 2016, and for each of the three years in the period ended December 31, 2017, and the Company’s internal control over financial reporting as of December 31, 2017, and have issued our report thereon dated February 23, 2018; such consolidated financial statements and reports are included elsewhere in this Form 10-K. Our audits also included the financial statement schedule of the Company listed in the Index at Item 15. This financial statement schedule is the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements schedules based on our audits. In our opinion, such financial statement schedules, when considered in relation to the financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

/s/ Deloitte & Touche LLP
Omaha, Nebraska
February 23, 2018

BERKSHIRE HATHAWAY INC.
(Parent Company)
Condensed Financial Information
(Dollars in millions)
Schedule I
Balance Sheets

	December 31,	
	2017	2016
Assets:		
Cash and cash equivalents	\$ 4,039	\$ 3,221
Short-term investments in U.S. Treasury Bills	13,132	8,220
Investments in fixed maturity and equity securities and other assets	79	59
Investments in and advances to/from consolidated subsidiaries	335,668	276,467
Investments in The Kraft Heinz Company	17,635	15,345
	<u>\$370,553</u>	<u>\$303,312</u>
Liabilities and Shareholders' Equity:		
Accounts payable, accrued interest and other liabilities	\$ 196	\$ 182
Income taxes, principally deferred	3,294	3,357
Notes payable and other borrowings	18,767	17,703
	22,257	21,242
Berkshire Hathaway shareholders' equity	348,296	282,070
	<u>\$370,553</u>	<u>\$303,312</u>

Statements of Earnings and Comprehensive Income

	Year ended December 31,		
	2017	2016	2015
Income items:			
From consolidated subsidiaries:			
Dividends	\$ 5,367	\$ 9,862	\$10,519
Undistributed earnings	37,832	13,264	8,508
	43,199	23,126	19,027
Investment gains/losses	(1)	700	16
Investment holding gain in The Kraft Heinz Company	—	—	6,838
Equity in net earnings of The Kraft Heinz Company	2,938	923	(122)
Other income	350	262	963
	<u>46,486</u>	<u>25,011</u>	<u>26,722</u>
Cost and expense items:			
General and administrative	159	80	73
Interest expense	1,530	208	302
Income taxes	(143)	649	2,264
	<u>1,546</u>	<u>937</u>	<u>2,639</u>
Net earnings attributable to Berkshire Hathaway shareholders	44,940	24,074	24,083
Other comprehensive income attributable to Berkshire Hathaway shareholders	21,273	3,316	(8,750)
Comprehensive income attributable to Berkshire Hathaway shareholders	<u>\$66,213</u>	<u>\$27,390</u>	<u>\$15,333</u>

See Note to Condensed Financial Information

BERKSHIRE HATHAWAY INC.
(Parent Company)
Condensed Financial Information
(Dollars in millions)
Schedule I (continued)
Statements of Cash Flows

	Year ended December 31,		
	2017	2016	2015
Cash flows from operating activities:			
Net earnings attributable to Berkshire Hathaway shareholders	\$ 44,940	\$ 24,074	\$24,083
Adjustments to reconcile net earnings to cash flows from operating activities:			
Investment gains/losses	1	(700)	(6,854)
Undistributed earnings of consolidated subsidiaries	(37,832)	(13,264)	(8,508)
Non-cash dividends from consolidated subsidiaries	—	—	(3,938)
Income taxes payable	(135)	629	2,227
Other	(1,234)	(161)	222
Net cash flows from operating activities	5,740	10,578	7,232
Cash flows from investing activities:			
Redemption (purchase) of Kraft Heinz Company investments	—	8,320	(5,258)
Investments in and advances to/repayments from consolidated subsidiaries, net	(239)	(26,398)	(2,274)
Purchases of U.S. Treasury Bills	(19,663)	(9,350)	—
Sales and maturities of U.S. Treasury Bills	14,847	1,145	—
Net cash flows from investing activities	(5,055)	(26,283)	(7,532)
Cash flows from financing activities:			
Proceeds from borrowings	1,201	9,278	3,165
Repayments of borrowings	(1,145)	(1,125)	(1,775)
Other	77	164	70
Net cash flows from financing activities	133	8,317	1,460
Increase (decrease) in cash and cash equivalents	818	(7,388)	1,160
Cash and cash equivalents at beginning of year	3,221	10,609	9,449
Cash and cash equivalents at end of year	\$ 4,039	\$ 3,221	\$10,609
Other cash flow information:			
Income taxes paid	\$ 2,076	\$ 3,583	\$ 3,180
Interest paid	386	307	206
Non-cash investments in consolidated subsidiaries	—	—	3,938

Note to Condensed Financial Information

In December 2017, the Tax Cuts and Jobs Act of 2017 (“TCJA”) was enacted, which reduced the Parent Company’s income tax expense in 2017 by \$550 million, primarily due to the reduction in deferred tax liabilities attributable to the lower U.S. statutory rate, partly offset by a one-time income tax expense on certain accumulated undistributed earnings of foreign subsidiaries. The effects of the TCJA on income tax expense of consolidated subsidiaries is included in undistributed earnings in consolidated subsidiaries.

