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

**FORM 10-K
ANNUAL REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2016

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 the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

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

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

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, 2016: \$278,053,000,000*

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

February 16, 2017—Class A common stock, \$5 par value	774,680 shares
February 16, 2017—Class B common stock, \$0.0033 par value	1,304,592,522 shares

DOCUMENTS INCORPORATED BY REFERENCE

<u>Document</u>	<u>Incorporated In</u>
Proxy Statement for Registrant's Annual Meeting to be held May 6, 2017	Part III

* This aggregate value is computed at the last sale price of the common stock on June 30, 2016. It does not include the value of Class A common stock (316,766 shares) and Class B common stock (70,408,573 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.

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Part I

Item 1. Business

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 office senior management 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 367,700 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 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.

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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. This strength differentiates Berkshire’s insurance companies from their competitors. Collectively, the aggregate statutory surplus of Berkshire’s U.S. based insurers was approximately \$136 billion at December 31, 2016. 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.” In 2017, coverage under TRIA occurs when the industry insured loss for certified events occurring during a calendar year exceeds \$140 million. Under the 2015 TRIA Reauthorization, the level of insured losses for certified events occurring during a 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.

In the event of a certified act of terrorism, the federal government will reimburse insurers (conditioned on their satisfaction of policyholder notification requirements) for 83% 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 2017 for Berkshire’s consolidated insurance and reinsurance businesses 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 comprise the following sub-groups: (1) GEICO and its subsidiaries, (2) General Re and its subsidiaries, (3) Berkshire Hathaway Reinsurance Group and (4) Berkshire Hathaway Primary Group. Except for retroactive reinsurance and structured settlement and periodic payment annuity reinsurance 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 subsidiaries employ approximately 44,000 people. Additional information related to each of Berkshire’s four 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

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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 to provide insurance and financial services for buyers 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.

GEICO competes for private passenger auto insurance customers with other companies that sell directly to the customer as well as with companies that use agency sales forces. 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 38% over the past five years. GEICO was the second largest private passenger auto insurer in the United States in terms of premium volume in 2016. According to most recently published A.M. Best data, the five largest automobile insurers had a combined market share in 2015 of approximately 54%, with GEICO's market share being approximately 11.4%. Since the publication of that data, management believes that GEICO's current market share has grown to approximately 12%. 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 stringently 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.

General Re—General Re Corporation ("General Re") is the holding company of General Reinsurance Corporation ("GRC") and its subsidiaries and affiliates. GRC's subsidiaries include General Reinsurance AG, ("GRAG"), a major international reinsurer based in Germany. General Re subsidiaries currently conduct business activities globally in 45 cities and provide insurance and reinsurance coverages throughout the world. General Re provides property/casualty insurance and reinsurance, life/health reinsurance and other reinsurance intermediary and risk management services, underwriting management and investment management services. General Re is one of the largest reinsurers in the world based on premium volume and shareholder capital.

Property/Casualty Insurance and Reinsurance

General Re's property/casualty reinsurance business in North America is conducted through GRC, which is domiciled in Delaware and licensed in the District of Columbia and all states but Hawaii, where it is an accredited reinsurer. Property/casualty operations in North America are headquartered in Stamford, Connecticut, and are also conducted through 13 branch offices in the U.S. and Canada. Reinsurance activities are marketed directly to clients without involving a broker or intermediary. In 2016, approximately 41% of net written premiums in North America related to casualty reinsurance coverages and 41% related to property reinsurance coverages.

General Re's property/casualty business in North America also includes specialty insurers domiciled in Delaware. General Star is a specialty and surplus lines provider, underwriting a broad array of property, casualty and professional liability business through a select group of wholesale brokers, managing general underwriters and program administrators. Genesis is an alternative risk insurance provider, offering solutions for the unique needs of public entity, commercial and captive customers. In 2016, these specialty insurers represented approximately 18% of General Re's North American property/casualty net written premiums.

General Re's international property/casualty reinsurance business operations are conducted through internationally-based subsidiaries on a direct basis (without intermediaries) via General Reinsurance AG as well as several other General Re subsidiaries and branches in 18 countries. Coverages are written on both a quota-share and excess basis for multiple lines, including property, aviation and casualty. In 2016, international-based property/casualty operations principally wrote reinsurance on a direct basis in the form of treaties, with lesser amounts written on a facultative basis. International property/casualty 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.

Life/Health Reinsurance

General Re's North American life/health business segments include life, disability, supplemental health, critical illness and long-term care. The international life/health business is segmented by geographic region and transacts business worldwide. The principal business segments include life, disability, critical illness, health and long-term care. The life/health business is marketed on a direct basis. In 2016, approximately 34% of life/health net premiums were written in the United States, 22% in Western Europe and the remaining 44% throughout the rest of the world.

Berkshire Hathaway Reinsurance Group—Berkshire Hathaway Reinsurance Group ("BHRG") operations are based in Stamford, Connecticut. Business activities are conducted through numerous subsidiaries, led by National Indemnity Company ("NICO") and Columbia Insurance Company ("Columbia"). BHRG provides principally excess and quota-share reinsurance to other property and casualty insurers and reinsurers. BHRG also offers life reinsurance and annuity contracts through Berkshire Hathaway Life Insurance Company of Nebraska ("BHLN").

The type and volume of insurance and reinsurance business written by BHRG is dependent on current market conditions, including prevailing premium rates and coverage terms. The level of BHRG's 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.

BHRG underwrites traditional non-catastrophe property and casualty insurance and reinsurance, catastrophe excess-of-loss treaty and facultative reinsurance, and individual primary insurance policies on an excess-of-loss basis for primarily large or otherwise unusual discrete risks, referred to as "individual risk." BHRG periodically participates in underwriting placements with major brokers in the London Market through a wholly-owned subsidiary based in Great Britain. BHRG's business is written through intermediary brokers or directly with the insured or reinsured.

Effective July 1, 2015, NICO entered into a 10-year, 20% quota-share reinsurance agreement with Insurance Australia Group Limited ("IAG"). IAG is a large insurance group that currently writes multiple lines of business in Australia, New Zealand and other Asia Pacific countries.

BHRG periodically assumes risks under retroactive reinsurance contracts. Retroactive reinsurance contracts afford protection to ceding companies against the adverse development of claims arising from events that have already occurred and that are insured under policies issued in prior years. Coverage under such contracts is provided on an excess basis or for losses payable immediately after the inception of the contract. Coverage provided is normally subject to large aggregate limits of indemnification. Significant amounts of asbestos, environmental and latent injury claims may arise under these contracts.

In BHRG's retroactive reinsurance business, the concept of time-value-of-money is an important element in establishing prices and contract terms, since the payment of losses under the insurance contracts are often expected to occur over long time periods. Losses payable under these policies are normally expected to exceed premiums and therefore, produce underwriting losses. This business is accepted, in part, because of the large amounts of policyholder funds ("float") generated for investment, the economic benefit of which will be reflected through investment results in future periods.

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 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.

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, 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 for a premium of about \$10 billion.

BHLN writes periodic payment annuity insurance policies and reinsures existing annuity-like obligations. Under these policies, it receives upfront premiums and makes a stream of annuity payments in the future and payment streams often extend for decades. 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. BHLN also writes reinsurance covering various forms of traditional life insurance. 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.

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Berkshire Hathaway Primary Group—The Berkshire Hathaway Primary Group (“BH Primary”) is a collection of independently managed primary insurance operations 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 standalone 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. The volume of workers’ compensation business written in recent years has grown significantly. BHHC serves a diverse client base. BHHC’s business is generated primarily through independent agents and brokers.

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 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 of 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 underwrite and market a wide variety of specialty insurance products.

Applied Underwriters, Inc. (“Applied”) is a leading 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 reduce the risks and remove the burden of administrative and regulatory requirements faced by small to mid-sized employers. Applied also markets a workers’ compensation product with a profit sharing component targeted to medium-sized employers.

WestGUARD Insurance Company and its subsidiaries (collectively, the Berkshire Hathaway GUARD Insurance Companies) provides commercial property and casualty insurance coverage to small and mid-sized businesses and is based in Wilkes-Barre, Pennsylvania. Central States Indemnity Company of Omaha, based in Omaha, Nebraska, primarily writes Medicare Supplement insurance and credit insurance.

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.

Property and casualty loss liabilities

Berkshire’s property and casualty insurance companies establish liabilities for estimated unpaid losses and loss adjustment expenses with respect to claims occurring on or before the balance sheet date. Such estimates include provisions for reported claims or case estimates, provisions for incurred-but-not-reported claims and legal and administrative costs to settle claims. The estimates of unpaid losses and amounts recoverable under reinsurance are established and continually reviewed by using a variety of actuarial, statistical and analytical techniques. Reference is made to Note 14 to the Consolidated Financial Statements included in Item 8 and “Critical Accounting Policies,” included in Item 7 of this Report.

Investments—Invested assets of insurance businesses 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

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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 \$91 billion at the end of 2016, primarily through internal growth. BHRG and General Re accounted for approximately 69% of the consolidated float as of December 31, 2016. Over the past five years, Berkshire's cost of float was negative, as insurance businesses produced net underwriting gains.

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 headquarters. Generally, there are no targeted investment allocation rates established by management with respect to investment activities. However, investment portfolios have historically included a much greater proportion of equity investments 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 42,000 employees at the end of 2016.

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, 2016, approximately 35% of freight revenues were derived from consumer products, 25% from industrial products, 22% from agricultural products and 18% 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 commodities 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. This regulation has the effect of increasing the cost 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 and have been 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 now 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

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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 2016 was approximately 50.1%.

Utilities and Energy Businesses—Berkshire Hathaway Energy

Berkshire currently owns approximately 90% of the outstanding common stock of Berkshire Hathaway Energy Company (or "BHE"). BHE is a global energy company with subsidiaries that generate, transmit, store, distribute and supply energy. BHE's businesses are managed as separate operating units. BHE's domestic regulated energy interests are comprised of four regulated utility companies serving approximately 4.7 million retail customers, two interstate natural gas pipeline companies with approximately 16,400 miles of pipeline and a design capacity of approximately 7.9 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 21,000 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, PacifiCorp sells electricity on a wholesale basis.

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 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 electric customers in southern Nevada and Sierra Pacific serves 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 27,600 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

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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 utilities 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. AltaLink receives all of its regulated transmission tariffs from the Alberta Electric System Operator (“AESO”) based on tariffs approved by the Alberta Utilities Commission (“AUC”).

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 4,000 net megawatts of generation capacity that are in service or under construction in California, Illinois, Nebraska, Texas, 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.

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.

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AltaLink is regulated by the 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 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 is the Clean Power Plan, 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. Applying the Best System of Emission Reduction, the EPA established uniform subcategory specific emission performance rates of 771 pounds per megawatt hour for natural gas combined cycle units and 1,305 pounds per megawatt hour for coal-fueled generating units and utilized these emission rates to establish the applicable state-by-state emission rates. The final Clean Power Plan compliance obligations begin in 2022, and extend through 2030. When fully

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implemented the rule would achieve an overall reduction in carbon dioxide emissions from existing fossil-fueled electric generating units of 32% below 2005 levels. The final Clean Power Plan provides states the option to implement rate-based plans that limit the pounds per megawatt hour their affected generating units can emit or mass-based plans that limit the total tons of emissions from affected sources as well as to allow their affected units to engage in emission trading in either a mass- or rate-based plan. States were required under the final rule to submit initial plans to the EPA by September 6, 2016. However, on February 9, 2016, the United States Supreme Court ordered that the EPA's emission guidelines for existing sources be stayed pending the disposition of the challenges to the rule in the D.C. Circuit Court of Appeals and any action on a writ of certiorari before the United States Supreme Court. The case has been fully briefed and oral argument was held before the D.C. Circuit Court of Appeals on September 27, 2016; the court has not yet issued its decision. The full impacts of the final rule or the federal plan on BHE and its energy subsidiaries cannot be determined until the outcome of the pending litigation and subsequent appeals, the outcome of any issues should the case be remanded for further action by the EPA, the development and implementation of state plans, and finalization of the federal plan.

BHE continues to take actions to mitigate greenhouse gas emissions. For example, as of December 31, 2016, BHE has invested \$19 billion in solar, wind, geothermal and biomass generation.

Non-Energy Businesses

BHE also owns HomeServices of America, Inc. ("HomeServices"), 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 38 brand names with over 29,000 agents in nearly 540 brokerage offices in 28 states.

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 375 franchisees in over 1,500 brokerage offices in 47 states with over 46,000 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 these activities follows.

Industrial products

Lubrizol Corporation

The Lubrizol Corporation ("Lubrizol") is a specialty chemical company that produces and supplies technologies for the global transportation, industrial, oilfield 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's products are used in a broad range of applications including engine oils, transmission fluids, gear oils, specialty driveline lubricants, fuel additives, refineries and oilfields, pipelines, metalworking fluids, compressor lubricants, greases for transportation and industrial applications, 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

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which it competes. Its 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. Principal oilfield chemicals competitors include Nalco Energy Services, Baker Hughes Inc., Schlumberger Ltd., and Halliburton Company.

From a base of approximately 3,240 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 32 countries (including production facilities in 19 countries and laboratories in 15 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 2016, 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

Berkshire acquired an 80% interest in IMC International Metalworking Companies B.V. ("IMC") in 2006. On April 29, 2013, Berkshire acquired the remaining 20% noncontrolling interests of IMC. Through its subsidiaries, 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 manufacturing facilities are located mainly 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 its end user's needs and requirements.

IMC's global sales and marketing network has representatives 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 and Korloy also play a significant role in the cutting tool market.

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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, clad pipe, 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, screen cylinders 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 casting methods. PCC uses this process to manufacture products for aircraft engines, IGT 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 clad 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 to customers are individual purchase orders generated from long-term agreements. Most orders are subject to termination by the customer upon payment of the cost of work in process, plus a related profit factor. 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.

Marmon Holdings

Berkshire currently owns 99.75% of Marmon Holdings, Inc. ("Marmon"), a holding company comprised of four autonomous companies consisting of fifteen diverse business sectors and approximately 175 independent manufacturing and service businesses. Marmon operates approximately 370 manufacturing, distribution and service facilities, which are located

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primarily in the United States, as well as in 22 other countries worldwide. Mammon's transportation equipment manufacturing, repair and leasing businesses (UTLX Company) discussed in the Finance and Financial Products businesses section of this Item. Mammon's other diversified manufacturing and service operations are referred to as "Mammon manufacturing" and discussed further below.

Mammon manufacturing includes Mammon Engineered Components Company ("Engineered Components"), Mammon Food, Beverage & Water Technologies Company ("Food, Beverage & Water"), Mammon Retail & Highway Technologies Company ("Retail & Highway") and the Engineered Wire & Cable operations within Mammon Energy Services Company ("Energy Services"). The *Engineered Wire & Cable* sector supplies electrical and electronic wire and cable for energy related markets and other industries.

Engineered Components includes: *Metals Distribution/Services and Wire Products*—provides specialty metal pipe, tubing, beams and related value-added services to markets such as construction, aerospace, industrial, and many others, and electrical building wire for residential, commercial and industrial buildings; *Tubing & Fitting*—supplies copper tube for the plumbing, HVAC and refrigeration markets, and aluminum tubing, brass fittings and valves for many commercial and industrial applications; and *Industrial Products*—provides construction fasteners, fastener coatings, custom-machined aluminum and brass forgings for construction, recreation and other industries, hand and arm protective wear, portable lighting equipment for mining and safety markets, and overhead electrification equipment for mass transit systems.

Food, Beverage & Water includes: *Foodservice Technologies*—supplies commercial food equipment for restaurants, fast food chains and hotels; *Beverage Technologies*—produces beverage dispensing and cooling equipment for foodservice retailers as well as on-shelf management systems for single-serve beverages and a wide range of pre-tooled stock solutions for in-store applications; and *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 & Highway includes: *Retail Store Equipment*—provides shelving systems, merchandising solutions, shopping carts, and other related services to retail stores in addition to material handling and security carts and automation equipment for several other industries; *Retail Science*—delivers retail market solutions to brands and retailers including merchandising displays, in-store digital merchandising and marketing programs; *Retail Products*—supplies a variety of products through the home center and other retail channels, including extension cords, work and garden gloves, and air compressors along with related tools and accessories; *Automotive Solutions*—serves the light vehicle automotive aftermarket industry primarily with clutches and engine mounts; and *Highway Technologies*—serves the heavy-duty highway transportation industry with fifth wheel coupling solutions, trailers, wheel-end products such as brake drums, undercarriage products such as severe duty axles and suspension systems, and truck modification services.

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.

The Scott Fetzer companies are a diversified group of businesses that manufacture, distribute, service and finance a wide variety of products for residential, industrial and institutional use. The most significant of these businesses are Kirby home care systems and related businesses.

On February 26, 2014, Berkshire acquired a global supplier of pipeline flow improver products from Phillips 66. The business, headquartered in Houston, Texas, was initially named Lubrizol Specialty Products, Inc. and in 2016 was renamed LiquidPower Specialty Products Inc.

Berkshire's industrial products manufacturers employ approximately 70,000 persons.

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Building Products

Shaw Industries

Shaw Industries Group, Inc. ("Shaw"), headquartered in Dalton, Georgia, is the world's largest carpet manufacturer based on both revenue and volume of production. Shaw designs and manufactures over 3,800 styles of tufted carpet, laminate and wood flooring for residential and commercial use under about 30 brand and trade names and under certain private labels. Shaw also provides installation services and sells ceramic and vinyl tile along with sheet vinyl. Shaw's manufacturing operations are fully integrated from the processing of raw materials used to make fiber through the finishing of carpet. 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. During 2014, Shaw exited the woven rug business. In 2016, Shaw acquired USFloors, Inc. which is a leading innovator and marketer of wood-plastic composite flooring, as well as cork, bamboo and hardwood products.

Shaw products are sold wholesale to over 30,000 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 2,600 salaried and commissioned sales personnel directly to retailers and distributors and to large national accounts. Shaw's seven carpet, four hard surface and one 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 2016, 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 insulation, mechanical insulation, industrial insulation, commercial roofing and roof insulation, as well as fibers and nonwovens for commercial, industrial and residential applications. JM serves markets that include aerospace, automotive and transportation, air handling, appliance, HVAC, pipe insulation, filtration, waterproofing, building, flooring, interiors 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.

The basic material in a significant number of JM's products is fiber glass, made from proprietary organic and acrylic-based formaldehyde-free agents to bind many of its glass fibers. JM's products contain materials other than fiber glass, 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 for JM 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 include are the 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 fiber glass and mineral wool manufacturing industries. While the new rules implement new emission standards, they are not expected to require material expenditures by JM to meet the compliance dates in 2017.