In 2013, the Parent Company invested \$12.25 billion in H.J. Heinz Holding Corporation (“Heinz Holding”), an entity formed to acquire H.J. Heinz Company, which included common stock and warrants and cumulative compounding preferred stock. After a series of transactions in 2015, Berkshire’s interests in Heinz Holding became a 26.8% ownership of outstanding common stock of The Kraft Heinz Company (“Kraft Heinz”) and is currently 26.7% of such shares. Reference is made to Note 5 to the Consolidated Financial Statements for additional information concerning Berkshire’s investments in Kraft Heinz.

In January 2017, Berkshire issued €1.1 billion in senior notes consisting of €550 million of 0.25% notes due in 2021 and €550 million of 0.625% notes due in 2023, which increased Euro denominated notes to €6.85 billion. In 2017, the carrying value of Berkshire’s Euro denominated senior notes increased \$990 million due to changes in the Euro/U.S. Dollar exchange rates. This increase produced a corresponding charge to pre-tax earnings of \$990 million in 2017. Parent Company debt maturities over the next five years are as follows: 2018—\$1,550 million; 2019—\$753 million; 2020—\$1,203 million; 2021—\$2,160 million and 2022—\$613 million. Berkshire guarantees debt obligations of certain of its subsidiaries, which as of December 31, 2017, totaled approximately \$14.8 billion. Such guarantees are an absolute, unconditional and irrevocable guarantee for the full and prompt payment when due of all present and future payment obligations. Berkshire also provides guarantees in connection with equity index put option contracts and certain retroactive reinsurance contracts of subsidiaries. The amounts of subsidiary payments under these contracts, if any, is contingent upon the outcome of future events.

EXHIBIT INDEX

Exhibit No.