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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 determined based on the sustainable and energy efficient attributes of its products, services and operations.

MiTek Industries

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 (5) years, intended to diversify product offerings and reducing the impact of the cyclical global housing markets.

In the residential market MiTek is the world's 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 USP® Structural Connectors name.

MiTek's commercial market business includes products and services sold to the commercial construction industry. Product offering include curtain wall systems (Benson Industries, Inc.), anchoring systems for masonry and stone (Hohmann & Bamard, 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.).

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.).

A significant raw material used 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*®, *MoorGard*®, *ben*®, *Eco Spec*®, *Coronado*®, *Corotech*®, *Insl-x*® and *Lenmar*®.

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 *Insl-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.

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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 26 clay brick manufacturing facilities at 22 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 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 38,000 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 2016, approximately 41% of FOL’s sales were to Wal-Mart. In 2015, FOL exited an unprofitable intimate apparel business in Europe.

FOL generally performs its own knitting, cloth finishing, cutting, sewing and packaging for apparel. For the North American market which comprised about 85% of FOL’s net sales in 2016, the majority of its cloth manufacturing was performed in Honduras. Labor-intensive cutting, sewing and packaging operations are located in lower labor cost facilities 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 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 2017. 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.

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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 Wal-Mart 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.

Justin Brands and H.H. Brown Shoe Group manufacture and distribute work, rugged outdoor and casual shoes and western-style footwear under a number of brand names, including *Justin*, *Tony Lama*®, *Nocona*®, *Chippewa*®, *BÖRN*®, *B•O•C*®, *Carolina*®, *Söffi*, *Double-H Boots*®, *Eürosoft*®, 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. Since 2011, *Brooks*® has maintained a #1 market share position in the running specialty channel in the United States. 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 RV 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 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, Forest River's principal market, is very competitive. Competition is based primarily on price, design, quality and service.

Berkshire acquired the Duracell Company ("Duracell"), on February 26, 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, each representing 10% of Duracell's annual revenue. There are several competitors in the battery manufacturing market with Duracell holding an approximately 37% 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, does business 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, equipment and other framing supplies in the U.S., Canada and 13 countries outside of North America.

Richline Group, Inc. is the business platform providing financial, operations and marketing support to its four independent strategic business units: Richline Jewelry, LeachCamer, Rio Grande and Inverness. Each business unit is uniquely 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.

Berkshire's consumer products manufacturers employ approximately 53,000 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 a variety of media related businesses (newspaper, television and information distribution), franchising and servicing a large system of quick service restaurants, as well as steel service and logistics businesses. Berkshire's service businesses employ approximately 22,000 people. Information concerning these activities follows.

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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 Wal-Mart Stores, Inc. (“Wal-Mart”), 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 over 10% of McLane’s revenues in 2016. A curtailment of purchasing by Wal-Mart 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 47,000 retail locations nationwide, including Wal-Mart. McLane’s grocery distribution unit operates 23 facilities in 19 states.

McLane’s foodservice distribution unit, based in Carrollton, Texas, focuses on serving the quick service restaurant industry with high quality, timely-delivered products. Operations are conducted through 18 facilities in 16 states. The foodservice distribution unit services approximately 22,000 chain restaurants nationwide. Additionally in 2012, McLane acquired Meadowbrook Meat Company (MBM), a large customized foodservice distributor for national restaurant chains operating from 34 distribution facilities in 14 states. MBM services approximately 14,000 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, Empire Distributors, Horizon Wine & Spirits, Delta Wholesale Liquors, B&T Distributing and Baroness Small Estates, service approximately 26,000 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. and foreign governments. FlightSafety primarily 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 fractional ownership programs for general aviation aircraft. NetJets’ executive offices and U.S. operations are 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 fractional ownership concept is designed to meet the needs of customers who cannot justify the purchase of an entire aircraft based upon expected usage. In addition, fractional 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.

NetJets’ fractional aircraft ownership programs permit customers to acquire a specific percentage of a certain aircraft type and allow customers to utilize the aircraft for a specified number of flight hours per annum. In addition, NetJets offers prepaid flight cards and aviation solutions that provide aircraft management, ground support and flight operation services under a number of programs including NetJets Shares™, NetJets Leases™ and the Marquis Jet Card®.

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NetJets is subject to the rules and regulations of the 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. NetJets places great emphasis on safety and customer service. Its programs are designed to offer customers guaranteed availability of aircraft, low and predictable operating costs and increased liquidity.

TTI, Inc.

TTI, Inc. ("TTI"), headquartered in Fort Worth, Texas, is a global specialty distributor of passive, interconnect, electromechanical and discrete 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 services a variety of industries including telecommunications, medical devices, computers and office equipment, military/aerospace, automotive and consumer electronics. TTI's business model covers design through production in the electronic component supply chain and consists of its core business, which supports high volume production business and its Mouser division, which supports a broader base of customers with lower volume purchases.

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. In 2012, TTI acquired Sager Electrical Supply Company, Inc. ("Sager"), a leading distributor of electronic components headquartered in Middleborough, Massachusetts. Sager's business is focused on becoming a power specialist in the electronics distribution market. During the past two years, PowerGate, LLC and Norvell Electronics, Inc. were acquired to strengthen Sager's value-added sales capabilities as well as market position as a power specialist in the North American market.

Other services

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 88% 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 46 weekly newspapers in upstate New York, New Jersey, Nebraska, Iowa, Oklahoma, Texas, Virginia, Tennessee, North Carolina, South Carolina, Alabama and Florida. The newspapers operate primarily in small to mid-sized markets with strong local community connections. In June 2014, Berkshire acquired WPLG, Inc. an ABC affiliate broadcast station in Miami, Florida.

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. Precision Steel operates a metal service center and a manufacturer of tool room specialty and maintenance items both located in the Chicago metropolitan area. The service center buys stainless steel, low carbon sheet and strip steel, coated metals, spring steel and other metals, cuts these metals to order, and sells them to customers involved in a wide variety of industries. The manufacturer of tool room specialty and maintenance items sells its product through industrial distributors.

In December 2014, Berkshire acquired Charter Brokerage ("Charter"), a leading non-asset based third party logistics provider to the petroleum and chemical industries. Charter's service offerings include customs clearance, drawback of duties and taxes and fees, freight forwarding, marine logistics, trading and administration of foreign trade zone storage and distribution facilities. Charter's business activities are primarily subject to U.S. Customs laws and regulations, which deal with the import and export of goods and the assessment of related tariffs and taxes. Charter's offices are located in Connecticut, Texas, New York, Florida, Louisiana and Alberta, Canada.

Berkshire's service businesses employ approximately 45,500 employees.

Retailing Businesses

Berkshire's retailing businesses principally include automotive, home furnishings and several other operations that sell various consumer products. Information regarding each of these operations follows.

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 the 4th largest automotive retailer 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

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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 31 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 and driving revenue.

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 franchised automotive dealerships. Failure to meet the terms of these agreements could adversely impact BHA's ability to make further acquisitions of such manufacturers' stores. Additionally, these agreements contain limitations on the number of dealerships from a specific manufacturer that may be acquired 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 the manufacturer's trademarks. The agreements contain various operational 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 very 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 approximately 6.0 million square feet of buildings and approximately 945 acres of land that are utilized in the BHA dealership and related operations. BHA also develops, underwrites and administers the various vehicle protection plans, life and accident and health insurance plans sold to consumers through the dealerships on products sold by BHA's dealerships as well as 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 are 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. These businesses also 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 very 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. 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.

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. Jordan's operates a furniture retail business from six locations with approximately 755,000 square feet of retail space in stores located in Massachusetts, New Hampshire, Rhode Island and a

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newly-opened store in New Haven, 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 the Massachusetts and New Hampshire areas. Jordan's is well known in its markets for its unique store arrangements and advertising campaigns.

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 223 retail jewelry stores in 36 states, which includes approximately 500,000 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 90 upscale retail jewelry stores located in 11 states primarily in the Western United States and in British Columbia, Canada. Thirty-six 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. Berkshire's retail jewelry operations are subject to seasonality with over one-third of annual revenues generally earned in the fourth quarter.

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 430 Pampered Chef branded kitchenware items in categories ranging from stoneware and cutlery to grilling and entertaining, all of which are curated to help the at-home cook save time. 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, toy novelties, school supplies, educational games and patient giveaways. 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 operates a number of websites and utilizes sophisticated online and print marketing efforts to drive sales and customer satisfaction.

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. In 2016, Louis opened its first store in Switzerland.

Berkshire's retailing businesses employ approximately 30,000 people.

Finance and Financial Products

Berkshire's finance and financial products activities include an integrated manufactured housing and finance business, leasing of transportation equipment, and furniture leasing. Berkshire's finance and financial products businesses employ approximately 24,000 people in the aggregate. Information concerning these activities follows.

Clayton Homes

Clayton Homes, Inc. ("Clayton"), headquartered near Knoxville, Tennessee, is a vertically integrated home building company. Clayton operates 38 manufacturing plants in 12 states. Clayton's homes are marketed in 48 states through a network of 1,923 retailers, including 341 company-owned home centers and 100 subdivisions. Financing is offered through its finance subsidiaries to purchasers of Clayton's manufactured homes as well as those purchasing homes from selected independent retailers.

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Clayton competes at the manufacturing, retail and finance levels based on price, service, delivery capabilities and product performance and considers the ability to make financing available to retail purchasers a major factor affecting the market acceptance of its product. Retail sales are supported by Clayton's offering of various financing and insurance programs.

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. Approximately 72% of the originations are home-only loans and the remaining 28% 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. Originations are all 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 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 134,000 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 in Canada and the U.S. and Freo Group 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 47,000 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, successfully 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. 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 78,000 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 of transportation equipment, 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. Historically, BH Finance LLC also entered into derivative contracts involving foreign currency, equity price and credit default risk. However, such derivative contracts are currently comprised of equity index contracts that were written prior to 2009. BH Finance's activities are managed from Berkshire's corporate headquarters. Management recognizes and accepts that losses may occur due to the nature of these activities as well as the markets in general.

Additional information with respect to Berkshire's businesses

The amounts of revenue, earnings before taxes and identifiable assets attributable to the aforementioned 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 securities, equity securities and other investments is included in Notes 3, 4 and 5 to Berkshire's Consolidated Financial Statements.

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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 6 to the Registrant'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 products, meats, refreshment beverages, coffee and other grocery products under a number of brands, including *Kraft*, *Heinz*, *ABC*, *Capri Sun*, *Classico*, *Jell-O*, *Kool-Aid*, *Lunchables*, *Maxwell House*, *Ore-Ida*, *Oscar Mayer*, *Philadelphia*, *Planters*, *Plasmon*, *Quero*, *Weight Watchers Smart Ones* and *Velveeta*.

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 CEO, age 86, in consultation with Charles T. Munger, Vice Chairman of the Board of Directors, age 93. 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. Berkshire's Board 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. Our operating subsidiaries also need qualified and competent personnel in executing their business plans and serving their customers, suppliers and other stakeholders. Changes in demographics, training requirements and the unavailability of qualified personnel could negatively impact one or more of our significant operating subsidiaries ability to meet demands of customers to supply goods and services. Recruiting and retaining qualified personnel is important to all of our operations. Although we have adequate personnel for the current business environment, unpredictable increases in demand for goods and services may exacerbate the risk of not having sufficient numbers of trained personnel, which could have a negative impact on our operating results, financial condition and liquidity.

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 \$283 billion as of December 31, 2016), 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. Under certain circumstances, as required under existing GAAP, significant declines in the

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fair values of these investments may require the recognition of other-than-temporary impairment losses. In addition, beginning in 2018 due to a pending change in GAAP, all changes in the fair values of these investments (whether realized or unrealized) will be recognized as gains or losses in our consolidated statement of earnings. Accordingly, periodic changes in reported earnings will likely be subject to significant variability.

Since a large percentage of our investments are held in our insurance subsidiaries, a decrease in the fair values of our investments could produce a large decline in statutory surplus. Our large statutory surplus is a competitive advantage, and a material decline could have a materially adverse affect on our claims-paying ability ratings and our ability to write new insurance business thus affecting our future underwriting profitability.

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, our railroad business and our manufactured housing 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 against the United States could hurt our operating businesses.

A successful (as defined by the aggressor) cyber, biological, nuclear or chemical attack against the United States 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 U.S. based 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. 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 exposes 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

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unable to acquire or implement 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, or our customers or suppliers may result in business interruptions, lost revenue, higher commodity prices, disruption in fuel supplies, lower energy consumption, unstable markets, increased security and repair or other costs, any of which 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 as a result of terrorism, sustained or significant cyber attacks, or war could also materially adversely affect our ability to raise capital.

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

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. The valuations of these contracts and the impact on our periodic earnings can be particularly significant reflecting the inherent volatility of equity markets. Adverse changes in equity 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. Except for certain product lines, our objective is to generate underwriting profits over the long-term. Estimating insurance claim costs is inherently imprecise. Our estimated unpaid losses arising under contracts covering property and casualty insurance risks are large (\$77 billion at December 31, 2016) 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.

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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. 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 intercity and commuter passenger railroads operate and where toxic-by-inhalation ("TIH") hazardous materials are transported. Further, federal regulations promulgated in 2015 mandate the implementation of electronically controlled pneumatic braking systems on certain crude oil trains by 2021 and all high-hazard flammable trains, as defined by the Pipeline and Hazardous Materials Safety Administration and Federal Railroad Administration, by 2023. These types of technology require further testing and deploying them across BNSF's railroad system and other railroads 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. Low natural gas prices or oil prices could impact future energy-related commodities demand. To the extent that changes in government environmental 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. Increased economic 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 or change. Regulations affect almost every aspect of our utilities and energy businesses, have broad application and limit their 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 very 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.

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Railroad Business—Burlington Northern Santa Fe

Through BNSF Railway, BNSF operates one of the largest railroad networks in North America. BNSF Railway 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 Railway 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 72,000 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 2016, 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 generation facilities at December 31, 2016:

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	10,917	10,508
Coal	PacifiCorp, MEC and NV Energy	Wyoming, Iowa, Utah, Arizona, Nevada, Colorado and Montana	16,485	9,412
Wind	PacifiCorp, MEC and BHE Renewables	Iowa, Wyoming, Nebraska, Washington, California, Texas, Oregon, Illinois and Kansas	6,199	6,190
Solar	BHE Renewables and NV Energy	California, Arizona, Minnesota and Nevada	1,464	1,316
Hydroelectric	PacifiCorp, MEC and BHE Renewables	Washington, Oregon, The Philippines, Idaho, California, Utah, Hawaii, Montana, Illinois and Wyoming	1,297	1,275
Nuclear	MEC	Illinois	1,824	456
Geothermal	PacifiCorp and BHE Renewables	California and Utah	370	370
		Total	<u>38,556</u>	<u>29,527</u>

(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.

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As of December 31, 2016, BHE's subsidiaries also have electric generating facilities that are under construction in Iowa, and Minnesota having total Facility Net Capacity and Net Owned Capacity of 2,072 MW.

PacifiCorp, MEC and NV Energy own electric transmission and distribution systems, including approximately 24,700 miles of transmission lines and approximately 1,700 substations, gas distribution facilities, including approximately 26,600 miles of gas mains and service lines, and an estimated 44 million tons of recoverable coal reserves in mines owned or leased in Wyoming and Colorado.

Northern Powergrid (Northeast)'s and Northern Powergrid (Yorkshire)'s electricity distribution network includes approximately 18,000 miles of overhead lines, approximately 42,000 miles of underground cables and approximately 750 major substations. AltaLink's electricity transmission system includes approximately 8,200 miles of transmission lines and approximately 300 substations.

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 area into California.

Other Segments

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

Business	Country	Location	Type of Property/Facility	Number of Properties	Owned/Leased
Insurance Group:					
GEICO	U.S.	Chevy Chase, MD and 6 other states	Offices	12	Owned
		Various locations in 38 states	Offices	107	Leased
General Re	U.S.	Stamford, CT	Offices	1	Owned
		Various locations	Offices	25	Leased
	Non-U.S.	Cologne, Germany	Offices	1	Owned
		Various locations in 22 countries	Offices	27	Leased
BHRG	U.S.	Stamford, CT and 4 other states	Offices	6	Leased
	Non-U.S.	Various locations in 5 countries	Offices	9	Leased
BH 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	9	Leased
Manufacturing	U.S.	Various locations	Manufacturing plants	470	Owned
			Manufacturing plants	158	Leased
			Offices/Warehouses	214	Owned
			Offices/Warehouses	398	Leased
			Retail/Showroom	21	Owned
			Retail/Showroom	49	Leased

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Business	Country	Location	Type of Property/Facility	Number of Properties	Owned/Leased
	Non-U.S.	Various locations in over 60 countries	Manufacturing plants	218	Owned
			Manufacturing plants	141	Leased
			Offices/Warehouses	62	Owned
			Offices/Warehouses	533	Leased
			Retail/Showroom	4	Leased
Service	U.S.	Various locations	Training facilities/Hangars	19	Owned
			Training facilities/Hangars	120	Leased
			Offices/Distribution	56	Owned
			Offices/Distribution	175	Leased
			Production facilities	26	Owned
			Production facilities	2	Leased
	Non-U.S.	Various locations in 34 countries	Offices/Distribution/Hangars/Training facilities	19	Owned
			Offices/Distribution/Hangars/Training facilities	130	Leased
McLane Company	U.S.	Various locations	Distribution centers/Offices	57	Owned
			Distribution centers/Offices	36	Leased
Retailing	U.S.	Various locations	Offices/Warehouses/Plants	29	Owned
			Offices/Warehouses	26	Leased
			Retail/Showroom	143	Owned
			Retail/Showroom	560	Leased
	Non-U.S.	Germany Locations in 6 countries	Office/Warehouse	1	Owned
			Retail/Offices	89	Leased
Finance & Financial Products	U.S.	Various locations	Manufacturing plants	65	Owned
			Manufacturing plants	8	Leased
			Offices/Warehouses	17	Owned
			Offices/Warehouses	62	Leased
			Leasing/Showroom/Retail	229	Owned
			Leasing/Showroom/Retail	249	Leased
			Housing communities	101	Owned
	Non-U.S.	Various locations in 12 countries	Manufacturing plants	22	Owned
			Manufacturing plants	14	Leased
			Offices/Warehouses	4	Owned
			Offices/Warehouses	20	Leased

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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:

Name	Age	Position with Registrant	Since
Warren E. Buffett	86	Chairman of the Board	1970
Charles T. Munger	93	Vice Chairman of the Board	1978

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. Mr. Buffett and Mr. Munger also serve as directors of the Registrant.