- 2(i) Agreement and Plan of Merger dated as of June 19, 1998 between Berkshire and General Re Corporation.
[Incorporated by reference to Annex I to Registration Statement No. 333-61129 filed on Form S-4.](#)
- 2(ii) [Agreement and Plan of Merger dated as of November 2, 2009 by and among Berkshire, R Acquisition Company, LLC and BNSF. Incorporated by reference to Annex A to Registration Statement No. 333-163343 on Form S-4.](#)
- 2(iii) Agreement and Plan of Merger dated August 8, 2015, by and among Berkshire, NW Merger Sub Inc. and Precision Castparts Corporation (“PCC”)
[Incorporated by reference to Exhibit 2.1 to PCC’s Current Report on Form 8-K filed on August 10, 2015 \(SEC File No. 001-10348\)](#)
- 3(i) Restated Certificate of Incorporation
[Incorporated by reference to Exhibit 3\(i\) to Form 10-K filed on March 2, 2015.](#)
- 3(ii) By-Laws
[Incorporated by reference to Exhibit 3\(ii\) to Form 8-K filed on May 4, 2016.](#)
- 4.1 Indenture, dated as of December 22, 2003, between Berkshire Hathaway Finance Corporation, Berkshire Hathaway Inc. and The Bank of New York Mellon Trust Company, N.A. (as successor to J.P. Morgan Trust Company, National Association), as trustee.
[Incorporated by reference to Exhibit 4.1 on Form S-4 of Berkshire Hathaway Finance Corporation and Berkshire Hathaway Inc. filed on February 4, 2004. SEC File No. 333-112486](#)
- 4.2 Indenture, dated as of February 1, 2010, among Berkshire Hathaway Inc., Berkshire Hathaway Finance Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee.
[Incorporated by reference to Exhibit 4.1 to Berkshire’s Registration Statement on Form S-3 filed on February 1, 2010. SEC File No. 333-164111](#)
- 4.3 Indenture, dated as of January 26, 2016, by and among Berkshire Hathaway Inc., Berkshire Hathaway Finance Corporation and The Bank of New York Mellon Trust Company, N.A., as trustee.
[Incorporated by reference to Exhibit 4.1 to Berkshire’s Registration Statement on Form S-3 filed on January 26, 2016. SEC File No. 333-209122](#)
- 4.4 Indenture, dated as of December 1, 1995, between BNSF and The First National Bank of Chicago, as trustee.
[Incorporated by reference to Exhibit 4 on Form S-3 of BNSF filed on February 8, 1999.](#)
- 4.5 Indenture, dated as of October 4, 2002, by and between MidAmerican Energy Holdings Company and The Bank of New York, Trustee.
[Incorporated by reference to Exhibit 4.1 to the Berkshire Hathaway Energy Company Registration Statement No. 333-101699 dated December 6, 2002.](#)
- Other instruments defining the rights of holders of long-term debt of Registrant and its subsidiaries are not being filed since the total amount of securities authorized by all other such instruments does not exceed 10% of the total assets of the Registrant and its subsidiaries on a consolidated basis as of December 31, 2017. The Registrant hereby agrees to furnish to the Commission upon request a copy of any such debt instrument to which it is a party.**
- 10.1 [Equity Commitment Letter of Berkshire Hathaway Inc. with Hawk Acquisition Holding Corporation dated February 13, 2013. Incorporated by reference to Exhibit 10.1 on Form 8-K of Berkshire Hathaway Inc. filed on February 14, 2013.](#)
- 12 [Calculation of Ratio of Consolidated Earnings to Consolidated Fixed Charges](#)
- 14 Code of Ethics
Berkshire’s Code of Business Conduct and Ethics is posted on its Internet website at www.berkshirehathaway.com
- 18 [Letter re change in accounting principle](#)
- 21 [Subsidiaries of Registrant](#)
- 23 [Consent of Independent Registered Public Accounting Firm](#)
- 31.1 [Rule 13a—14\(a\)/15d-14\(a\) Certification](#)
- 31.2 [Rule 13a—14\(a\)/15d-14\(a\) Certification](#)
- 32.1 [Section 1350 Certification](#)
- 32.2 [Section 1350 Certification](#)
- 95 [Mine Safety Disclosures](#)
- 101 The following financial information from Berkshire Hathaway Inc.’s Annual Report on Form 10-K for the year ended December 31, 2017, formatted in XBRL (Extensible Business Reporting Language) includes: (i) the Consolidated Balance Sheets as of December 31, 2017 and 2016, (ii) the Consolidated Statements of Earnings for each of the three years ended December 31, 2017, 2016 and 2015, (iii) Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2017, 2016 and 2015, (iv) the Consolidated Statements of Changes in Shareholders’ Equity for each of the three years ended December 31, 2017, 2016 and 2015, (v) the Consolidated Statements of Cash Flows for each of the three years ended December 31, 2017, 2016 and 2015 and (vi) the Notes to Consolidated Financial Statements and Schedule I, tagged in summary and detail.

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.

BERKSHIRE HATHAWAY INC.

Date: February 23, 2018

/S/ MARC D. HAMBURG

Marc D. Hamburg
Senior Vice President and
Principal Financial Officer

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 and on the dates indicated.

/S/ WARREN E. BUFFETT Warren E. Buffett	Chairman of the Board of Directors—Chief Executive Officer	February 23, 2018 Date
/S/ GREGORY E. ABEL Gregory E. Abel	Director—Vice Chairman—Non Insurance Operations	February 23, 2018 Date
/S/ HOWARD G. BUFFETT Howard G. Buffett	Director	February 23, 2018 Date
/S/ STEPHEN B. BURKE Stephen B. Burke	Director	February 23, 2018 Date
/S/ SUSAN L. DECKER Susan L. Decker	Director	February 23, 2018 Date
/S/ WILLIAM H. GATES III William H. Gates III	Director	February 23, 2018 Date
/S/ DAVID S. GOTTESMAN David S. Gottesman	Director	February 23, 2018 Date
/S/ CHARLOTTE GUYMAN Charlotte Guyman	Director	February 23, 2018 Date
/S/ AJIT JAIN Ajit Jain	Director—Vice Chairman—Insurance Operations	February 23, 2018 Date
/S/ CHARLES T. MUNGER Charles T. Munger	Director—Vice Chairman	February 23, 2018 Date
/S/ THOMAS S. MURPHY Thomas S. Murphy	Director	February 23, 2018 Date
/S/ RONALD L. OLSON Ronald L. Olson	Director	February 23, 2018 Date
/S/ WALTER SCOTT, JR. Walter Scott, Jr.	Director	February 23, 2018 Date
/S/ MERYL B. WITMER Meryl B. Witmer	Director	February 23, 2018 Date
/S/ MARC D. HAMBURG Marc D. Hamburg	Senior Vice President—Principal Financial Officer	February 23, 2018 Date
/S/ DANIEL J. JAKSICH Daniel J. Jaksich	Vice President—Principal Accounting Officer	February 23, 2018 Date

BERKSHIRE HATHAWAY INC.
Calculation of Ratio of Consolidated Earnings to Consolidated Fixed Charges
(Dollars in millions)

	Year Ended December 31,				
	2017	2016	2015	2014	2013
Net earnings attributable to Berkshire Hathaway shareholders	\$ 44,940	\$24,074	\$24,083	\$19,872	\$19,476
Income tax expense	(21,515)	9,240	10,532	7,935	8,951
Earnings attributable to noncontrolling interests	413	353	331	298	369
Equity in net (earnings) loss of The Kraft Heinz Company	(2,938)	(923)	122	26	262
Dividends from Kraft Heinz Company	797	952	366	—	—
Fixed charges (1)	4,529	4,439	4,065	3,882	3,386
Earnings available for fixed charges	<u>\$ 26,226</u>	<u>\$38,135</u>	<u>\$39,499</u>	<u>\$32,013</u>	<u>\$32,444</u>
Fixed charges					
Interest expense, including amortization	\$ 3,927	\$ 3,741	\$ 3,446	\$ 3,253	\$ 2,801
Rentals representing interest and capitalized interest	602	698	619	629	585
	<u>\$ 4,529</u>	<u>\$ 4,439</u>	<u>\$ 4,065</u>	<u>\$ 3,882</u>	<u>\$ 3,386</u>
Ratio of earnings to fixed charges	<u>5.79x</u>	<u>8.59x</u>	<u>9.72x</u>	<u>8.25x</u>	<u>9.58x</u>

(1) Includes recurring interest expense and excludes foreign currency exchange losses related to Berkshire's Euro denominated debt and losses from prepayments of debt.

**Letter from Deloitte & Touche LLP
Independent Registered Public Accounting Firm,
Regarding Change in Accounting Principle**

February 23, 2018

Berkshire Hathaway Inc.
3555 Farnam Street
Omaha, Nebraska 68131

Dear Sirs/Madams:

We have audited the consolidated financial statements of Berkshire Hathaway Inc. and subsidiaries as of December 31, 2017 and 2016, and for each of the three years in the period ended December 31, 2017, included in your Annual Report on Form 10-K to the Securities and Exchange Commission and have issued our report thereon dated February 23, 2018, which expresses an unqualified opinion. Note 1 to such consolidated financial statements contains a description of your adoption during the year ended December 31, 2017 of discontinuing the practice of discounting workers' compensation claims liabilities assumed under certain reinsurance contracts. In our judgment, such change is to an alternative accounting principle that is preferable under the circumstances.

Yours truly,

/s/ Deloitte & Touche LLP

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
Acme Brick Company	Delaware
Acme Building Brands, Inc.	Delaware
Albecca Inc.	Georgia
AltaLink Holdings, L.P.	Canada
AltaLink Investments, L.P.	Canada
AltaLink, L.P.	Canada
Applied Underwriters Captive Risk Assurance Company, Inc.	Iowa
Applied Underwriters, Inc.	Nebraska
Ben Bridge Corporation	Washington
Ben Bridge Jeweler, Inc.	Washington
Benjamin Moore & Co.	New Jersey
Benjamin Moore & Co., Limited	Canada
Benson Industries, Inc.	Oregon
Berkshire Hathaway Assurance Corporation	New York
Berkshire Hathaway Automotive Inc.	Delaware
Berkshire Hathaway Credit Corporation	Nebraska
Berkshire Hathaway Energy Company	Iowa
Berkshire Hathaway Finance Corporation	Delaware
Berkshire Hathaway Homestate Insurance Company	Nebraska
Berkshire Hathaway International Insurance Limited	United Kingdom
Berkshire Hathaway Life Insurance Company of Nebraska	Nebraska
Berkshire Hathaway Specialty Insurance Company	Nebraska
BH Finance LLC	Nebraska
BH Media Group, Inc.	Delaware
BH Shoe Holdings, Inc.	Delaware
BHE AltaLink Ltd.	Canada
BHE Canada Holdings Corporation	Canada
BHE Canada, LLC	Delaware
BHE Renewables, LLC	Delaware
BHE U.S. Transmission, LLC	Delaware
BHSF, Inc.	Delaware
BNSF Railway Company	Delaware
Boat America Corporation	Virginia
Borsheim Jewelry Company, Inc.	Nebraska
Brooks Sports, Inc.	Washington
Burlington Northern Santa Fe, LLC	Delaware
Bushwick Metals LLC	Delaware
Business Wire, Inc.	Delaware
California Insurance Company	California
Campbell Hausfeld, LLC	Delaware
Cannon-Muskegon Corporation	Michigan
Carlton Forge Works	California
Central States Indemnity Co. of Omaha	Nebraska
Central States of Omaha Companies, Inc.	Nebraska
Cerro Flow Products LLC	Delaware
Cerro Wire LLC	Delaware
Charter Brokerage Holdings Corp.	Delaware
Charter Brokerage Holdings, LLC	Delaware
Charter Brokerage LLC	New York
Chemtool Incorporated	Delaware
Clayton Homes, Inc.	Delaware