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:

	2016				2015			
	Class A		Class B		Class A		Class B	
	High	Low	High	Low	High	Low	High	Low
First Quarter	\$ 215,130	\$ 186,900	\$ 143.40	\$ 123.55	\$ 227,500	\$ 215,151	\$ 151.69	\$ 142.50
Second Quarter	221,985	205,074	148.03	136.65	223,012	204,800	148.57	136.08
Third Quarter	226,490	211,500	151.05	140.95	217,100	190,007	144.69	125.50
Fourth Quarter	250,786	213,030	167.25	141.92	207,780	192,200	138.62	127.46

Shareholders

Berkshire had approximately 2,300 record holders of its Class A common stock and 20,200 record holders of its Class B common stock at February 15, 2017. Record owners included nominees holding at least 430,000 shares of Class A common stock and 1,300,000,000 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 ("Berkshire's Board") has approved a common stock repurchase program under which Berkshire may repurchase its Class A and Class B shares at prices no higher than a 20% premium over the book value of the shares. Berkshire may repurchase shares in the open market or through privately negotiated transactions. Berkshire's Board authorization 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 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 in 2016.

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Item 6. Selected Financial Data

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

	2016	2015	2014	2013	2012
Revenues:					
Insurance premiums earned	\$ 45,881	\$ 41,294	\$ 41,253	\$ 36,684	\$ 34,545
Sales and service revenues	119,489	107,001	97,097	92,993	81,447
Railroad, utilities and energy revenues	37,542	40,004	40,690	34,757	32,582
Interest, dividend and other investment income	4,725	5,357	5,052	5,196	4,532
Finance and financial products sales and service revenues and interest and dividend income	7,663	6,940	6,526	6,109	5,932
Investment and derivative gains/losses	8,304	10,347	4,081	6,673	3,425
Total revenues	<u>\$ 223,604</u>	<u>\$ 210,943</u>	<u>\$ 194,699</u>	<u>\$ 182,412</u>	<u>\$ 162,463</u>
Earnings:					
Net earnings attributable to Berkshire Hathaway ⁽¹⁾	<u>\$ 24,074</u>	<u>\$ 24,083</u>	<u>\$ 19,872</u>	<u>\$ 19,476</u>	<u>\$ 14,824</u>
Net earnings per share attributable to Berkshire Hathaway shareholders ⁽²⁾	<u>\$ 14,645</u>	<u>\$ 14,656</u>	<u>\$ 12,092</u>	<u>\$ 11,850</u>	<u>\$ 8,977</u>
Year-end data:					
Total assets	\$ 620,854	\$ 552,257	\$ 525,867	\$ 484,624	\$ 427,252
Notes payable and other borrowings:					
Insurance and other	27,175	14,599	11,854	12,396	12,970
Railroad, utilities and energy	59,085	57,739	55,306	46,399	35,979
Finance and financial products	15,384	11,951	12,730	13,122	13,587
Berkshire Hathaway shareholders' equity	283,001	255,550	240,170	221,890	187,647
Class A equivalent common shares outstanding, in thousands	1,644	1,643	1,643	1,644	1,643
Berkshire Hathaway shareholders' equity per outstanding Class A equivalent common share	<u>\$ 172,108</u>	<u>\$ 155,501</u>	<u>\$ 146,186</u>	<u>\$ 134,973</u>	<u>\$ 114,214</u>

⁽¹⁾ Includes after-tax investment and derivative gains/losses of \$6.5 billion in 2016, \$6.7 billion in 2015, \$3.3 billion in 2014, \$4.3 billion in 2013 and \$2.2 billion in 2012.

⁽²⁾ Represents net earnings per equivalent Class A common share. Net earnings per Class B common share is equal to 1/1,500 of such amount.

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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).

	2016	2015	2014
Insurance – underwriting	\$ 1,370	\$ 1,162	\$ 1,692
Insurance – investment income	3,636	3,725	3,542
Railroad	3,569	4,248	3,869
Utilities and energy	2,287	2,132	1,882
Manufacturing, service and retailing	5,631	4,683	4,468
Finance and financial products	1,427	1,378	1,243
Investment and derivative gains/losses	6,497	6,725	3,321
Other	(343)	30	(145)
Net earnings attributable to Berkshire Hathaway shareholders	<u>\$24,074</u>	<u>\$24,083</u>	<u>\$19,872</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 (such as sales, marketing, purchasing, legal or human resources) 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, including, but not limited to, communicating the appropriate "tone at the top" messages to employees and associates, monitoring governance efforts, including those at the operating businesses, and participating in the resolution of governance-related issues as needed. The business segment data (Note 23 to the accompanying Consolidated Financial Statements) should be read in conjunction with this discussion.

Our insurance businesses generated after-tax earnings from underwriting of \$1.4 billion in 2016, an increase of \$208 million from 2015, primarily due to increased earnings from Berkshire Hathaway Reinsurance Group and General Re, partly offset by lower net underwriting gains from primary insurance. Our railroad business generated lower net earnings in 2016, primarily due to a 5.0% decline in unit volume. Earnings of our utilities and energy businesses increased in 2016, attributable to increased pre-tax earnings and a lower effective income tax rate. The increase in after-tax earnings in 2016 as compared to 2015 of our manufacturing, service and retailing businesses was primarily due to earnings from PCC, partly offset by comparatively lower overall earnings from the other businesses within this group.

Our insurance businesses generated after-tax earnings from underwriting of \$1.2 billion in 2015, a decline of \$530 million from 2014, which reflected rising claim costs at GEICO and lower earnings from our reinsurers, partially offset by increased earnings from our other primary insurance operations. Our railroad business generated a 9.8% increase in after-tax earnings in 2015 compared to 2014, reflecting improved service levels and lower fuel costs. After-tax earnings of our utilities and energy businesses in 2015 increased 13.3% over 2014, attributable to the acquisition of AltaLink in December 2014 and higher earnings from several of our other energy businesses. After-tax earnings of our manufacturing, service and retailing businesses in 2015 increased 4.8% over 2014. The positive impacts of business acquisitions and higher earnings from our building products businesses were partly offset by lower earnings from certain of our industrial products and service businesses.

After-tax investment and derivative gains were approximately \$6.5 billion in 2016, \$6.7 billion in 2015 and \$3.3 billion in 2014. After-tax investment gains in 2016 included approximately \$2.7 billion from the disposition or conversion of our Wrigley, Kraft Heinz and Dow preferred stock investments and non-cash gains of approximately \$1.9 billion related to the exchange of P&G common stock for 100% of the common stock of Duracell. After-tax investment and derivative gains in 2015 included non-cash holding gains of approximately \$4.4 billion in connection with our investment in Kraft Heinz common stock. In 2014, after-tax gains included approximately \$2.0 billion related to the exchanges of Phillips 66 common stock and Graham Holdings Company common stock for a specified subsidiary of each of those companies. Derivative contracts contributed after-tax gains of \$488 million in 2016, \$633 million in 2015 and \$329 million in 2014. We believe that investment and derivative gains/losses are often meaningless in terms of understanding our reported results or evaluating our economic performance. Investment and derivative gains and losses have caused and will likely continue to cause significant volatility in our periodic earnings.

Management's Discussion and Analysis (Continued)
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, General Re, 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; investing decisions, with limited exceptions, are the responsibility of Berkshire's Chairman and CEO, Warren E. Buffett. Accordingly, we evaluate performance of underwriting operations without any allocation of investment income or investment gains/losses.

The timing and amount of catastrophe losses can produce significant volatility in our periodic underwriting results, particularly with respect to BHRG and General Re. Our periodic underwriting results may be affected significantly by changes in estimates for unpaid losses and loss adjustment expenses, including amounts established for occurrences in prior years. Actual claim settlements and revised loss estimates will develop over time, which will likely differ from the liabilities recorded as of year-end 2016 of approximately \$76.9 billion. Accordingly, the unpaid loss estimates recorded as of December 31, 2016 will develop upward or downward in future periods, producing a corresponding decrease or increase 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 as a result of 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).

	2016	2015	2014
Underwriting gain attributable to:			
GEICO	\$ 462	\$ 460	\$1,159
General Re	190	132	277
Berkshire Hathaway Reinsurance Group	822	421	606
Berkshire Hathaway Primary Group	657	824	626
Pre-tax underwriting gain	2,131	1,837	2,668
Income taxes and noncontrolling interests	761	675	976
Net underwriting gain	<u>\$1,370</u>	<u>\$1,162</u>	<u>\$1,692</u>

GEICO

GEICO writes private passenger automobile insurance, offering coverages to insureds in all 50 states and the District of Columbia. GEICO's policies are marketed mainly by direct response methods in which most customers apply for coverage directly to the company via the Internet or over the telephone. GEICO's underwriting results are summarized below (in millions).

	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Premiums written	<u>\$26,309</u>		<u>\$23,378</u>		<u>\$20,962</u>	
Premiums earned	\$25,483	100.0	\$22,718	100.0	\$20,496	100.0
Losses and loss adjustment expenses	21,044	82.6	18,647	82.1	15,924	77.7
Underwriting expenses	3,977	15.6	3,611	15.9	3,413	16.6
Total losses and expenses	<u>25,021</u>	<u>98.2</u>	<u>22,258</u>	<u>98.0</u>	<u>19,337</u>	<u>94.3</u>
Pre-tax underwriting gain	<u>\$ 462</u>		<u>\$ 460</u>		<u>\$ 1,159</u>	

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

Premiums written in 2016 increased 12.5% to \$26.3 billion and premiums earned increased approximately \$2.8 billion (12.2%) compared to 2015. These increases reflected voluntary auto policy-in-force growth of 7% and increased average premiums per auto policy resulting from rate increases, changes in coverage and state and risk mix. Voluntary auto new business sales in 2016 increased 10.9% compared to the prior year. The growth in voluntary auto new business 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. In 2016, our loss ratio (the ratio of losses and loss adjustment expenses to earned premiums) increased 0.5 percentage points, reflecting increased storm losses and claims severity, partly offset by the aforementioned premium rate increases. Claims frequencies (claim counts per exposure unit) in 2016 for property damage, collision, bodily injury and personal injury protection (PIP) coverages were relatively unchanged from 2015. Average claims severities were higher in 2016 for bodily injury, physical damage and collision coverages (four to six percent range). In addition, storm-related losses (primarily from hail and flooding) in 2016 were approximately \$423 million compared to \$162 million in 2015.

Underwriting expenses in 2016 were \$4.0 billion, an increase of \$366 million (10.1%) over 2015. Our expense ratio (underwriting expenses to premiums earned) in 2016 decreased 0.3 percentage points compared to 2015. The largest components of underwriting expenses are employee-related expenses (salaries and benefits) and advertising costs. The increase in underwriting expenses reflected the increase in policies-in-force.

Premiums written and earned in 2015 increased 11.5% and 10.8% over 2014. The increases in premiums reflected growth in voluntary auto policies-in-force (5.4%) and rate increases. Voluntary auto new business sales in 2015 exceeded 2014 by about 1%. In 2015, our voluntary auto policies-in-force grew by 707,000 policies.

Losses and loss adjustment expenses incurred in 2015 increased \$2.7 billion (17.1%) over 2014. Our loss ratio was 82.1% in 2015 compared to 77.7% in 2014. Claims frequencies in 2015 increased in all major coverages over 2014, including property damage and collision coverages (three to five percent range), bodily injury coverage (four to six percent range) and PIP (one to two percent range). Average claims severities were also higher in 2015 for property damage and collision coverages (four to five percent range), bodily injury coverage (six to seven percent range) and PIP coverage (two to four percent range). We attributed these increases to miles driven, repair costs (parts and labor) and medical costs, as well as to weather conditions.

Underwriting expenses in 2015 increased 5.8% to \$3.6 billion. During 2015, advertising and employee-related costs grew at a slower rate than premiums. As a result, our expense ratio in 2015 declined 0.7 percentage points compared to 2014.

General Re

General Re conducts a reinsurance business offering property and casualty coverages to clients worldwide through General Reinsurance Corporation, Germany-based General Reinsurance AG, Faraday Holdings in London and other wholly-owned affiliates. We write property and casualty reinsurance primarily on a direct basis, but is also written through brokers and intermediaries. We write life and health reinsurance primarily on a direct basis through General Re Life Corporation and General Reinsurance AG. We strive to generate underwriting profits in essentially all of our product lines. Our management does not evaluate underwriting performance based upon market share and our underwriters are instructed to reject inadequately priced risks. General Re's underwriting results are summarized in the following table (in millions).

	Premiums written			Premiums earned			Pre-tax underwriting gain (loss)		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Property/casualty	\$2,560	\$2,725	\$3,257	\$2,569	\$2,805	\$3,103	\$ 117	\$ 150	\$ 204
Life/health	3,069	3,165	3,161	3,068	3,170	3,161	73	(18)	73
	<u>\$5,629</u>	<u>\$5,890</u>	<u>\$6,418</u>	<u>\$5,637</u>	<u>\$5,975</u>	<u>\$6,264</u>	<u>\$ 190</u>	<u>\$ 132</u>	<u>\$ 277</u>

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

In 2016, property/casualty premiums written declined \$165 million (6%) and premiums earned declined \$236 million (8%) compared to 2015, primarily due to lower volume in direct and broker market business, and to a lesser degree, unfavorable foreign currency exchange rate changes. Insurance industry capacity remains high and price competition in most property/casualty reinsurance markets persists. We continue to decline business when we believe prices are inadequate. However, we remain prepared to write substantially more business when appropriate prices can be attained.

Our property/casualty business produced pre-tax underwriting gains of \$117 million in 2016 and \$150 million in 2015. Results included pre-tax underwriting gains from property business of \$211 million in 2016, a decline of \$78 million compared to 2015. The decline was primarily due to lower gains from reductions of estimated losses on prior years' property business. There were no significant catastrophe or large property losses in each of the past three years.

Our casualty/workers' compensation business produced pre-tax underwriting losses of \$94 million in 2016 and \$139 million in 2015. Underwriting results in each year included net losses on current year business and charges for recurring discount accretion on workers' compensation liabilities and deferred charge amortization on retroactive reinsurance contracts, partially offset by gains from reductions of estimated losses on prior years' business. Discount accretion and deferred charge amortization produced pre-tax underwriting losses of \$89 million in 2016 and \$94 million in 2015. Casualty losses tend to be long-tailed and the favorable loss experience is not a guarantee that the current ultimate liability estimates will develop favorably in the future.

In 2015, property/casualty premiums written declined \$532 million (16%), while premiums earned decreased \$298 million (10%) compared to 2014. Adjusting for changes in foreign currency exchange rates, premiums written and earned in 2015 declined 9% and 2% compared to 2014. Our premium volume declined in both the direct and broker markets worldwide.

Our property/casualty business produced pre-tax underwriting gains of \$150 million in 2015 and \$204 million in 2014. In 2015, our property business generated pre-tax underwriting gains of \$289 million compared to \$445 million in 2014. The comparative decrease in underwriting gains reflected an increase in the current accident year loss ratio, primarily attributable to a relative increase in reported losses. Our casualty/workers' compensation business produced pre-tax underwriting losses of \$139 million in 2015 and \$241 million in 2014. Underwriting results in each year included net losses on current year business, partly offset by gains from reductions of estimated losses on prior years' business. The reductions of prior years' losses were net of recurring charges for discount accretion on workers' compensation liabilities and deferred charge amortization on retroactive reinsurance contracts of \$94 million in 2015 and \$97 million in 2014.

Life/health

Life/health premiums earned in 2016 decreased 3% compared to 2015. Adjusting for changes in foreign currency exchange rates, premiums earned in 2016 were relatively unchanged from 2015, as growth in the United Kingdom and Asia markets was offset by a decline in Canada. Our life/health business produced pre-tax underwriting gains of \$73 million in 2016 compared to losses of \$18 million in 2015. 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 long-term care business.

Life/health premiums written and earned in 2015 were relatively unchanged from 2014. However, adjusting for changes in foreign currency exchange rates, premiums earned in 2015 increased \$266 million (8%) as compared to 2014. In 2015, life business increased across a number of non-U.S. markets, particularly in Canada and Asia. Our life/health business produced aggregate pre-tax underwriting losses in 2015 of \$18 million compared to gains of \$73 million in 2014. Our North American long-term care business generated increased underwriting losses of \$77 million in 2015 compared to 2014 due primarily to increased reserves from estimated premium deficiencies. We also experienced higher frequency and severity of losses in North American individual life business in 2015, partially offset by increased underwriting gains from international life business.

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

BHRG underwrites excess-of-loss reinsurance and quota-share coverages on property and casualty risks for insurers and reinsurers worldwide, including property catastrophe insurance and reinsurance. BHRG also writes retroactive reinsurance on property/casualty exposures as well as life reinsurance and periodic payment annuity business. A summary of BHRG's underwriting results follows (in millions).

	Premiums written			Premiums earned			Pre-tax underwriting gain (loss)		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Property/casualty	\$4,433	\$4,702	\$ 4,097	\$4,649	\$4,416	\$ 4,064	\$ 767	\$ 944	\$ 1,411
Retroactive reinsurance	1,254	5	3,371	1,254	5	3,371	(49)	(469)	(632)
Life and annuity	2,601	2,786	2,681	2,601	2,786	2,681	104	(54)	(173)
	<u>\$8,288</u>	<u>\$7,493</u>	<u>\$10,149</u>	<u>\$8,504</u>	<u>\$7,207</u>	<u>\$10,116</u>	<u>\$ 822</u>	<u>\$ 421</u>	<u>\$ 606</u>

Property/casualty

Premiums earned in 2016 increased \$233 million (5.3%) reflecting an increase from the 10-year, 20% quota-share contract with Insurance Australia Group Ltd. ("IAG"), which became effective on July 1, 2015, partly offset by declines from property catastrophe and other quota-share business. The IAG quota-share contract represented 37% of our property/casualty earned premiums in 2016. Our premium volume is generally constrained for most property/casualty reinsurance coverages as rates, in our view, are generally inadequate. Consistent with General Re, we have the capacity and desire to write more business when appropriate pricing can be attained.

Our property/casualty business generated pre-tax underwriting gains of \$767 million in 2016 and \$944 million in 2015. The decline in pre-tax underwriting gains in 2016 was primarily due to a comparative decline in gains from reductions of estimated prior years' loss reserves. We experienced no significant catastrophe loss events during the last three years.

Premiums written and earned in 2015 increased \$605 million (15%) and \$352 million (9%), respectively, compared to 2014. These increases were primarily attributable to the IAG quota-share contract, partially offset by lower property catastrophe, property quota-share and London facilities volume. The property/casualty business generated pre-tax underwriting gains in 2015 of \$944 million compared to \$1.4 billion in 2014. Underwriting results in 2015 included comparatively lower gains from property catastrophe reinsurance and comparatively lower gains from reductions of estimated prior years' loss reserves.

Retroactive reinsurance

We periodically write retroactive reinsurance contracts, which provide indemnification of losses and loss adjustment expenses with respect to past loss events. Retroactive reinsurance premiums earned in 2016 primarily derived from three new contracts, including \$670 million from a contract with Hartford Fire Insurance Company covering the adverse development of certain asbestos and pollution claims losses, subject to an aggregate limit of \$1.5 billion. Premiums earned in 2014 included \$3 billion from a contract with Liberty Mutual Insurance Company ("LMIC"), which covers claim liabilities from specified asbestos and environmental exposures under policies incepting before 2005, and workers' compensation occurrences arising before 2014.

Pre-tax underwriting results from certain retroactive reinsurance contracts include gains/losses associated with the re-measurement of foreign currency denominated liabilities due to changes in exchange rates. Such gains were \$392 million in 2016, \$150 million in 2015 and \$273 million in 2014 and primarily related to strengthening of the U.S. Dollar versus the Great Britain Pound ("GBP") and the Euro. Before such gains, retroactive reinsurance contracts produced pre-tax losses of \$441 million in 2016, \$619 million in 2015 and \$905 million in 2014, attributable to deferred charge amortization and changes in the timing and amount of ultimate losses.

The underwriting results of retroactive reinsurance include the periodic amortization of deferred charge assets established in connection with these contracts. At the inception of a contract, we recognize deferred charge assets for the excess, if any, of the estimated ultimate losses payable over the premiums earned. We subsequently amortize the deferred charges over the estimated claims payment period based on estimates of the timing and amount of future loss payments. Amortization charges and deferred charge adjustments resulting from changes to the estimated timing and amount of future loss payments are included in earnings.

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Management's Discussion and Analysis (Continued)

Insurance—Underwriting (Continued)

Berkshire Hathaway Reinsurance Group (Continued)

Retroactive reinsurance (Continued)

Changes in estimated ultimate liabilities for contracts written in prior years were relatively insignificant in 2016, whereas during each of the prior two years, we increased estimated ultimate liabilities approximately \$550 million in 2015 and \$825 million in 2014 for contracts written in prior years. We also reevaluated the timing of future payments of remaining liabilities, which produced changes to unamortized deferred charges. These increases in estimated ultimate liabilities, net of related deferred charge adjustments, produced incremental pre-tax underwriting losses of approximately \$90 million in 2015 and \$450 million in 2014.

As discussed in Note 25 to the accompanying Consolidated Financial Statements, we entered into a retroactive reinsurance agreement with affiliates of American International Group, Inc. (collectively, "AIG") in January 2017. Our premiums with respect to this contract are about \$10 billion and our net aggregate limit is \$20 billion.

Gross unpaid losses assumed under retroactive reinsurance contracts were approximately \$24.7 billion at December 31, 2016 and \$23.7 billion at December 31, 2015. Unamortized deferred charges related to such reinsurance contracts were approximately \$8.0 billion at December 31, 2016 and \$7.6 billion at December 31, 2015. We currently estimate pre-tax losses in 2017 from deferred charge amortization of approximately \$950 million, including approximately \$375 million related to the new AIG agreement.

Life and annuity

A summary BHRG's life and annuity underwriting results follows (in millions).

	Premiums earned			Pre-tax underwriting gain (loss)		
	2016	2015	2014	2016	2015	2014
Periodic payment annuity	\$1,082	\$1,286	\$1,105	\$ (128)	\$ (202)	\$ (197)
Life reinsurance	1,502	1,481	1,555	1	(45)	(23)
Variable annuity	17	19	21	231	193	47
	<u>\$2,601</u>	<u>\$2,786</u>	<u>\$2,681</u>	<u>\$ 104</u>	<u>\$ (54)</u>	<u>\$ (173)</u>

Premiums earned in 2016 from periodic payment annuity contracts decreased \$204 million (15.9%) compared to 2015. The decrease reflected the effect of a large reinsurance contract in 2015 that generated premiums of \$425 million, which more than offset a comparative increase in direct business. There were no periodic payment annuity reinsurance contracts in 2016.

Generally, we receive premiums under periodic payment annuity contracts in full at inception and we make annuity payments over time, often extending for decades. At inception, we discount annuity liabilities for time value and recognize no gains or losses in earnings. Pre-tax underwriting losses are recognized over the annuity payment period from the recurring accretion of discounted annuity liabilities.

Periodic payment annuity contracts generated pre-tax underwriting losses of \$128 million in 2016, \$202 million in 2015 and \$197 million in 2014. Liabilities under certain contracts of a U.S. subsidiary are denominated in foreign currencies, most significantly the GBP. Changes in the exchange rates produce changes in the values of related liabilities, which are reflected in underwriting results. Exchange rate changes resulted in pre-tax gains of \$313 million in 2016, \$103 million in 2015 and \$102 million in 2014.

Before foreign currency exchange rate changes, pre-tax underwriting losses from annuity contracts were \$441 million in 2016, \$305 million in 2015 and \$299 million in 2014. The increase in underwriting losses in 2016 reflected increased liabilities from new business and the impact of lower interest rates, which increased expected future loss payments under reinsurance contracts. Discounted annuity liabilities were approximately \$9.8 billion at December 31, 2016 and \$8.7 billion at December 31, 2015. The weighted average interest rate of these contracts was approximately 4.1% as of December 31, 2016.

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

Life reinsurance premiums increased 1.4% in 2016 compared to 2015, which declined 4.8% compared to 2014. The life reinsurance business produced near break-even results in 2016 and a pre-tax loss of \$45 million in 2015. Underwriting losses in 2015 included losses of \$53 million incurred in connection with certain terminated business.

Our variable annuity business primarily consists of reinsurance contracts that provide guarantees on closed blocks of variable annuity business written by other insurers. Our pre-tax underwriting gains in each period of the past three years reflected changes in liabilities for guaranteed benefits, which were affected by changes in securities markets and interest rates, as well as from the periodic amortization of expected profit margins included in our liability estimates.

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 the MedPro Group, National Indemnity Company ("NICO Primary"), Berkshire Hathaway Homestate Companies ("BHHC"), Berkshire Hathaway Specialty Insurance ("BH Specialty") and Berkshire Hathaway GUARD Insurance Companies ("GUARD"). Other BH Primary insurers include U.S. Liability Insurance Company, Applied Underwriters and Central States Indemnity Company.

	2016		2015		2014	
	Amount	%	Amount	%	Amount	%
Premiums written	\$ 6,684		\$ 5,906		\$ 4,904	
Premiums earned	\$ 6,257	100.0	\$ 5,394	100.0	\$ 4,377	100.0
Losses and loss adjustment expenses	3,864	61.8	3,070	56.9	2,608	59.6
Underwriting expenses	1,736	27.7	1,500	27.8	1,143	26.1
Total losses and expenses	5,600	89.5	4,570	84.7	3,751	85.7
Pre-tax underwriting gain	\$ 657		\$ 824		\$ 626	

BH Primary 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. Premiums written and earned in 2015 increased 20.4% and 23.2%, respectively, over the prior year. The increases were primarily attributable to volume increases from BH Specialty, NICO Primary, BHHC and GUARD. BH Primary's combined loss ratios were 61.8% in 2016, 56.9% in 2015 and 59.6% in 2014. The comparative increase in the loss ratio in 2016 reflected comparative declines in favorable loss development of prior years' loss events and higher loss ratios on current year business. While our claims development has been favorable in recent years, our primary insurers write considerable amounts of healthcare malpractice, general liability and workers' compensation business, which can have extended claim-tails. It should not be assumed that the current claim experience or underwriting results will continue into the future.

Insurance—Investment Income

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

	2016	2015	2014
Interest income	\$ 930	\$ 888	\$1,009
Dividend income	3,552	3,662	3,348
Investment income before taxes and noncontrolling interests	4,482	4,550	4,357
Income taxes and noncontrolling interests	846	825	815
Net investment income	\$3,636	\$3,725	\$3,542

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Management's Discussion and Analysis (Continued)

Insurance—Investment Income (Continued)

Pre-tax investment income declined \$68 million (1.5%) in 2016 compared to 2015, reflecting lower dividend income attributable to portfolio changes, partly offset by an increase in interest income. We continue to hold significant cash, cash equivalents and U.S. Treasury Bills earning very low yields, although such yields in 2016 were higher than in 2015. We believe that maintaining ample liquidity is paramount and we insist on safety over yield with respect to such balances. In December 2016, Dow exercised its option to convert our \$3 billion Dow preferred stock investment into common stock. Prior to its conversion, we received dividends of \$255 million per annum.

Interest earned declined \$121 million (12%) in 2015 versus 2014. The reduction reflected the maturities and dispositions of fixed maturity securities with higher interest rates. Dividend income increased \$314 million (9%) in 2015 versus 2014. Dividend income in 2015 included income from our investment in Restaurant Brands International, Inc. 9% Preferred Stock (\$3 billion stated value), which was acquired in December 2014.

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, life, annuity and health benefit liabilities, unearned premiums and other liabilities to policyholders less premium and reinsurance receivables, deferred charges assumed under retroactive reinsurance contracts and deferred policy acquisition costs. Float approximated \$91 billion at December 31, 2016, \$88 billion at December 31, 2015 and \$84 billion at December 31, 2014. The cost of float was negative over the last three years 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, 2016 and 2015 follows (in millions).

	December 31,	
	2016	2015
Cash, cash equivalents and U.S. Treasury Bills	\$ 48,888	\$ 43,762
Equity securities	119,780	109,922
Fixed maturity securities	22,778	23,621
Other investments	14,364	15,683
	<u>\$ 205,810</u>	<u>\$ 192,988</u>

Fixed maturity investments as of December 31, 2016 were as follows (in millions).

	Amortized cost	Unrealized gains/losses	Carrying value
U.S. Treasury, U.S. government corporations and agencies	\$ 4,243	\$ 8	\$ 4,251
States, municipalities and political subdivisions	1,129	57	1,186
Foreign governments	8,813	140	8,953
Corporate bonds, investment grade	5,457	459	5,916
Corporate bonds, non-investment grade	1,220	248	1,468
Mortgage-backed securities	886	118	1,004
	<u>\$ 21,748</u>	<u>\$ 1,030</u>	<u>\$ 22,778</u>

U.S. government obligations are rated AA+ or Aaa by the major rating agencies and approximately 87% 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.

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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).

	2016	2015	2014
Revenues	\$19,829	\$21,967	\$23,239
Operating expenses:			
Compensation and benefits	4,769	5,043	5,023
Fuel	1,934	2,656	4,478
Purchased services	2,418	2,546	2,592
Depreciation and amortization	2,128	2,001	2,123
Equipment rents, materials and other	1,895	2,018	2,021
Total operating expenses	13,144	14,264	16,237
Interest expense	992	928	833
	14,136	15,192	17,070
Pre-tax earnings	5,693	6,775	6,169
Income taxes	2,124	2,527	2,300
Net earnings	\$ 3,569	\$ 4,248	\$ 3,869

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. While natural gas prices and the amount of electricity burn will affect the demand for coal in 2017, our long-term demand outlook for U.S. and global coal consumption is lower.

Freight revenues reflected comparative declines in 2016 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 to business mix changes. The fuel price impact on fuel surcharges generally lags its impact on fuel costs.

Freight revenues from consumer products were \$6.5 billion in 2016, a decline of 0.9% from 2015. The revenue decline reflected 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. Lower international intermodal volumes attributable to soft economic activity and excess retail inventories partially offset these increases.

Freight revenues from industrial products were \$4.8 billion in 2016, a decline of 14.2% compared with 2015. The decrease reflects lower volumes, primarily for petroleum products, reflecting pipeline displacement of U.S. crude rail traffic and lower U.S. oil production. In addition, there was lower demand for steel and taconite, partially offset by increased plastics products volume. We expect low oil production and pipeline displacement will continue to negatively impact the demand for crude oil shipments in 2017.

Freight revenues from agricultural products remained relatively flat at \$4.2 billion. Agricultural product volume increased by 6.3% in 2016, primarily due to higher corn, soybean and wheat exports, offsetting a decrease in average revenue per car/unit.

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

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

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.

Interest expense was \$992 million in 2016, an increase of \$64 million (6.9%) compared to 2015. Interest expense in 2015 was \$928 million, an increase of \$95 million (11%) compared to 2014. BNSF funds its capital expenditures with cash flow from operations and new debt issuances. The comparative increases in each period resulted from higher average outstanding debt.

Consolidated revenues were approximately \$22.0 billion in 2015, a decrease of \$1.3 billion (5%) compared to 2014. Pre-tax earnings were \$6.8 billion in 2015, an increase of \$606 million (10%) over 2014. Results in 2015 benefitted from significantly improved operating performance compared to substandard service during 2014. The operational improvements in 2015 reflected the capacity added in 2014 and 2015 through capital investments for line expansion, system improvement projects, other operational initiatives and more favorable winter weather conditions. Our total volume was approximately 10.3 million cars/units in 2015. During the second half of 2015 and particularly in the fourth quarter, we experienced declining demand, especially in coal and certain industrial products categories.

The decrease in consolidated revenues in 2015 reflected a 6% decline in average revenue per car/unit and a 0.1% decrease in volume. The decrease in average revenue per car/unit was attributable to a 55% decline in fuel surcharges (\$1.6 billion) versus 2014, primarily due to lower fuel prices. The impact of lower fuel surcharge revenues affected revenues of all product lines.

Freight revenues from industrial products decreased 11% in 2015 compared to 2014 to \$5.6 billion. The decrease reflected lower volumes for petroleum products, frac sand and steel products and lower average revenue per car/unit. Freight revenues from agricultural products increased 2% in 2015 to approximately \$4.2 billion as compared to revenues in 2014. The increase in 2015 was attributable to higher domestic grain shipments and Milo exports.

Freight revenues from coal decreased 7% to \$4.6 billion in 2015 compared to 2014. The revenue decline was primarily due to lower average rates per car. Coal volume increased 1% primarily due to higher demand in the early part of the year as customers restocked coal inventories.

Freight revenues from consumer products were \$6.6 billion in 2015, a decline of 6% from 2014. The revenue decline reflected lower average rates per car/unit, partially offset by volume increases of 1%. In the first quarter of 2015, we experienced a decline in international intermodal volume attributable to diversions of freight from U.S. West Coast ports to other import gateways as a result of the port productivity slow-down from port labor disruptions. Over the remainder of 2015, we experienced increased volume, as port productivity improvements allowed the backlog to clear, as well as from higher demand.

Operating expenses were \$14.3 billion in 2015, a decrease of \$2 billion (12%) compared to 2014. The ratio of operating expenses to revenues declined 4.9 percentage points to 64.9% as compared to 2014. Compensation and benefits expenses were relatively flat versus 2014. In response to weakening customer demand in the latter half of 2015, employment levels were reduced. Fuel expenses declined \$1.8 billion (41%) compared to 2014, reflecting significantly lower average fuel prices, improved efficiency and lower gross ton miles volume. Depreciation and amortization expense decreased \$122 million (6%) compared to 2014 as a result of lower capitalized software amortization expenses, partially offset by increased depreciation expense attributable to increased levels of railroad assets in service.

Utilities and Energy ("Berkshire Hathaway Energy Company")

We hold a 90% 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.

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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		
	2016	2015	2014	2016	2015	2014
PacifiCorp	\$ 5,245	\$ 5,279	\$ 5,315	\$1,105	\$1,026	\$1,010
MidAmerican Energy Company	2,668	2,554	2,900	392	292	270
NV Energy	2,925	3,382	3,279	559	586	549
Northern Powergrid	997	1,141	1,284	367	460	527
Natural gas pipelines	986	1,018	1,093	413	401	379
Other energy businesses	2,223	2,321	1,582	377	394	264
Real estate brokerage	2,815	2,536	2,161	225	191	139
	<u>\$17,859</u>	<u>\$18,231</u>	<u>\$17,614</u>			
Earnings before corporate interest and income taxes ("EBIT")				3,438	3,350	3,138
Corporate interest				465	499	427
Income taxes and noncontrolling interests				686	719	829
Net earnings attributable to Berkshire Hathaway shareholders				<u>\$2,287</u>	<u>\$2,132</u>	<u>\$1,882</u>

PacifiCorp

PacifiCorp operates a regulated electric utility in portions of several Western states, including Utah, Oregon and Wyoming. PacifiCorp's revenues were \$5.25 billion in 2016, slightly lower than 2015. Revenues reflected 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. EBIT in 2016 increased \$79 million (7.7%) from 2015, primarily due to increased gross margins (operating revenues less cost of sales), reflecting lower fuel prices and changes in fuel mix.

Revenues declined \$36 million (1%) in 2015 compared to 2014. Wholesale and other revenues declined \$129 million, principally due to lower wholesale prices and volumes and lower renewable energy credit revenue, while retail revenues increased compared to 2014, reflecting higher average rates partially offset by slightly lower volumes. EBIT increased \$16 million (2%) in 2015 compared to 2014. Gross margins increased \$109 million versus 2014, as energy costs declined more than revenues. The increase in gross margins substantially offset an increase in depreciation and amortization expense (\$35 million) due to increased plant-in-service, lower allowances for equity funds used during construction (\$18 million) and the impact of the recognition in 2014 of expected insurance recoveries on fire losses.

MidAmerican Energy Company

MEC operates a regulated electric and natural gas utility primarily in Iowa and Illinois. Revenues increased \$114 million (4.5%) in 2016 compared to 2015. Revenues in 2016 included increased electric revenues (\$148 million), which were somewhat 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 decline in natural gas revenues was primarily due to lower average per-unit costs of gas sold (\$42 million), which is offset in cost of sales, partly offset by higher wholesale volumes. EBIT increased \$100 million (34.2%) in 2016 from 2015. The increase in EBIT 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.

MEC's revenues declined \$346 million (12%) in 2015 from 2014. Regulated natural gas revenues declined \$335 million, which was primarily attributable to lower average per-unit cost of gas sold, which is substantially offset in lower cost of sales. Regulated electric revenues increased slightly, due primarily to higher retail rates in Iowa and higher volumes, partially offset by lower average wholesale prices. The increases in regulated electric rates in Iowa are attributable to higher retail rates and changes in rate structure approved in August 2014, which results in a greater differential between higher rates from June to September and lower rates in the remaining months.