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
CMH Capital, Inc.	Delaware
CMH Homes, Inc.	Tennessee
CMH Manufacturing, Inc.	Tennessee
Columbia Insurance Company	Nebraska
Continental Indemnity Company	Iowa
Cornelius, Inc.	Minnesota
CORT Business Services Corporation	Delaware
CTB International Corp.	Indiana
Cubic Designs, Inc.	Wisconsin
Cypress Insurance Company	California
Designed Metal Connections, Inc.	Delaware
Detlev Louis Motorrad-Vertriebsgesellschaft GmbH	Germany
Duracell (China) Limited	China
Duracell Batteries BVBA	Belgium
Duracell International Operations Sàrl	Switzerland
Duracell Manufacturing, Inc.	Delaware
Duracell U.S. Holding LLC	Delaware
Duracell U.S. Operations, Inc.	Delaware
Ecowater Systems LLC	Delaware
Empire Distributors of North Carolina, Inc.	Georgia
Empire Distributors, Inc.	Georgia
EXSIF Worldwide, Inc.	Delaware
Faraday Underwriting Limited	United Kingdom
FlightSafety International Inc.	New York
FlightSafety Services Corporation	Delaware
Forest River Manufacturing, LLC	Indiana
Forest River, Inc.	Indiana
Freedom Warehouse Corp.	Nevada
Freo Group Pty Ltd	Australia
Fruit of the Loom, Inc.	Delaware
Garan, Incorporated	Virginia
GEICO Advantage Insurance Company	Nebraska
GEICO Casualty Company	Maryland
GEICO Choice Insurance Company	Nebraska
GEICO Corporation	Delaware
GEICO General Insurance Company	Maryland
GEICO Indemnity Company	Maryland
GEICO Secure Insurance Company	Nebraska
Gen Re Intermediaries Corporation	New York
General Re Corporation	Delaware
General Re Financial Products Corporation	Delaware
General Re Life Corporation	Connecticut
General Reinsurance Africa Ltd.	South Africa
General Reinsurance AG	Germany
General Reinsurance Australia Ltd	Australia
General Reinsurance Corporation	Delaware
General Reinsurance Life Australia Ltd.	Australia
General Star Indemnity Company	Delaware
General Star National Insurance Company	Delaware
Genesis Insurance Company	Delaware
Global Cranes Pty Ltd	Australia

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
Government Employees Insurance Company	Maryland
GRD Holdings Corporation	Delaware
H. H. Brown Shoe Company, Inc.	Delaware
Helzberg's Diamond Shops, Inc.	Missouri
Henley Holdings, LLC	Delaware
Homemakers Plaza, Inc.	Iowa
HomeServices of America, Inc.	Delaware
Huntington Alloys Corporation	Delaware
IMC (Germany) Holdings GmbH	Germany
IMC International Metalworking Companies B.V.	Netherlands
Ingersoll Cutting Tool Company	Delaware
Ingersoll Werkzeuge GmbH	Germany
International Dairy Queen, Inc.	Delaware
Iscar Ltd.	Israel
Johns Manville	Delaware
Johns Manville Corporation	Delaware
Johns Manville Slovakia, a.s.	Slovakia
Jordan's Furniture, Inc.	Massachusetts
Justin Brands, Inc.	Delaware
Justin Industries, Inc.	Texas
Kahn Ventures, Inc.	Georgia
Kern River Gas Transmission Company	Texas
KR Holding, LLC	Delaware
L. A. Darling Company LLC	Delaware
Larson-Juhl US LLC	Georgia
Lipotec, S.A.	Spain
LiquidPower Specialty Products Inc.	Delaware
Lubrizol (Gibraltar) Limited Luxembourg SCS	Luxembourg
Lubrizol Advanced Materials Europe BVBA	Belgium
Lubrizol Advanced Materials Gibraltar, Inc.	Delaware
Lubrizol Advanced Materials International, LLC	Delaware
Lubrizol Advanced Materials, Inc.	Delaware
Lubrizol France SAS	France
Lubrizol Group, LLP	United Kingdom
Lubrizol Holdings France SAS	France
Lubrizol Holdings Netherlands B.V.	Netherlands
Lubrizol International, Inc.	Cayman Islands
Lubrizol Luxembourg S.a.r.l.	Luxembourg
Lubrizol Oilfield Solutions, Inc.	Delaware
Lubrizol Overseas Trading Corporation	Delaware
Lubrizol Southeast Asia (Pte.) Ltd.	Singapore
M&M Manufacturing, Inc.	Delaware
Marmon Beverage Technologies, Inc.	Delaware
Marmon Crane Services, Inc.	Delaware
Marmon Distribution Services, Inc.	Delaware
Marmon Energy Services Company	Delaware
Marmon Engineered Components Company	Delaware
Marmon Food, Beverage & Water Technologies Company LLC	Delaware
Marmon Highway Technologies LLC	Delaware
Marmon Holdings, Inc.	Delaware
Marmon Retail & Highway Technologies Company LLC	Delaware