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

EBIT increased \$22 million (8%) in 2015 compared to 2014, reflecting an increase in gross margins (\$107 million), partially offset by increases in depreciation expense from new wind generation and other plant-in-service (\$56 million), interest expense (\$17 million) and lower allowances for equity funds used during construction (\$19 million). The increase in gross margins derived primarily from the regulated electric business, which benefitted from the aforementioned changes in Iowa rates and rate structure and lower fuel and purchased power costs. In addition, EBIT included a gain of \$13 million in 2015 from the sale of a generating facility lease.

NV Energy

NV Energy operates regulated electric and natural gas utilities in Nevada. 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 in 2016 were flat compared to 2015. EBIT fell \$27 million (4.6%) compared to 2015. The decline in revenues was substantially offset by a decline in energy costs. Operating expenses increased \$39 million (4%) and interest expense decreased \$17 million (6.6%). The increase in operating expenses reflected higher depreciation and amortization and reductions in certain accrued liabilities in 2015.

Revenues and EBIT were \$3.4 billion and \$586 million in 2015, representing increases of \$103 million (3%) and \$37 million (7%) over 2014. The increase in revenues was due primarily to higher retail electric revenues reflecting increased customers and higher volumes. The increase in EBIT was attributable to an increase in gross margins (\$82 million) and lower interest expense (\$22 million), partially offset by increased depreciation and amortization (\$31 million) and higher other operating expenses, including increased energy efficiency costs.

Northern Powergrid

Revenues declined \$144 million (12.6%) to \$997 million in 2016, primarily due to the impact of a stronger U.S. Dollar (\$127 million) and lower distribution revenues. EBIT 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.

Revenues declined \$143 million (11%) in 2015 versus 2014, reflecting the adverse impact of the stronger U.S. Dollar (\$90 million) and comparatively lower distribution revenues. The decline in distribution revenues reflected lower rates due mainly to the new price control period effective April 1, 2015. EBIT declined \$67 million (13%) compared to 2014, reflecting the adverse effects of the stronger U.S. Dollar and lower distribution revenues partially offset by lower interest expense (\$13 million).

Natural Gas Pipelines

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. EBIT 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.

Revenues declined \$75 million (7%) in 2015 versus 2014, which was primarily due to lower gas sales as a result of reduced system and operational balancing activities, partially offset by higher transportation revenues. EBIT increased \$22 million (6%) as compared to 2014, as decreased costs of gas sold and lower operating expenses more than offset the decline in revenues.

Other energy businesses

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 year-to-date revenue decline reflected the impact of a regulatory decision in the second quarter of 2016 that resulted in one-time net reductions in revenue, which more than offset increased revenues from additional assets placed in service. The regulatory decision changed the timing of when construction-in-progress expenditures included in the rate base are billable to customers and earned in revenues, but had no impact on net earnings, as one-time reductions in expenses offset the one-time revenue reduction. EBIT 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.

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Management's Discussion and Analysis (Continued)

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

Other energy businesses (Continued)

Revenues of other energy businesses increased \$739 million (46.7%) in 2015 over revenues in 2014, while EBIT increased \$130 million (49%) versus 2014. Revenues and EBIT in 2015 reflect the acquisition of AltaLink on December 1, 2014. AltaLink's revenues and EBIT in 2015 were \$621 million and \$170 million, respectively. The remaining increase in revenues was primarily due to an increase in solar capacity placed in service. Excluding the acquisition of AltaLink, the impact of higher revenues in 2015 was more than offset by higher operating, depreciation and interest expenses.

Real estate brokerage

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. EBIT increased \$34 million (17.8%) in 2016 compared to 2015, primarily due to the increases in mortgage revenues.

Real estate brokerage revenues and EBIT increased 17% and 37%, respectively, in 2015 compared to 2014. The revenue increase reflected comparative increases in closed transactions and average home prices and the impact of business acquisitions. The increase in EBIT was primarily due to the increased revenues, net of commission expense, as well as a lower operating expense to revenue ratio as compared to 2014.

Corporate interest and income taxes

Corporate interest includes interest on unsecured debt issued by BHE and borrowings from certain Berkshire insurance subsidiaries in connection with BHE's acquisitions of NV Energy and AltaLink. The decline in corporate interest in 2016 was primarily due to lower average borrowings from Berkshire insurance subsidiaries. In 2015, corporate interest expense increased over the prior year due to new borrowings in connection with the AltaLink acquisition.

BHE's consolidated effective income tax rates were approximately 14% in 2016, 16% in 2015, and 23% in 2014. BHE's effective income tax rates regularly reflect significant production tax credits from wind-powered electricity generation placed in service. In addition, pre-tax earnings of Northern Powergrid and AltaLink are taxed at lower statutory rates in the United Kingdom and Canada compared to the U.S. statutory tax rate. BHE's effective rates in 2016 and 2015 also included reductions in deferred income tax liabilities resulting from enacted statutory income tax rate decreases in the United Kingdom and deferred state income tax benefits.

Manufacturing, Service and Retailing

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

	Revenues			Earnings *		
	2016	2015	2014	2016	2015	2014
Manufacturing	\$ 46,506	\$ 36,136	\$36,773	\$6,211	\$4,893	\$ 4,811
Service and retailing	73,553	71,689	60,916	2,251	2,222	1,981
	<u>\$120,059</u>	<u>\$107,825</u>	<u>\$97,689</u>			
Pre-tax earnings				8,462	7,115	6,792
Income taxes and noncontrolling interests				<u>2,831</u>	<u>2,432</u>	<u>2,324</u>
				<u>\$5,631</u>	<u>\$4,683</u>	<u>\$ 4,468</u>

* Excludes certain acquisition accounting expenses, which were primarily from the amortization of identified intangible assets recorded in connection with our business acquisitions. The after-tax acquisition accounting expenses excluded from earnings above were \$771 million in 2016, \$476 million in 2015 and \$496 million in 2014. These expenses are included in "other" in the summary of earnings on page 32 and in the "other" earnings section on page 51.

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Management's Discussion and Analysis *(Continued)*

Manufacturing, Service and Retailing *(Continued)*

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), and a variety of industrial products for diverse markets (Mammon and Scott Fetzer). 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.

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		
	2016	2015	2014	2016	2015	2014
Industrial products	\$24,702	\$16,760	\$17,622	\$4,209	\$2,994	\$3,159
Building products	10,772	10,316	10,124	1,178	1,167	896
Consumer products	11,032	9,060	9,027	824	732	756
	<u>\$46,506</u>	<u>\$36,136</u>	<u>\$36,773</u>	<u>\$6,211</u>	<u>\$4,893</u>	<u>\$4,811</u>

Aggregate revenues in 2016 were approximately \$46.5 billion, an increase of approximately \$10.4 billion (28.7%) over 2015. Pre-tax earnings were approximately \$6.2 billion in 2016, an increase of \$1.3 billion (26.9%) compared to 2015. Excluding PCC and Duracell, manufacturing revenues were flat and pre-tax earnings declined compared to 2015.

Industrial products

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 in 2016 related to the disposition in the fourth quarter of an underperforming business. Earnings from several of Mammon's manufacturing businesses and Lubrizol's continuing operations declined, while earnings from IMC increased slightly. Generally, our industrial products manufacturers experienced a combination of weaker customer demand, sales price and mix changes, and increased restructuring costs, which were partly offset by benefits from cost containment initiatives and lower average material prices.

Revenues declined \$862 million (5%) in 2015 versus 2014. The foreign currency translation impact of a stronger U.S. Dollar produced approximately \$782 million of the comparative revenue decline. In addition, commodity cost deflation in petroleum and metals used in certain of our products resulted in lower average selling prices, in particular for specialty chemicals, metal cutting tools, copper wire and plumbing products. Certain of our businesses experienced slowing customer demand over the last half of 2015 as the decline in oil prices and competitive pressures resulted in significantly lower sales volumes to customers in or related to the oil and gas industry. These negative factors were partly offset by revenues from bolt-on acquisitions of Lubrizol.

Pre-tax earnings declined \$165 million (5%) in 2015 compared to 2014. The comparative declines in earnings reflected the adverse impact of the stronger U.S. Dollar, partially offset by earnings from bolt-on acquisitions, lower average commodity-based material costs, and actions taken in response to the slowing sales volumes previously referenced. Such actions address cost structures and exiting lower margin business.

Management's Discussion and Analysis (Continued)

Manufacturing, Service and Retailing (Continued)

Building products

Building products 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 offset by increased charges for asset impairments, pension settlements and environmental claims.

Revenues increased \$192 million (2%) in 2015 compared to 2014. The revenue increase reflected sales volume increases at Shaw, Johns Manville and MiTek, as well as the impact of bolt-on business acquisitions, partially offset by the unfavorable foreign currency translation from a stronger U.S. Dollar (\$165 million). Pre-tax earnings increased \$271 million (30%) compared to 2014. The overall increase in earnings was primarily attributable to the aforementioned increases in revenues and lower average raw material and energy costs, partially offset by the negative impact of foreign currency translation and increased restructuring charges. Shaw, Johns Manville and Benjamin Moore generated most of the comparative increase in earnings.

Consumer products

Consumer products 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, which was primarily attributable to increased unit sales. Apparel revenues in 2016 declined \$81 million (1.9%) compared to 2015, reflecting lower footwear sales and the impact of a divestiture by Fruit of the Loom in 2015.

Consumer products 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. From its acquisition date, Duracell incurred approximately \$109 million in 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.

Revenues of our consumer products manufacturers were approximately \$9.1 billion in 2015, relatively unchanged from 2014. Forest River's revenues increased 6% compared to 2014, due to a 4% increase in unit sales and increased average prices. Apparel revenues in 2015 declined 4% compared to 2014. The decline in apparel revenues was attributable to lower volume and the negative impact of foreign currency translation resulting from a stronger U.S. Dollar. Pre-tax earnings declined \$24 million (3%) in 2015 compared to 2014. The decline was primarily due to a pre-tax loss in 2015 from the disposition of an unprofitable Fruit of the Loom operation and lower earnings from our footwear businesses, partially offset by higher earnings from Forest River.

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		
	2016	2015	2014	2016	2015	2014
Service	\$10,386	\$10,201	\$ 9,854	\$1,161	\$1,156	\$1,202
Retailing	15,092	13,265	4,422	659	564	344
McLane Company	48,075	48,223	46,640	431	502	435
	<u>\$73,553</u>	<u>\$71,689</u>	<u>\$60,916</u>	<u>\$2,251</u>	<u>\$2,222</u>	<u>\$1,981</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). Services also include the electronic distribution of corporate news, multimedia and regulatory filings (Business Wire), publication of newspapers and other publications (Buffalo News and the BH Media Group) and operation of a television station in Miami, Florida (WPLG). We also offer third party logistics services that primarily serve the petroleum and chemical industries (Charter Brokerage).

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

Service revenues increased 1.8% to approximately \$10.4 billion in 2016 compared to 2015, 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 sale 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.

Revenues increased \$347 million (3.5%) in 2015 as compared to 2014. The increase included a 5% increase in NetJets' revenues and the impact of the acquisitions of Charter Brokerage and WPLG during 2014, partly offset by reduced revenues from our newspaper operations. The increase in NetJets' revenues was attributable to a 50% increase in aircraft sales, partially offset by lower flight operations revenue.

Pre-tax earnings declined \$46 million in 2015 compared to 2014. Earnings benefitted from the WPLG and Charter Brokerage acquisitions, which were more than offset by lower earnings from NetJets. Earnings declined at NetJets as the impact of increased aircraft sales margins was more than offset by increased personnel, aircraft subcontracting and maintenance expenses. A portion of the increase in personnel costs pertained to lump-sum payments made in connection with a collective bargaining agreement reached with our pilots in the fourth quarter of 2015.

Retailing

Our retailing businesses include four distinct home furnishings retailing businesses (Nebraska Furniture Mart, R.C. Willey, Star Furniture and Jordan's), which sell furniture, appliances, flooring and electronics. Our retailers also include Berkshire Hathaway Automotive ("BHA"), which we acquired in the first quarter of 2015. BHA currently includes 83 auto dealerships. BHA sells new and pre-owned automobiles, offering repair and other related services and products, and also includes two related insurance businesses, two auto auctions and a distributor of automotive fluid maintenance products.

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 increased \$1.8 billion (13.8%) in 2016 to \$15.1 billion as compared to 2015. The increase in revenues reflected the impact of the BHA and Louis acquisitions during 2015, which 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.

Revenues increased approximately \$8.8 billion in 2015 as compared to 2014. The increase reflected the impact of the BHA and Louis acquisitions, which together contributed revenues of approximately \$8.3 billion. Revenues of our home furnishings retailers increased \$572 million (24%) over 2014, driven by Nebraska Furniture Mart, which opened a new store in March 2015 and from increases at R.C. Willey and Jordan's. Pre-tax earnings increased \$220 million (64%) compared to 2014. The increase was primarily due to the impact of the BHA and Louis acquisitions.

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 Wal-Mart, 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.

Management's Discussion and Analysis (Continued)

Manufacturing, Service and Retailing (Continued)

McLane Company (Continued)

Revenues were \$48.1 billion in 2016, a decline of \$148 million (0.3%) relative to 2015. In 2016, we experienced a comparative 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 (ratio of earnings to revenues). The decline was primarily due to increased employee related costs. Competition in our grocery and foodservice businesses has been and will likely continue to be intense and our ability to control operating costs is a key factor in maintaining profitability. Additionally, earnings in 2015 included a gain of \$19 million from the disposition of a subsidiary.

Revenues increased \$1.6 billion (3%) in 2015 compared to 2014, reflecting revenue increases in the foodservice unit (6%), beverage unit (8%) and grocery unit (2%). Pre-tax earnings increased \$67 million (15%) in 2015 versus 2014. Pre-tax earnings in 2015 included the aforementioned gain from the sale of a subsidiary and otherwise benefitted from lower fuel and trucking costs.

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		
	2016	2015	2014	2016	2015	2014
Manufactured housing and finance	\$4,230	\$3,576	\$3,310	\$ 744	\$ 706	\$ 558
Transportation equipment leasing	2,650	2,540	2,427	959	909	827
Other	795	848	789	427	471	454
	<u>\$7,675</u>	<u>\$6,964</u>	<u>\$6,526</u>			
Pre-tax earnings				2,130	2,086	1,839
Income taxes and noncontrolling interests				703	708	596
				<u>\$1,427</u>	<u>\$1,378</u>	<u>\$1,243</u>

Manufactured housing and finance

Clayton Homes' 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, which were negatively impacted by increased insurance losses. A significant portion of Clayton's earnings are generated from lending activities, which in recent years benefitted from relatively low delinquency rates and loan losses and from declining borrowing costs attributable to lower average interest rates. As of December 31, 2016, Clayton Homes' installment loan portfolio was approximately \$13.3 billion and approximately 94% of the loan balances were current in terms of payment status.

Revenues and pre-tax earnings increased \$266 million (8%) and \$148 million (27%) in 2015, respectively, as compared to 2014. The revenue increase was primarily due to a 9% increase in home unit sales. The increase in earnings was primarily due to lower interest expense, improved manufacturing results, relatively low delinquency rates and lower loss rates on loan foreclosures. The decline in interest expense was primarily due to lower interest rates and to a lesser extent lower average balances.

Transportation equipment leasing

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

[Table of Contents](#)**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 new borrowings from a Berkshire financing subsidiary. Significant portions of transportation leasing expenses, such as depreciation, do not vary proportionately to revenue changes and therefore changes in revenues can disproportionately impact earnings.

Revenues increased 5% in 2015 compared to 2014. The increase reflected increased railcar lease rates, a larger fleet of railcars, higher volumes in our Australian crane business, increased over-the-road trailers on lease and gains on dispositions of trailers. These increases were partially offset by the unfavorable effects of foreign currency exchange attributable to a stronger U.S. Dollar and lower volumes in our North American crane leasing business due to declines in oil drilling activity. As previously mentioned, we acquired GE's tank car fleet on September 30, 2015, which included approximately 25,000 tank cars. We also acquired several railcar repair and maintenance facilities at the end of 2015.

Pre-tax earnings increased \$82 million (10%) in 2015 compared to 2014. The increase was primarily attributable to the positive impact of the revenue growth discussed above, which more than offset the unfavorable impact of foreign currency translation and higher railcar repair and warranty costs and depreciation attributable to a larger fleet size.

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 a portfolio of investments. Other earnings decreased \$44 million in 2016 compared to 2015, reflecting lower earnings from investment securities, partly offset by increased earnings from CORT and Berkadia. Other earnings also includes income from interest rate spreads charged on borrowings by a Berkshire financing subsidiary that are used to finance Clayton Homes' installment loans and beginning in 2016, UTLX's fleet of rail/tank cars held for lease. Offsetting expenses (\$74 million in 2016, \$62 million in 2015 and \$68 million in 2014) were included in Clayton Homes' and UTLX's results.

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).

	2016	2015	2014
Investment gains/losses	\$7,635	\$ 9,399	\$4,272
Other-than-temporary impairments	(82)	(26)	(697)
Derivative gains/losses	751	974	506
Gains/losses before income taxes and noncontrolling interests	8,304	10,347	4,081
Income taxes and noncontrolling interests	1,807	3,622	760
Net gains/losses	<u>\$6,497</u>	<u>\$ 6,725</u>	<u>\$3,321</u>

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 are providing information to explain the nature of such gains and losses when reflected in our earnings.

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

Pre-tax investment gains were \$7.6 billion in 2016 and included gains of \$2.4 billion from the sale to Mars Inc. of our Wrigley preferred stock investment, \$610 million from the Kraft Heinz Preferred Stock redemption, \$1.2 billion from the Dow Preferred Stock conversion into common stock, and \$1.1 billion from the exchange of shares of P&G common stock for 100% of the common stock of Duracell. Income tax expense allocated to investment gains included a benefit from the reduction of certain deferred income tax liabilities in connection with the exchange of P&G common stock for Duracell. Pre-tax investment gains included non-cash holding gains related to our investment in Kraft Heinz of \$6.8 billion in 2015. 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.

Pre-tax investment gains were \$4.3 billion in 2014, which included gains of approximately \$2.1 billion realized in connection with the exchanges of common stock of Phillips 66 and Graham Holdings Company for 100% of the common stock of a specified subsidiary of each of those companies. Each exchange transaction in 2016 and 2014 was structured as a tax-free reorganization under the Internal Revenue Code. As a result, no income taxes are payable on the excess of the fair value of the businesses received over the tax-basis of the common stock exchanged.

Other-than-temporary impairments ("OTTI")

OTTI charges in 2016 and 2015 were not significant and in 2014 were \$697 million, predominantly relating to our investment in equity securities of Tesco PLC. Although we have periodically recorded OTTI charges in earnings in past years, we continue to hold some of those securities. If the market values of those investments increase following the date we recorded OTTI charges, the increases are included in shareholders' equity as a component of accumulated other comprehensive income and not in earnings. When recorded, OTTI charges have no impact whatsoever on the asset values otherwise recorded in our Consolidated Balance Sheets or on our consolidated shareholders' equity. In addition, the recognition of such losses in earnings rather than in accumulated other comprehensive income does not necessarily indicate that sales are planned and sales ultimately may not occur for a number of years. Furthermore, the recognition of OTTI charges does not necessarily indicate that the loss in value of the security is permanent or that the market price of the security will not subsequently increase to and ultimately exceed our original cost.

Derivative gains/losses

Derivative gains/losses primarily represented the changes in fair value of our credit default and 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 credit and 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 \$662 million in 2016, which were primarily due to increases in the index values, favorable foreign currency exchange rate changes and shorter remaining contract durations, partly offset by lower interest rates. Our equity index put option contracts produced pre-tax gains of approximately \$1.0 billion in 2015, which were primarily attributable to a stronger U.S. Dollar and shorter remaining durations. These contracts produced pre-tax gains of \$108 million in 2014. Such gains reflected the favorable impact of foreign currency exchange rate changes and generally higher index values, partially offset by the effect of lower interest rate assumptions.

As of December 31, 2016, the aggregate intrinsic value of our equity put option contracts was approximately \$1.0 billion and our recorded liability was approximately \$2.9 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 2018), and will be based on the intrinsic value as defined under the contracts.

In July 2016, our remaining 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, pre-tax losses of \$34 million in 2015 and pre-tax earnings of \$397 million in 2014. We have no further exposure to losses under credit default contracts.

[Table of Contents](#)**Management's Discussion and Analysis (Continued)****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).

	2016	2015	2014
Kraft Heinz earnings	\$ 706	\$ 841	\$ 653
Acquisition accounting expenses	(846)	(515)	(531)
Corporate interest expense	(97)	(191)	(153)
Other	(106)	(105)	(114)
Net earnings (losses) attributable to Berkshire Hathaway shareholders	\$ (343)	\$ 30	\$ (145)

The reduced earnings in 2016 from our investments in Kraft Heinz were due to lower dividends from our Preferred Stock investment, which was redeemed in June 2016, somewhat offset by increased equity method earnings from our common stock investment. Other earnings also include charges from the application of the acquisition method in connection with Berkshire's business acquisitions. Such charges were primarily from the amortization of intangible assets recorded in connection with those business acquisitions, which we view as corporate expenses. Corporate interest expense includes after-tax foreign exchange gains of \$159 million in 2016 and losses of \$45 million in 2015 with respect to Euro denominated debt issued by Berkshire in March 2015 (€3.0 billion par) and March 2016 (€2.75 billion par). Excluding foreign currency effects, after-tax corporate interest expense was \$256 million in 2016 and \$146 million in 2015. The increase in 2016 was attributable to increased average outstanding debt.

Financial Condition

Our balance sheet continues to reflect significant liquidity and a strong capital base. Our consolidated shareholders' equity at December 31, 2016 was \$283.0 billion, an increase of \$27.5 billion since December 31, 2015. Net earnings attributable to Berkshire shareholders in 2016 were \$24.1 billion. At December 31, 2016, our insurance and other businesses held cash, cash equivalents and U.S. Treasury Bills of \$70.9 billion, and investments (excluding our investment in Kraft Heinz) of \$158.3 billion.

In January 2016, we used cash of approximately \$32.1 billion to fund the acquisition of PCC, which we funded through a combination of cash on hand and \$10 billion borrowed under a 364-day revolving credit agreement. We repaid these borrowings following our issuance in March 2016, of €2.75 billion and \$5.5 billion of senior unsecured notes. In August 2016, we issued \$750 million of senior unsecured notes to replace \$750 million of maturing notes. In January 2017, Berkshire issued new senior notes aggregating €1.1 billion and repaid \$1.1 billion of maturing senior notes. There are no other parent company term debt maturities in 2017.

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. In 2016, capital expenditures included \$5.1 billion by BHE and \$3.8 billion by BNSF. Aggregate capital expenditures of these businesses are forecasted to be \$8.6 billion in 2017. We expect future capital expenditures will be funded by cash flows from operations and debt issuances.

BNSF's outstanding debt was approximately \$22.0 billion as of December 31, 2016, an increase of \$307 million from December 31, 2015. Outstanding borrowings of BHE and its subsidiaries, excluding its borrowings from Berkshire insurance subsidiaries, were approximately \$37.0 billion as of December 31, 2016, an increase of approximately \$1.0 billion from December 31, 2015. BNSF and BHE debt maturities in 2017 will be \$3.6 billion. 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 or BHE or any of their subsidiaries.

Finance and financial products assets were approximately \$41.7 billion as of December 31, 2016, an increase of approximately \$2.7 billion since December 31, 2015. Finance assets consist primarily of loans and finance receivables, various types of property held for lease, and cash, cash equivalents, U.S. Treasury Bills and other investments. In September 2016, a Berkshire finance subsidiary received approximately \$4.6 billion from the sale of its Wrigley preferred stock investment.

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Management's Discussion and Analysis (Continued)

Financial Condition (Continued)

Finance and financial products liabilities were approximately \$19.7 billion as of December 31, 2016, an increase of approximately \$2.5 billion compared to December 31, 2015. The increase was attributable to \$3.5 billion of debt issued by Berkshire Hathaway Finance Corporation ("BHFC") in March, partly offset by lower derivative contract liabilities. The debt proceeds were used to fund loans originated and acquired by Clayton Homes and to fund a portion of existing assets held for lease by our UTLX railcar leasing business. In January 2017, BHFC issued new senior notes aggregating \$1.3 billion due in 2019 and 2020 and repaid \$1.05 billion of maturing notes. Over the remainder of 2017, an additional \$1.75 billion of BHFC senior notes will mature. While we currently intend to have BHFC issue additional notes in 2017 to replace the maturing debt, the amount to be issued will be based on prevailing market conditions.

Berkshire's Board of Directors has authorized Berkshire to repurchase its Class A and Class B common shares at prices no higher than a 20% premium over the book value of the shares. Berkshire may repurchase shares at management's discretion and there is no obligation to repurchase any shares. We expect the program to continue indefinitely. We will not repurchase shares if it reduces the total amount of Berkshire's consolidated cash, cash equivalents and U.S. Treasury Bills holdings below \$20 billion. Financial strength and redundant liquidity will always be of paramount importance at Berkshire. There were no share repurchases under the program in 2016.

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 are included in our Consolidated Balance Sheets, such as notes payable, which 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 the financial statements, but will be recognized in future periods as the goods are delivered or services are provided.

The timing and/or amount of the payments under certain contracts are contingent upon the outcome of future events. Actual payments will likely vary, perhaps significantly, from estimates reflected in the table that follows. Most significantly, the timing and amount of future payments arising under property and casualty insurance and reinsurance contracts are contingent upon the outcome of claim settlement activities or events. In addition, obligations arising under life, annuity and health insurance benefits are contingent on future premiums, allowances, mortality, morbidity, expenses and policy lapse rates, as applicable. These amounts are included in the following table based on the liability estimates reflected in our Consolidated Balance Sheet as of December 31, 2016. Although certain insurance losses and loss adjustment expenses and life, annuity and health benefits are recoverable under reinsurance contracts, those receivables recorded in the Consolidated Balance Sheet are not reflected in the table.

A summary of contractual obligations as of December 31, 2016 follows (in millions).

	Estimated payments due by period				
	Total	2017	2018-2019	2020-2021	After 2021
Notes payable and other borrowings, including interest	\$152,519	\$14,038	\$26,047	\$14,396	\$ 98,038
Operating leases	8,285	1,337	2,168	1,610	3,170
Purchase obligations ⁽¹⁾	38,189	11,072	7,560	4,937	14,620
Losses and loss adjustment expenses ⁽²⁾	78,351	17,591	17,684	9,791	33,285
Life, annuity and health insurance benefits ⁽³⁾	30,705	1,299	323	490	28,593
Other	13,173	2,221	909	1,639	8,404
Total	\$321,222	\$47,558	\$54,691	\$32,863	\$186,110

⁽¹⁾ Primarily obligations of BHE, BNSF and NetJets.

⁽²⁾ Before reserve discounts of \$1.4 billion.

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

Management's Discussion and Analysis (Continued)**Critical Accounting Policies**

Certain accounting policies require us to make estimates and judgments that affect 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 based upon estimates of the ultimate amounts payable for losses occurring on or before the balance sheet date. Except for certain workers' compensation reinsurance claims, we record all liabilities for unpaid losses and loss adjustment expenses (referred to in this section as "gross unpaid losses") in the Consolidated Balance Sheets without discounting for time value. 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 liabilities and all techniques require significant judgments and assumptions. We believe the processes and techniques utilized best suit the underlying claims and available data.

As of any balance sheet date, recorded 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 contributes to extending claim-tails. Our liabilities as of December 31, 2016 were \$76.9 billion, of which 85% related to GEICO, General Re and BHRG. Additional information regarding significant uncertainties inherent in the processes and techniques of GEICO, General Re and BHRG follows.

GEICO

GEICO predominantly writes private passenger auto insurance. As of December 31, 2016, GEICO's gross unpaid losses and loss adjustment expenses were \$15.5 billion and unpaid losses net of reinsurance recoverable were \$14.4 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 Bornhuetter-Ferguson and chain-ladder methodologies.

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, 2016, case development liabilities averaged approximately 25% of the case reserves. We select case development factors through analysis of the overall adequacy of historical case liabilities.

For unreported claims, IBNR 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.

For significant coverages, we test the adequacy of the aggregate liabilities for unpaid losses 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.

Unpaid loss and loss adjustment expense liability estimates recorded at the end of 2015 developed downward by \$61 million when reevaluated through December 31, 2016, which produced a corresponding increase to pre-tax earnings in 2016. We modified the assumptions used to estimate liabilities at December 31, 2016 as appropriate 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.

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

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, 2016. We estimate that a one percentage point increase or decrease in BI severities would produce a \$240 million increase or decrease in recorded liabilities, with a corresponding decrease or increase in pre-tax earnings. Many of the same 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.

General Re and BHRG

Liabilities for unpaid property and casualty losses and loss adjustment expenses of General Re and BHRG derive primarily from reinsurance contracts. In connection with reinsurance contracts, the nature, extent, timing and perceived reliability of 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 accounting 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 intermediaries 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 and the magnitude of the claim relative to the attachment point of the reinsurance contract and for other reasons.

The premium and loss data we receive is through at least one intermediary (the primary insurer), 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, litigation 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.

General Re

Information concerning General Re's gross and net unpaid losses and loss adjustment expenses as of December 31, 2016 follows (in millions).

Type		Line of business	
Reported case liabilities	\$ 6,536	Liability and workers' compensation ⁽¹⁾	\$11,408
IBNR liabilities	6,884	Property	2,012
Gross unpaid losses and loss adjustment expenses	13,420	Total	\$13,420
Reinsurance recoverable and deferred charges	(693)		
Net unpaid losses and loss adjustment expenses	\$12,727		

⁽¹⁾ Net of discounts of approximately \$1.4 billion.

Management's Discussion and Analysis (Continued)***Property and casualty losses (Continued)******General Re (Continued)***

For General Re, 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, which drive IBNR liability estimates, and the comparison of reported loss trends to the expected loss reporting patterns. Recorded liabilities are subject to "tail risk" where reported losses are beyond the expected loss emergence period.

Our process for estimating unpaid losses and loss adjustment expenses begins with case loss estimates made by the ceding company. Upon notification of a reinsurance claim from a ceding company, we independently evaluate the case losses reported and if appropriate, we use our own case liability estimate. As of December 31, 2016, our case loss estimates exceeded ceding company estimates by approximately \$2.2 billion, which were concentrated in the workers' compensation line. We also periodically conduct detailed reviews of individual client claims, which may cause us to adjust our case estimates.

In estimating 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 segments ("cells") based primarily on product type (e.g., treaty, facultative and program), line of business (e.g., auto liability, property and workers' compensation) and geographic jurisdiction. For each cell, we aggregate premiums and losses by accident year, policy year or underwriting year and analyze the data over time. There are several hundred cells. We use loss triangles to determine the expected development of reported claims for most coverages, which, together with the expected loss ratios, are used to calculate IBNR liability estimates. We select expected loss ratios by cell and by year based upon indicated ultimate loss ratios and forecasted losses obtained from pricing statistics. Indicated ultimate loss ratios are determined from the selected loss emergence pattern, reported losses and earned premiums. Factors affecting our loss development triangles include, but are not limited to, changes in the following: client claims 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 loss emergence patterns.

Once the IBNR liabilities are determined, we estimate the expected case loss emergence for the upcoming calendar year, based on the prior year-end expected loss emergence patterns and expected loss ratios. We allocate the expected losses into interim estimates, which we compare to actual reported losses. This comparison provides a test of the adequacy of prior year-end IBNR liabilities and forms the basis for possibly changing IBNR liability assumptions during the course of the year.

During 2016, we reduced net losses for prior years' occurrences by \$280 million in the aggregate. This reduction produced a corresponding increase in pre-tax earnings.

Reported claims for prior years' property loss events were less than expected and we reduced our estimated ultimate liabilities by \$157 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 2016, reported nominal losses for prior years' workers' compensation were less than expected, which after reevaluating expected remaining IBNR estimates, resulted in a reduction of nominal liabilities by \$165 million. However, we discount workers' compensation liabilities and after adjusting for changes in discounts, workers' compensation losses for prior years' occurrences had a minimal impact on pre-tax earnings. 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 discounted workers' compensation IBNR liabilities of approximately \$889 million, producing a corresponding decrease in pre-tax earnings. We believe it is reasonably possible for these assumptions to increase at these rates.

Other casualty and general liability reported losses (excluding mass tort losses) were less than expected in 2016, resulting in a \$205 million increase in pre-tax earnings. However, casualty losses tend to be long-tailed and it should not be assumed that favorable loss experience in a given period will continue in the future. For our significant casualty and general liability cells, 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.

Management's Discussion and Analysis (Continued)
Property and casualty losses (Continued)
General Re (Continued)

Overall industry-wide loss experience data and informed judgment are used when internal loss data is of limited reliability, such as for mass tort, asbestos and hazardous waste (collectively, "mass tort") liability estimates. General Re's net liability for such losses at December 31, 2016, was approximately \$1.2 billion, which included an increase in estimated ultimate losses of \$98 million during 2016, which produced a corresponding reduction in pre-tax earnings. Mass tort loss estimations 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. General Re's survival ratio was approximately 15 years as of December 31, 2016.

BHRG

A summary of BHRG's unpaid losses and loss adjustment expenses as of December 31, 2016 follows (in millions).

	<u>Property</u>	<u>Casualty</u>	<u>Total</u>
Reported case liabilities	\$ 1,556	\$ 2,399	\$ 3,955
IBNR liabilities	2,904	4,831	7,735
Retroactive reinsurance liabilities	—	24,675	24,675
Gross unpaid losses and loss adjustment expenses	<u>\$ 4,460</u>	<u>\$31,905</u>	<u>36,365</u>
Deferred charges and reinsurance recoverable			(8,509)
Net unpaid losses and loss adjustment expenses			<u>\$27,856</u>

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.

A large percentage of BHRG's unpaid losses and loss adjustment expenses derive from retroactive reinsurance contracts, which relate to loss events occurring before the contract inception date. Gross liabilities with respect to such contracts were approximately \$24.7 billion at December 31, 2016, and were predominately for casualty and liability coverages. We expect the claim-tail related to certain of these contracts to be very long.

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

Certain of our contracts include significant exposures to asbestos, environmental and other latent injury claims. We estimate that our liabilities for such claims were approximately \$13.7 billion at December 31, 2016. We do not receive consistently reliable information regarding asbestos, environmental and latent injury claims data from all ceding companies, particularly with respect to multi-line or aggregate excess-of-loss policies. Periodically, 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 2016, as were changes in the estimated timing and amount of remaining unpaid losses. In 2016, we paid losses and loss adjustment expenses of approximately \$1.1 billion with respect to these contracts.

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

We currently believe that maximum losses payable under our retroactive policies will not exceed \$40 billion due to the aggregate contract limits that are applicable to most of these contracts. 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 loss payable or downward by more than 15% of our year-end estimate.

We also record deferred charges with respect to our retroactive reinsurance contracts, which at contract inception represents the excess, if any, of the estimated ultimate liability for unpaid losses over premiums. Unamortized deferred charges were approximately \$8.0 billion at December 31, 2016, which will be amortized and charged to pre-tax earnings in the future based on the expected timing and amount of loss payments. Significant changes in such estimates may have a significant effect on unamortized deferred charges and the amount of periodic amortization. Based on the contracts in effect as of December 31, 2016, and the new AIG contract we currently estimate that amortization expense in 2017 will approximate \$950 million.

Gross unpaid losses and loss adjustment expense liabilities related to property and casualty contracts, other than retroactive reinsurance, were approximately \$11.7 billion as of December 31, 2016 and consisted primarily of traditional property and casualty coverages written primarily under excess-of-loss and quota-share treaties. These coverages included catastrophe and aviation contracts that tend to generate low frequency/high severity losses, although such liabilities have diminished in recent years due to declines in business written. Reserving techniques for catastrophe and individual risk 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.

We generally establish liabilities for unpaid losses and loss adjustments expenses for these contracts based upon loss estimates reported by ceding companies and IBNR reserves that are primarily a function of reported losses from ceding companies and anticipated loss ratios established on a portfolio basis, supplemented by management's estimates of the impact of major catastrophe events as they become known. In 2016, we decreased estimated ultimate losses for prior years' occurrences by approximately \$585 million, which primarily derived from lower than expected losses reported by ceding companies. The decrease produced a corresponding increase in pre-tax earnings.

Derivative contract liabilities

We measure derivative contract liabilities at fair value. Our most significant derivative contract exposures relate to equity index put option contracts written between 2004 and 2008. We believe that the fair values produced for long-duration options are inherently subjective. Actual values in an exchange may differ significantly from the values produced by any mathematical model, as transaction values may also reflect perceptions of individual buyers and sellers as well as other changes in market conditions.