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
Marmon Retail Technologies Company	Delaware
Marmon Transportation Services LLC	Delaware
Marmon Tubing, Fittings & Wire Products, Inc.	Delaware
Marmon Water, Inc.	Delaware
Marmon Wire & Cable, Inc.	Delaware
Marmon/Keystone LLC	Delaware
Marquis Jet Holdings, Inc.	Delaware
Marquis Jet Partners, Inc.	Delaware
McLane Company, Inc.	Texas
McLane Foodservice, Inc.	Texas
Meadowbrook Meat Company, Inc.	North Carolina
MedPro Group Inc	Indiana
Meyn Food Processing Technology B.V.	Netherlands
Meyn Holding B.V.	Netherlands
MHC Inc.	Iowa
MidAmerican Energy Company	Iowa
MidAmerican Funding, LLC	Iowa
MiTek Industries, Inc.	Delaware
Mount Vernon Fire Insurance Company	Pennsylvania
Mouser Electronics, Inc.	Delaware
National Fire & Marine Insurance Company	Nebraska
National Indemnity Company	Nebraska
National Indemnity Company of Mid-America	Iowa
National Indemnity Company of the South	Florida
National Liability & Fire Insurance Company	Connecticut
Nebraska Furniture Mart, Inc.	Nebraska
Nederlandse Reassurantie Groep N.V.	Netherlands
NetJets Aviation, Inc.	Delaware
NetJets Inc.	Delaware
NetJets Sales, Inc.	Delaware
Nevada Power Company	Nevada
NFM of Kansas, Inc.	Kansas
NNGC Acquisition, LLC	Delaware
North American Casualty Co.	Nebraska
Northern Electric plc.	United Kingdom
Northern Natural Gas Company	Delaware
Northern Powergrid (Northeast) Limited	United Kingdom
Northern Powergrid (Yorkshire) plc.	United Kingdom
Northern Powergrid Holdings Company	United Kingdom
Northern Powergrid Limited	United Kingdom
Northern Powergrid UK Holdings	United Kingdom
NV Energy, Inc.	Nevada
NVE Holdings, LLC	Delaware
Oak River Insurance Company	Nebraska
Old United Casualty Company	Kansas
Old United Life Insurance Company	Arizona
Oriental Trading Company, Inc.	Delaware
OTC Brands, Inc.	Delaware
OTC Worldwide Holdings, Inc.	Delaware
PacifiCorp	Oregon
PCC Airfoils LLC	Mexico