We determine the fair value 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, 2016 were 1.2% and 3.3%, respectively. The interest rates were approximately 57 basis points (on a weighted average basis) over benchmark interest rates at the end of 2016 and represented our estimate of our nonperformance risk. We believe that the most significant economic risks under these contracts relate to changes in the index value component and, to a lesser degree, the foreign currency component.

The Black-Scholes based model also incorporates volatility estimates that measure potential price changes over time. Our contracts have an average remaining maturity of about four years. The weighted average volatility used as of December 31, 2016 was approximately 20.2%. We determine the weighted average volatilities based on the volatility input for each contract weighted by the contract's notional value. The volatility input for each contract reflects our expectation of future price volatility. The potential impact from changes in our volatility assumptions are as follows. (Dollars in millions).

Fair value at December 31, 2016	\$2,890
Hypothetical change in volatility	Hypothetical fair value
Increase 2 percentage points	\$ 3,098
Increase 4 percentage points	3,319
Decrease 2 percentage points	2,695
Decrease 4 percentage points	2,516

Management's Discussion and Analysis (Continued)***Other Critical Accounting Policies***

Our Consolidated Balance Sheet at December 31, 2016 included goodwill of acquired businesses of \$79.5 billion. We evaluate goodwill for impairment at least annually and we conducted our most recent annual review during the fourth quarter of 2016. 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

Historically, equity securities have represented a significant portion of our investment portfolio. Strategically, we strive to invest in businesses that possess excellent economics and able and honest management and at sensible prices, and we prefer to invest a meaningful amount in each investee. Consequently, equity investments are concentrated in relatively few issuers. At December 31, 2016, approximately 60% of the total fair value of equity securities and other investments was concentrated in five issuers.

We often hold our equity investments for long periods and short-term price volatility has and will occur. We are not necessarily disturbed by market price declines provided the underlying business, economic and management characteristics of the investees remain favorable. We strive to maintain significant levels of shareholder capital and ample liquidity to provide a margin of safety against short-term price volatility.

Market prices for equity securities are subject to fluctuation and consequently, the amount realized in the subsequent sale of an investment may significantly differ from the reported market value. Fluctuation in the market price of a security may result from perceived changes in the underlying economic characteristics of the investee, the relative price of alternative investments and general market conditions.

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 contract.

Management's Discussion and Analysis (Continued)
Equity Price Risk (Continued)

The following table summarizes our equity securities and other investments and derivative contract liabilities with significant equity price risk as of December 31, 2016 and 2015. We also show the effects of a hypothetical 30% increase and a 30% decrease in market prices as of those dates. The selected 30% hypothetical changes does not reflect the best or worst case scenarios. Indeed, results 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.

	<u>Fair Value</u>	<u>Hypothetical Price Change</u>	<u>Estimated Fair Value after Hypothetical Change in Prices</u>	<u>Hypothetical Percentage Increase (Decrease) in Shareholders' Equity</u>
<i>December 31, 2016</i>				
Assets:				
Equity securities	\$122,032	30% increase	\$158,642	8.4
		30% decrease	85,422	(8.4)
Other investments ⁽¹⁾	9,597	30% increase	13,699	0.9
		30% decrease	5,677	(0.9)
Liabilities:				
Equity index put option contracts	2,890	30% increase	1,602	0.3
		30% decrease	5,572	(0.6)
<i>December 31, 2015</i>				
Assets:				
Equity securities	\$112,137	30% increase	\$145,778	8.6
		30% decrease	78,496	(8.6)
Other investments ⁽¹⁾	13,839	30% increase	17,985	1.1
		30% decrease	9,385	(1.1)
Liabilities:				
Equity index put option contracts	3,552	30% increase	2,044	0.4
		30% decrease	6,561	(0.8)

⁽¹⁾ Excludes other investments that do not possess significant equity price risk.

Interest Rate Risk

We regularly invest in bonds, loans or other interest rate sensitive instruments. Our strategy is to acquire securities that are attractively priced relative to the perceived credit risk. Our management recognizes and accepts that 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 so as 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 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 those 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 fair values of fixed interest rate instruments are usually more sensitive to interest rate changes than variable rate instruments.

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

The following table summarizes the estimated effects of hypothetical changes in interest rates on our significant assets and liabilities that are subject to interest rate risk. We assumed that the interest rate changes occur immediately and uniformly to each category of instrument containing interest rate risk, and that there are 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. Variations in interest rates could produce significant changes in the timing of repayments due to prepayment options available to the issuer. For these reasons, actual results might 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, 2016						
Assets:						
Investments in fixed maturity securities	\$ 23,465	\$ 24,120	\$ 22,893	\$ 22,428	\$ 21,985	
Other investments ⁽¹⁾	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 indexput option contracts	2,890	3,287	2,533	2,213	1,928	
December 31, 2015						
Assets:						
Investments in fixed maturity securities	\$ 26,027	\$ 26,618	\$ 25,351	\$ 24,733	\$ 24,164	
Other investments ⁽¹⁾	11,394	11,571	10,664	10,228	9,814	
Loans and finance receivables	13,112	13,594	12,661	12,240	11,844	
Liabilities:						
Notes payable and other borrowings:						
Insurance and other	14,773	15,589	13,979	13,287	12,679	
Railroad, utilities and energy	62,471	68,625	57,279	52,833	49,006	
Finance and financial products	12,363	12,942	11,860	11,420	11,032	
Equity indexput option contracts	3,552	4,110	3,059	2,624	2,242	

⁽¹⁾ Excludes other investments that are not subject to a significant level of interest rate risk.

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 related to net liabilities of Berkshire and certain of its U.S. subsidiaries that are denominated in foreign currencies, including gains and losses from the remeasurement of such liabilities due to changes in exchange rates.

Management's Discussion and Analysis (Continued)
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 utilize derivative contracts to manage commodity price risks at BHE.

BHE's exposures to commodities include variations in the price of fuel required to generate electricity, wholesale electricity purchased and sold and natural gas supply for customers. Commodity prices are subject to wide price swings as supply and demand are impacted by, among many other unpredictable items, weather, market liquidity, generating facility availability, customer usage, storage and transmission and transportation constraints.

To mitigate a portion of the price volatility, BHE uses derivative instruments, including forwards, futures, options, swaps and other agreements, to effectively secure future supply or sell future production generally at fixed prices. The settled cost of these contracts is generally recoverable from customers in regulated rates. Financial results would be negatively impacted if the costs of wholesale electricity, fuel or natural gas are greater than what is permitted to be recovered in rates. The table that follows summarizes commodity price risk on energy derivative contracts of BHE as of December 31, 2016 and 2015 and shows the effects of a hypothetical 10% increase and a 10% decrease in forward market prices by the expected volumes for these contracts as of each date. The selected hypothetical change does not reflect the best or worst case scenarios. Dollars are in millions.

	Fair Value Net Assets (Liabilities)	Hypothetical Price Change	Estimated Fair Value after Hypothetical Change in Price
December 31, 2016	\$ (87)	10% increase	\$(18)
		10% decrease	(156)
December 31, 2015	\$ (233)	10% increase	\$(152)
		10% decrease	(313)

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 important 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.

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, 2016 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, 2016.

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which appears on page 63.

Berkshire Hathaway Inc.
February 24, 2017

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

We have audited the accompanying consolidated balance sheets of Berkshire Hathaway Inc. and subsidiaries (the “Company”) as of December 31, 2016 and 2015, and 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, 2016. We also have audited the Company’s internal control over financial reporting as of December 31, 2016, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. 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 conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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.

A company’s internal control over financial reporting is a process designed by, or under the supervision of, the company’s principal executive and principal financial officers, or persons performing similar functions, and effected by the company’s board of directors, management, and other personnel 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 the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Berkshire Hathaway Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, 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, 2016, based on the criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 24, 2017

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

	December 31,	
	2016	2015
ASSETS		
<i>Insurance and Other:</i>		
Cash and cash equivalents and U.S. Treasury Bills:		
Cash and cash equivalents	\$ 23,581	\$ 56,612
U.S. Treasury Bills	47,338	4,569
Total cash, cash equivalents and U.S. Treasury Bills	70,919	61,181
Investments:		
Fixed maturity securities	23,432	25,988
Equity securities	120,471	110,527
Other	14,364	15,683
Investments in The Kraft Heinz Company (Fair Value: 2016 – \$28,418, 2015 – \$32,042)	15,345	23,424
Receivables	27,097	23,303
Inventories	15,727	11,916
Property, plant and equipment	19,325	15,540
Goodwill	53,994	37,188
Other intangible assets	33,481	9,148
Deferred charges reinsurance assumed	8,047	7,687
Other	7,126	6,697
	<u>409,328</u>	<u>348,282</u>
<i>Railroad, Utilities and Energy:</i>		
Cash and cash equivalents	3,939	3,437
Property, plant and equipment	123,759	120,279
Goodwill	24,111	24,178
Regulatory assets	4,457	4,285
Other	13,550	12,833
	<u>169,816</u>	<u>165,012</u>
<i>Finance and Financial Products:</i>		
Cash and cash equivalents and U.S. Treasury Bills:		
Cash and cash equivalents	528	7,112
U.S. Treasury Bills	10,984	—
Total cash, cash equivalents and U.S. Treasury Bills	11,512	7,112
Investments in equity and fixed maturity securities	408	411
Other investments	2,892	5,719
Loans and finance receivables	13,300	12,772
Property, plant and equipment and assets held for lease	9,689	9,347
Goodwill	1,381	1,342
Other	2,528	2,260
	<u>41,710</u>	<u>38,963</u>
	<u><u>\$ 620,854</u></u>	<u><u>\$ 552,257</u></u>

See accompanying Notes to Consolidated Financial Statements

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

	December 31,	
	2016	2015
LIABILITIES AND SHAREHOLDERS' EQUITY		
<i>Insurance and Other:</i>		
Losses and loss adjustment expenses	\$ 76,918	\$ 73,144
Unearned premiums	14,245	13,311
Life, annuity and health insurance benefits	15,977	14,497
Other policyholder liabilities	6,714	7,123
Accounts payable, accruals and other liabilities	22,164	17,879
Notes payable and other borrowings	27,175	14,599
	<u>163,193</u>	<u>140,553</u>
<i>Railroad, Utilities and Energy:</i>		
Accounts payable, accruals and other liabilities	11,434	11,994
Regulatory liabilities	3,121	3,033
Notes payable and other borrowings	59,085	57,739
	<u>73,640</u>	<u>72,766</u>
<i>Finance and Financial Products:</i>		
Accounts payable, accruals and other liabilities	1,444	1,398
Derivative contract liabilities	2,890	3,836
Notes payable and other borrowings	15,384	11,951
	<u>19,718</u>	<u>17,185</u>
Income taxes, principally deferred	77,944	63,126
Total liabilities	<u>334,495</u>	<u>293,630</u>
Shareholders' equity:		
Common stock	8	8
Capital in excess of par value	35,681	35,620
Accumulated other comprehensive income	37,298	33,982
Retained earnings	211,777	187,703
Treasury stock, at cost	(1,763)	(1,763)
Berkshire Hathaway shareholders' equity	283,001	255,550
Noncontrolling interests	3,358	3,077
Total shareholders' equity	<u>286,359</u>	<u>258,627</u>
	<u>\$620,854</u>	<u>\$552,257</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,		
	2016	2015	2014
Revenues:			
<i>Insurance and Other:</i>			
Insurance premiums earned	\$ 45,881	\$ 41,294	\$ 41,253
Sales and service revenues	119,489	107,001	97,097
Interest, dividend and other investment income	4,725	5,357	5,052
Investment gains/losses	5,128	9,363	3,503
	<u>175,223</u>	<u>163,015</u>	<u>146,905</u>
<i>Railroad, Utilities and Energy:</i>			
Revenues	<u>37,542</u>	<u>40,004</u>	<u>40,690</u>
<i>Finance and Financial Products:</i>			
Sales and service revenues	6,208	5,430	5,094
Interest, dividend and other investment income	1,455	1,510	1,432
Investment gains/losses	2,425	10	72
Derivative gains/losses	751	974	506
	<u>10,839</u>	<u>7,924</u>	<u>7,104</u>
Total revenues	<u>223,604</u>	<u>210,943</u>	<u>194,699</u>
Costs and expenses:			
<i>Insurance and Other:</i>			
Insurance losses and loss adjustment expenses	30,906	26,527	26,406
Life, annuity and health insurance benefits	5,131	5,413	5,181
Insurance underwriting expenses	7,713	7,517	6,998
Cost of sales and services	95,754	87,029	78,873
Selling, general and administrative expenses	16,478	13,723	12,198
Interest expense	445	460	419
	<u>156,427</u>	<u>140,669</u>	<u>130,075</u>
<i>Railroad, Utilities and Energy:</i>			
Cost of sales and operating expenses	26,194	27,650	29,378
Interest expense	2,642	2,653	2,378
	<u>28,836</u>	<u>30,303</u>	<u>31,756</u>
<i>Finance and Financial Products:</i>			
Cost of sales and services	3,448	2,915	2,758
Selling, general and administrative expenses	1,739	1,586	1,523
Interest expense	410	402	456
	<u>5,597</u>	<u>4,903</u>	<u>4,737</u>
Total costs and expenses	<u>190,860</u>	<u>175,875</u>	<u>166,568</u>
Earnings before income taxes and equity in earnings of Kraft Heinz Company	<u>32,744</u>	<u>35,068</u>	<u>28,131</u>
Equity in earnings (losses) of Kraft Heinz Company	923	(122)	(26)
Earnings before income taxes	<u>33,667</u>	<u>34,946</u>	<u>28,105</u>
Income tax expense	9,240	10,532	7,935
Net earnings	<u>24,427</u>	<u>24,414</u>	<u>20,170</u>
Less: Earnings attributable to noncontrolling interests	353	331	298
Net earnings attributable to Berkshire Hathaway shareholders	<u>\$ 24,074</u>	<u>\$ 24,083</u>	<u>\$ 19,872</u>
Net earnings per equivalent Class A share outstanding*	<u>\$ 14,645</u>	<u>\$ 14,656</u>	<u>\$ 12,092</u>
Average equivalent Class A shares outstanding*	<u>1,643,826</u>	<u>1,643,183</u>	<u>1,643,456</u>

*Equivalent Class B shares outstanding are 1,500 times the equivalent Class A amount. Net earnings per equivalent Class B share outstanding are one-fifteen-hundredth of the equivalent Class A amount or \$9.76 for 2016, \$9.77 for 2015 and \$8.06 for 2014.

See accompanying Notes to Consolidated Financial Statements

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

	Year Ended December 31,		
	2016	2015	2014
Net earnings	\$24,427	\$24,414	\$20,170
Other comprehensive income:			
Net change in unrealized appreciation of investments	13,858	(8,520)	5,831
Applicable income taxes	(4,846)	3,014	(2,062)
Reclassification of investment appreciation in net earnings	(6,820)	(2,332)	(3,360)
Applicable income taxes	2,387	816	1,176
Foreign currency translation	(1,541)	(1,931)	(2,032)
Applicable income taxes	66	(43)	183
Prior service cost and actuarial gains/losses of defined benefit pension plans	354	424	(1,703)
Applicable income taxes	(187)	(140)	624
Other, net	(17)	(94)	8
Other comprehensive income, net	3,254	(8,806)	(1,335)
Comprehensive income	27,681	15,608	18,835
Comprehensive income attributable to noncontrolling interests	291	275	256
Comprehensive income attributable to Berkshire Hathaway shareholders	\$27,390	\$15,333	\$18,579

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, 2013	\$ 35,480	\$ 44,025	\$143,748	\$ (1,363)	\$ 2,595	\$224,485
Net earnings	—	—	19,872	—	298	20,170
Other comprehensive income, net	—	(1,293)	—	—	(42)	(1,335)
Issuance (acquisition) of common stock	118	—	—	(400)	—	(282)
Transactions with noncontrolling interests	(17)	—	—	—	6	(11)
Balance December 31, 2014	35,581	42,732	163,620	(1,763)	2,857	243,027
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	187,703	(1,763)	3,077	258,627
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	\$211,777	\$ (1,763)	\$ 3,358	\$286,359

See accompanying Notes to Consolidated Financial Statements

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

	Year Ended December 31,		
	2016	2015	2014
Cash flows from operating activities:			
Net earnings	\$ 24,427	\$ 24,414	\$ 20,170
Adjustments to reconcile net earnings to operating cash flows:			
Investment gains/losses	(7,553)	(9,373)	(3,575)
Depreciation and amortization	8,901	7,779	7,370
Other	(161)	751	(341)
Changes in operating assets and liabilities:			
Losses and loss adjustment expenses	4,372	2,262	7,404
Deferred charges reinsurance assumed	(360)	84	(3,413)
Unearned premiums	968	1,392	1,159
Receivables and originated loans	(3,302)	(1,650)	(1,890)
Derivative contract assets and liabilities	(946)	(974)	(520)
Income taxes	4,044	5,718	4,905
Other	2,145	1,088	741
Net cash flows from operating activities	<u>32,535</u>	<u>31,491</u>	<u>32,010</u>
Cash flows from investing activities:			
Purchases of U.S. Treasury Bills and fixed maturity securities	(96,568)	(17,891)	(12,562)
Purchases of equity securities	(16,508)	(10,220)	(10,014)
Purchase of Kraft Heinz common stock	—	(5,258)	—
Sales of U.S. Treasury Bills and fixed maturity securities	18,757	2,471	2,038
Redemptions and maturities of U.S. Treasury Bills and fixed maturity securities	26,177	14,656	10,285
Sales and redemptions of equity securities	28,464	8,747	8,896
Purchases of loans and finance receivables	(307)	(179)	(181)
Collections of loans and finance receivables	490	492	885
Acquisitions of businesses, net of cash acquired	(31,399)	(4,902)	(4,824)
Purchases of property, plant and equipment	(12,954)	(16,082)	(15,185)
Other	(419)	165	336
Net cash flows from investing activities	<u>(84,267)</u>	<u>(28,001)</u>	<u>(20,326)</u>
Cash flows from financing activities:			
Proceeds from borrowings of insurance and other businesses	9,431	3,358	845
Proceeds from borrowings of railroad, utilities and energy businesses	3,077	5,479	5,765
Proceeds from borrowings of finance businesses	4,741	1,045	1,148
Repayments of borrowings of insurance and other businesses	(1,264)	(1,916)	(1,289)
Repayments of borrowings of railroad, utilities and energy businesses	(2,123)	(1,725)	(1,862)
Repayments of borrowings of finance businesses	(1,313)	(1,827)	(1,543)
Changes in short term borrowings, net	130	(378)	932
Acquisitions of noncontrolling interests and other	112	(233)	(1,265)
Net cash flows from financing activities	<u>12,791</u>	<u>3,803</u>	<u>2,731</u>
Effects of foreign currency exchange rate changes	<u>(172)</u>	<u>(165)</u>	<u>(289)</u>
Increase (decrease) in cash and cash equivalents	(39,113)	7,128	14,126
Cash and cash equivalents at beginning of year	<u>67,161</u>	<u>60,033</u>	<u>45,907</u>
Cash and cash equivalents at end of year *	<u>\$ 28,048</u>	<u>\$ 67,161</u>	<u>\$ 60,033</u>
<i>* Cash and cash equivalents at end of year are comprised of the following:</i>			
Insurance and Other	\$23,581	\$56,612	\$54,738
Railroad, Utilities and Energy	3,939	3,437	3,001
Finance and Financial Products	528	7,112	2,294
	<u>\$28,048</u>	<u>\$67,161</u>	<u>\$60,033</u>

See accompanying Notes to Consolidated Financial Statements

BERKSHIRE HATHAWAY INC.
and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
December 31, 2016

(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.