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
PCC Structurals, Inc.	Oregon
PLICO, Inc.	Oklahoma
PPW Holdings LLC	Delaware
Precision Castparts Corp.	Oregon
Precision Steel Warehouse, Inc.	Illinois
Primus International Inc.	Washington
Princeton Insurance Company	New Jersey
Procor Limited	Canada
Procrane Holdings, Inc.	Delaware
Procrane Inc.	Canada
R. C. Willey Home Furnishings	Utah
Railsplitter Holdings Corporation	Delaware
Redwood Fire and Casualty Insurance Company	Nebraska
Richline Group, Inc.	Delaware
RSCC Wire & Cable LLC	Delaware
Russell Brands, LLC	Delaware
Sager Electrical Supply Co. Inc	Massachusetts
Schuller GmbH	Germany
Scott Fetzer Company	Delaware
Scott Fetzer Financial Group, Inc.	Delaware
See's Candies, Inc.	California
See's Candy Shops, Inc.	California
Shaw Contract Flooring Services, Inc.	Georgia
Shaw Industries Group, Inc.	Georgia
Shaw Industries, Inc.	Georgia
Sierra Pacific Power Company	Nevada
Söfft Shoe Company, LLC	Delaware
Special Metals Corporation	Delaware
SPS Technologies, LLC	Pennsylvania
Star Furniture Company	Texas
Sterling Crane LLC	Delaware
TaeguTec Ltd.	Korea
The Buffalo News, Inc.	Delaware
The Duracell Company	Delaware
The Fechheimer Brothers Company	Delaware
The Lubrizol Corporation	Ohio
The Marmon Group of Canada Ltd.	Canada
The Medical Protective Company	Indiana
The Pampered Chef, Ltd.	Illinois
Titanium Metals Corporation	Delaware
TTI, Inc.	Delaware
Tungaloy Corporation	Japan
U.S. Investment Corporation	Pennsylvania
U.S. Underwriters Insurance Company	North Dakota
Unarco Industries LLC	Delaware
Union Tank Car Company	Delaware
Union Underwear Company, Inc.	Delaware
United States Liability Insurance Company	Pennsylvania
UTLX Company	Delaware
Vanderbilt Mortgage and Finance, Inc.	Tennessee

BERKSHIRE HATHAWAY INC.
Subsidiaries of Registrant (1)
December 31, 2017

<u>Company Name</u>	<u>Domicile or State of Incorporation</u>
Vanity Fair Brands, LP	Delaware
Webb Wheel Products, Inc.	Delaware
Wells Lamont LLC	Delaware
WestGUARD Insurance Company	Pennsylvania
World Book/Scott Fetzer Company, Inc.	Nebraska
Worldwide Containers, Inc.	Delaware
WPLG, Inc.	Delaware
Wyman-Gordon Company	Massachusetts
Wyman-Gordon Forgings, Inc.	Delaware
XTRA Companies, Inc.	Delaware
XTRA Corporation	Delaware
XTRA Finance Corporation	Delaware
XTRA Lease LLC	Delaware
XTRA LLC	Maine
Yorkshire Electricity Group plc.	United Kingdom
Yorkshire Power Group Limited	United Kingdom
21st Mortgage Corporation	Delaware

- (1) Each of the named subsidiaries is not necessarily a “significant subsidiary” as defined in Rule 1-02(w) of Regulation S-X, and Berkshire has several additional subsidiaries not named above. The unnamed subsidiaries, considered in the aggregate as a single subsidiary, would not constitute a “significant subsidiary” at the end of the year covered by this report.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement No. 333-209122 on Form S-3 and Registration Statement Nos. 333-215556, 333-53046, 333-64284, 333-70609, 333-74312, 333-75612, 333-101662, 333-164961, 333-164959, 333-164958, 333-111614, 333-179855, 333-194948 and 333-203130 on Form S-8 of our reports dated February 23, 2018, relating to the consolidated financial statements and financial statement schedules of Berkshire Hathaway Inc., and the effectiveness of Berkshire Hathaway Inc.'s internal control over financial reporting, appearing in the Annual Report on Form 10-K of Berkshire Hathaway Inc. for the year ended December 31, 2017.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 23, 2018

FORM 10-K

Year ended December 31, 2017

Rule 13a-14(a)/15d-14(a) Certifications

CERTIFICATIONS

I, Warren E. Buffett, certify that:

1. I have reviewed this annual report on Form 10-K of Berkshire Hathaway Inc.;
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 23, 2018

/s/ WARREN E. BUFFETT

Chairman—Principal Executive Officer

FORM 10-K

Year ended December 31, 2017

Rule 13a-14(a)/15d-14(a) Certifications

CERTIFICATIONS

I, Marc D. Hamburg, certify that:

1. I have reviewed this annual report on Form 10-K of Berkshire Hathaway Inc.;
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 23, 2018

/s/ MARC D. HAMBURG

Senior Vice President—Principal Financial Officer

FORM 10-K

Section 1350 Certifications

Year ended December 31, 2017

I, Warren E. Buffett, Chairman and Chief Executive Officer of Berkshire Hathaway Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that to the best of my knowledge:

- (1) the Annual Report on Form 10-K of the Company for the period ended December 31, 2017 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 23, 2018

/s/ WARREN E. BUFFETT

Warren E. Buffett
Chairman and Chief Executive Officer

FORM10-K

Section 1350 Certifications

Year ended December 31, 2017

I, Marc D. Hamburg, Senior Vice President and Chief Financial Officer of Berkshire Hathaway Inc. (the "Company"), certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that to the best of my knowledge:

- (1) the Annual Report on Form 10-K of the Company for the period ended December 31, 2017 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 23, 2018

/s/ MARC D. HAMBURG

Marc D. Hamburg
Senior Vice President and Chief Financial Officer

MINE SAFETY VIOLATIONS AND OTHER LEGAL MATTER DISCLOSURES
PURSUANT TO SECTION 1503(a) OF THE DODD-FRANK WALL STREET
REFORM AND CONSUMER PROTECTION ACT

PacifiCorp and its subsidiaries operate coal mines and coal processing facilities and Acme Brick and its affiliates operate clay, shale and limestone excavation facilities (collectively, the “mining facilities”) that are regulated by the Federal Mine Safety and Health Administration (“MSHA”) under the Federal Mine Safety and Health Act of 1977 (the “Mine Safety Act”). MSHA inspects mining facilities on a regular basis. The total number of reportable Mine Safety Act citations, orders, assessments and legal actions for the year ended December 31, 2017 are summarized in the table below and are subject to contest and appeal. The severity and assessment of penalties may be reduced or, in some cases, dismissed through the contest and appeal process. Amounts are reported regardless of whether PacifiCorp or Acme has challenged or appealed the matter. Clay and other reserves that are not yet mined and mines that are closed or idled are not included in the information below as no reportable events occurred at those locations during the year ended December 31, 2017. PacifiCorp and Acme have not received any notice of a pattern, or notice of the potential to have a pattern, of violations of mandatory health or safety standards that are of such nature as could have significantly and substantially contributed to the cause and effect of coal or other mine health or safety hazards under Section 104(e) of the Mine Safety Act during the year ended December 31, 2017.

	Mine Safety Act					Total Value of Proposed MSHA Assessments (in thousands)	Total Number of Mining Related Fatalities	Legal Actions		
	Section 104 Significant and Substantial Citations (1)	Section 104(b) Orders (2)	Section 104(d) Citations/Orders (3)	Section 110(b)(2) Violations (4)	Section 107(a) Imminent Danger Orders (5)			Pending as of Last Day of Period (6)	Instituted During Period	Resolved During Period
Mining Facilities										
Coal:										
Bridger (surface)	—	—	—	—	—	\$ 3	—	—	1	6
Bridger (underground)	20	—	—	—	1	79	1	2	9	11
Wyodak Coal Crushing Facility	—	—	—	—	—	—	—	—	—	—
Clay, shale and limestone:										
Malvern	—	—	—	—	—	—	—	—	—	—
Wheeler	—	—	—	—	—	—	—	—	—	—
Fort Smith	—	—	—	—	—	—	—	—	—	—
Oklahoma City	—	—	—	—	—	—	—	—	—	—
Tulsa	—	—	—	—	—	—	—	—	—	—
Denver	—	—	—	—	—	—	—	—	—	—
Bennett	—	—	—	—	—	—	—	—	—	—
Denton	—	—	—	—	—	—	—	—	—	—
Elgin	—	—	—	—	—	—	—	—	—	—
Sealy	—	—	—	—	—	—	—	—	—	—
Texas Clay	—	—	—	—	—	—	—	—	—	—
Leeds	—	—	—	—	—	—	—	—	—	—
Montgomery	—	—	—	—	—	—	—	—	—	—
Lueders	—	—	—	—	—	—	—	—	—	—
Cordova	—	—	—	—	—	—	—	—	—	—

- (1) Citations for alleged violations of mandatory health and safety standards that could significantly or substantially contribute to the cause and effect of a safety or health hazard under Section 104 of the Mine Safety Act.
- (2) For alleged failure to totally abate the subject matter of a Mine Safety Act Section 104(a) citation within the period specified in the citation.
- (3) For alleged unwarrantable failure (i.e., aggravated conduct constituting more than ordinary negligence) to comply with a mandatory health or safety standard.
- (4) For alleged flagrant violations (i.e., reckless or repeated failure to make reasonable efforts to eliminate a known violation of a mandatory health or safety standard that substantially and proximately caused, or reasonably could have been expected to cause, death or serious bodily injury).
- (5) For the existence of any condition or practice in a coal or other mine which could reasonably be expected to cause death or serious physical harm before such condition or practice can be abated. The imminent danger order under Section 107(a) of the Mine Safety Act at Bridger underground mine was abated and subsequently terminated by MSHA.
- (6) Amounts include two contests of proposed penalties under Subpart C of the Federal Mine Safety and Health Review Commission’s procedural rules. The pending legal actions are not exclusive to citations, notices, orders and penalties assessed by MSHA during the reporting period.