(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 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 U.S. Treasury Bills

Cash equivalents consist of demand deposit and money market accounts, U.S. Treasury Bills with a maturity of three months or less when purchased and other investments with a maturity of three months or less when purchased. During 2016, we acquired significant amounts of U.S. Treasury Bills with maturity dates more than three months from their purchase dates. In prior years, such investments were not material and were classified as cash equivalents. We believe that in substance these U.S. Treasury Bills are like cash as they are readily convertible to known amounts of cash and present an insignificant risk of change in value because of changes in interest rates. In determining the appropriate accounting classification under GAAP, we considered the relevant accounting literature. We also consulted with our independent auditors who shared with us certain insights into commonly applied practice today. We have concluded that, notwithstanding our view of the substance of such instruments, these U.S. Treasury Bills technically do not meet a “bright line” definition of cash equivalents under GAAP. Accordingly, we are now presenting all U.S. Treasury Bills with maturity dates greater than three months from their purchase dates separately in the accompanying Consolidated Balance Sheets. Additionally, we have revised the 2014 and 2015 Consolidated Statements of Cash Flows to reflect this change. We believe that these changes have no effect whatsoever on our financial condition.

(d) Investments

We determine the appropriate classification of investments in fixed maturity and equity securities at the acquisition date and re-evaluate the classification at each balance sheet date. Held-to-maturity investments 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. 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. Substantially all of our investments in equity and fixed maturity securities are classified as available-for-sale.

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

Notes to Consolidated Financial Statements (Continued)**(1) Significant accounting policies and practices (Continued)***(d) Investments (Continued)*

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.

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 losses 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) 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 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)***(f) 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 when recovery through regulated rates is probable.

(g) 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.

(h) Inventories

Inventories consist of manufactured goods and goods acquired for resale. Manufactured inventory costs include raw materials, direct and indirect labor and factory overhead. Inventories are stated at the lower of cost or market. As of December 31, 2016, approximately 55% of our consolidated inventory cost was determined using the last-in-first-out ("LIFO") method, 28% using the first-in-first-out ("FIFO") method, and the remainder primarily using the average cost method. The difference between costs determined under LIFO and current costs was not significant as of December 31, 2016.

(i) 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 major 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(q).

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.

Property, plant and equipment and leased assets are depreciated to estimated salvage value primarily using the straight-line method over estimated useful lives or mandated recovery periods as prescribed by regulatory authorities. 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.

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)***(j) 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.

(k) 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, 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 policies are earned at the inception of the contracts, as all of the underlying loss events covered by these policies occurred in the past. Premiums for life reinsurance and annuity contracts are earned when due. Premiums earned are stated net of amounts ceded to reinsurers. For contracts containing experience rating provisions, premiums earned 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.

(l) Losses and loss adjustment expenses

Liabilities for losses and loss adjustment expenses are established under property/casualty insurance and reinsurance contracts issued by our insurance subsidiaries for loss events that have occurred as of the balance sheet date. The liabilities for losses and loss adjustment expenses are recorded at the estimated ultimate payment amounts, except that

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

amounts arising from certain workers' compensation reinsurance contracts are discounted. Estimated ultimate payment amounts are based upon (1) reports of losses from policyholders, (2) individual case estimates and (3) estimates of incurred but not reported losses.

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.

The estimated liabilities of workers' compensation claims assumed under certain reinsurance contracts are discounted based upon an annual discount rate of 4.5% for claims arising prior to January 1, 2003 and 1% for claims arising thereafter, consistent with insurance statutory accounting principles. The change in such discounts, including the periodic discount accretion is included in earnings as a component of losses and loss adjustment expenses.

(m) Deferred charges reinsurance assumed

The excess, if any, of the estimated ultimate liabilities for claims and claim settlement costs over the premiums earned with respect to retroactive property/casualty reinsurance contracts is recorded as a deferred charge at inception of the contract. Deferred charges are subsequently amortized 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 unamortized deferred charges. Changes in such estimates are applied retrospectively and the resulting changes in deferred charge balances are included in insurance losses and loss adjustment expenses in the period of the change.

(n) Insurance policy acquisition costs

Incremental costs that are directly related to the successful acquisition 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 \$1,991 million and \$1,920 million at December 31, 2016 and 2015, respectively.

(p) 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%.

(q) 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.

(r) 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

Notes to Consolidated Financial Statements (Continued)**(1) Significant accounting policies and practices (Continued)***(r) Foreign currency (Continued)*

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.

(s) 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 that are 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.

(t) New accounting pronouncements to be adopted subsequent to December 31, 2016

In May 2014, the FASB issued ASU 2014-09 "Revenue from Contracts with Customers." ASU 2014-09 applies to contracts with customers, excluding, most notably, insurance and leasing contracts. ASU 2014-09 prescribes a framework in accounting for revenues from contracts within its scope, including (a) identifying the contract, (b) identifying the performance obligations under the contract, (c) determining the transaction price, (d) allocating the transaction price to the identified performance obligations and (e) recognizing revenues as the identified performance obligations are satisfied. ASU 2014-09 also prescribes additional financial statement presentations and disclosures. We currently expect to adopt ASU 2014-09 as of January 1, 2018, under the modified retrospective method where the cumulative effect is recognized at the date of initial application. Our evaluation of ASU 2014-09 is ongoing and not complete. The FASB has issued and may issue in the future, interpretative guidance, which may cause our evaluation to change. While we anticipate some changes to revenue recognition for certain customer contracts, we do not currently believe the adoption of ASU 2014-09 will have a material effect on our Consolidated Financial Statements.

In January 2016, the FASB issued ASU 2016-01 "Financial Instruments—Recognition and Measurement of Financial Assets and Financial Liabilities." ASU 2016-01 generally requires that equity investments (excluding equity method investments) be measured at fair value with changes in fair value recognized in net income. Under existing GAAP, changes in fair value of available-for-sale equity investments are recorded in other comprehensive income. Given the current magnitude of our equity investments, the adoption of ASU 2016-01 will likely have a significant impact on the periodic net earnings reported in our Consolidated Statement of Earnings, although it will not significantly impact our comprehensive income or shareholders' equity. ASU 2016-01 is effective for reporting periods beginning after December 15, 2017, with the cumulative effect of the adoption made to the balance sheet as of the date of adoption. Thus, the adoption will result in a reclassification of the related accumulated unrealized appreciation currently included in accumulated other comprehensive income to retained earnings, with no impact on Berkshire's shareholders' equity.

In February 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, along with 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.

Notes to Consolidated Financial Statements (Continued)**(1) Significant accounting policies and practices (Continued)***(i) New accounting pronouncements to be adopted subsequent to December 31, 2016 (Continued)*

In June 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.

In January 2017, the FASB issued ASU 2017-04 “Simplifying the Test for Goodwill Impairment.” ASU 2017-04 eliminates the requirement to determine implied goodwill in measuring an impairment loss. Upon adoption, a goodwill impairment will be measured as the excess of the reporting unit’s carrying value over fair value, limited to the amount of goodwill. ASU 2017-04 is effective for goodwill impairment tests in fiscal years beginning after December 15, 2019 and early adoption is permitted. We are currently evaluating the effect this standard will have on our Consolidated Financial Statements.

(2) Significant business acquisitions

Our long-held acquisition strategy is to acquire businesses at sensible prices 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 short-term credit facility. PCC is a worldwide, diversified manufacturer of complex metal components and products. It serves the aerospace, power and general industrial markets. PCC is a market leader in manufacturing 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 is a leading producer of 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 the Duracell business from The Procter & Gamble Company (“P&G”) pursuant to a definitive agreement entered into in November 2014. Duracell is a leading manufacturer of high-performance alkaline batteries and is an innovator in wireless charging technologies. Pursuant to the agreement, we received a recapitalized Duracell Company in exchange for shares of P&G common stock held by Berkshire subsidiaries, which had a fair value of approximately \$4.2 billion.

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Notes to Consolidated Financial Statements (Continued)

(2) Significant business acquisitions (Continued)

During the fourth quarter of 2016, we revised the previously reported acquisition date fair values of certain identified assets and liabilities of PCC and Duracell, which primarily resulted in decreases in the amounts of identified intangible assets and deferred income tax liabilities, offset by increases in the amounts of goodwill. These revisions were immaterial to our Consolidated Financial Statements. Goodwill from these acquisitions is not amortizable for income tax purposes. The fair values of identified assets acquired and liabilities assumed and residual goodwill of PCC and Duracell 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

The following table sets forth certain unaudited pro forma consolidated earnings data for the year ending December 31, 2015 as if the PCC and Duracell acquisitions were consummated on the same terms at the beginning of 2015 (in millions, except per share amount). Pro forma data for 2016 was not materially different from the amounts reflected in the accompanying Consolidated Financial Statements.

	2015
Revenues	\$ 221,897
Net earnings attributable to Berkshire Hathaway shareholders	24,575
Net earnings per equivalent Class A common share	14,956

In the first quarter of 2015, we acquired the Van Tuyl Group (now named Berkshire Hathaway Automotive), which included 81 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. On December 1, 2014, we acquired AltaLink, L.P. ("AltaLink") for a cash purchase price of C\$3.1 billion (approximately \$2.7 billion). AltaLink is a regulated electric transmission-only business, headquartered in Calgary, Alberta. The goodwill related to the AltaLink acquisition is not amortizable for income tax purposes, while substantially all of the goodwill related to Berkshire Hathaway Automotive is amortizable for income tax purposes.

The fair values of identified assets acquired and liabilities assumed and residual goodwill of Berkshire Hathaway Automotive and AltaLink at their respective acquisition dates are summarized as follows (in millions).

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Notes to Consolidated Financial Statements (Continued)
(2) Significant business acquisitions (Continued)

	Berkshire Hathaway Automotive	AltaLink
Cash and investments	\$ 1,274	\$ 15
Property, plant and equipment	1,045	5,610
Goodwill	1,833	1,744
Other assets	2,488	300
Assets acquired	\$ 6,640	\$ 7,669
Accounts payable, accruals and other liabilities	\$ 1,399	\$ 1,090
Notes payable and other borrowings	1,129	3,851
Liabilities assumed	\$ 2,528	\$ 4,941
Net assets	\$ 4,112	\$ 2,728

On January 1, 2014, we acquired the beverage dispensing equipment manufacturing and merchandising business of British engineering company, IMI plc for approximately \$1.12 billion. On February 25, 2014, we acquired 100% of the outstanding common stock of Phillips Specialty Products Inc. ("PSPI"), a company providing oil flow improvement products to customers worldwide, from Phillips 66 ("PSX") in exchange for 17,422,615 shares of PSX common stock with an aggregate fair value of \$1.35 billion. On June 30, 2014, we acquired WPLG, Inc. ("WPLG") from Graham Holding Company ("GHC") in exchange for 1,620,190 shares of GHC common stock with an aggregate fair value of \$1.13 billion. WPLG operates a Miami, Florida, ABC affiliated television station. At their respective acquisition dates, assets of PSPI and WPLG included cash of \$778 million. WPLG assets also included 2,107 shares of Berkshire Hathaway Class A and 1,278 shares of Class B common stock. The aggregate fair value of the identified net assets related to these acquisitions was approximately \$2.2 billion and the residual goodwill was approximately \$1.4 billion.

During the last three years, we also completed several smaller-sized business acquisitions, primarily "bolt-on" acquisitions by our existing business operations. Aggregate consideration paid for these other business acquisitions was approximately \$1.4 billion in 2016, \$1.1 billion in 2015 and \$1.8 billion in 2014. We do not believe that these acquisitions were material to our Consolidated Financial Statements.

(3) Investments in fixed maturity securities

Investments in securities with fixed maturities as of December 31, 2016 and 2015 are summarized by type below (in millions).

	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
<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	997	126	(6)	1,117
	<u>\$ 22,434</u>	<u>\$ 1,121</u>	<u>\$ (90)</u>	<u>\$23,465</u>
<i>December 31, 2015</i>				
U.S. Treasury, U.S. government corporations and agencies	\$ 3,425	\$ 10	\$ (8)	\$ 3,427
States, municipalities and political subdivisions	1,695	71	(2)	1,764
Foreign governments	11,327	226	(85)	11,468
Corporate bonds	7,323	632	(29)	7,926
Mortgage-backed securities	1,279	168	(5)	1,442
	<u>\$ 25,049</u>	<u>\$ 1,107</u>	<u>\$ (129)</u>	<u>\$26,027</u>

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

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

	December 31,	
	2016	2015
Insurance and other	\$23,432	\$25,988
Finance and financial products	33	39
	<u>\$23,465</u>	<u>\$26,027</u>

Investments in foreign government securities include securities issued by national and provincial government entities as well as instruments that are unconditionally guaranteed by such entities. As of December 31, 2016, approximately 92% of 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 securities with fixed maturities at December 31, 2016 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	\$ 8,508	\$ 9,886	\$ 805	\$ 2,238	\$ 997	\$22,434
Fair value	8,573	10,219	872	2,684	1,117	23,465

(4) Investments in equity securities

Investments in equity securities as of December 31, 2016 and 2015 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, 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
	<u>\$ 66,377</u>	<u>\$ 56,365</u>	<u>\$ (710)</u>	<u>\$122,032</u>

* Approximately 56% of the aggregate fair value was concentrated in the equity securities of four companies (American Express Company—\$11.2 billion; Wells Fargo & Company—\$27.6 billion; International Business Machines Corporation (“IBM”)—\$13.5 billion; and The Coca-Cola Company—\$16.6 billion).

	Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
<i>December 31, 2015*</i>				
Banks, insurance and finance	\$ 20,026	\$ 27,965	\$ (21)	\$ 47,970
Consumer products	7,147	18,057	(1)	25,203
Commercial, industrial and other	35,417	6,785	(3,238)	38,964
	<u>\$ 62,590</u>	<u>\$ 52,807</u>	<u>\$ (3,260)</u>	<u>\$112,137</u>

* Approximately 59% of the aggregate fair value was concentrated in the equity securities of four companies (American Express Company—\$10.5 billion; Wells Fargo & Company—\$27.2 billion; IBM—\$11.2 billion; and The Coca-Cola Company—\$17.2 billion).

As of December 31, 2016 and 2015, we concluded that the unrealized losses shown in the tables above were temporary. Our conclusions were based on: (a) our ability and intent to hold the securities to recovery; (b) our assessment that the

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Notes to Consolidated Financial Statements (Continued)

(4) Investments in equity securities (Continued)

underlying business and financial condition of each of these issuers was favorable; (c) our opinion that the relative price declines were not significant; and (d) our belief that market prices will increase to and exceed our cost. As of December 31, 2016 and 2015, unrealized losses on equity securities in a continuous unrealized loss position for more than twelve consecutive months were \$551 million and \$989 million, respectively.

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

	December 31,	
	2016	2015
Insurance and other	\$ 120,471	\$ 110,527
Railroad, utilities and energy *	1,186	1,238
Finance and financial products	375	372
	<u>\$ 122,032</u>	<u>\$ 112,137</u>

* Included in other assets.

(5) Other investments

Other investments include preferred stock of Bank of America Corporation ("BAC"), warrants to purchase common stock of BAC and preferred stock of Restaurant Brands International, Inc. ("RBI") and in 2015 also included preferred stock of Wm. Wrigley Jr. Company ("Wrigley") and The Dow Chemical Company ("Dow"). Other investments are classified as available-for-sale and carried at fair value and are shown in our Consolidated Balance Sheets as follows (in millions).

	Cost		Fair Value	
	December 31,		December 31,	
	2016	2015	2016	2015
Insurance and other	\$6,720	\$ 9,690	\$ 14,364	\$ 15,683
Finance and financial products	1,000	3,052	2,892	5,719
	<u>\$7,720</u>	<u>\$12,742</u>	<u>\$17,256</u>	<u>\$ 21,402</u>

In 2008, we purchased \$2.1 billion of Wrigley preferred stock pursuant to a shareholder agreement in conjunction with Mars Incorporated's ("Mars") acquisition of Wrigley. Pursuant to certain put and call provisions in the shareholder agreement, up to 50% of our original investment was redeemable over a 90-day period scheduled to begin on October 6, 2016. In September 2016, pursuant to an agreement entered into in August 2016, Mars acquired all of our Wrigley preferred stock for approximately \$4.56 billion, which included a prorated dividend that would have otherwise been payable in October 2016.

In 2009, we acquired 3,000,000 shares of Series A Cumulative Convertible Perpetual Preferred Stock of Dow ("Dow Preferred") for approximately \$3 billion. In December 2016, Dow exercised its option to convert the Dow Preferred into 72.6 million shares of common stock. As of December 31, 2016, all shares of common stock received upon the conversion had been sold. The Dow Preferred was entitled to dividends at a rate of 8.5% per annum.

We currently own 50,000 shares of 6% Non-Cumulative Perpetual Preferred Stock of BAC ("BAC Preferred") with a liquidation value of \$100,000 per share and warrants to purchase 700,000,000 shares of common stock of BAC ("BAC Warrants"). The BAC Preferred is redeemable at the option of BAC beginning on May 7, 2019 at a redemption price of \$105,000 per share (or \$5.25 billion in aggregate). The BAC Warrants expire in 2021 and are exercisable for an additional aggregate cost of \$5 billion (\$7.142857/share).

We currently own Class A 9% Cumulative Compounding Perpetual Preferred Shares of RBI ("RBI Preferred") having a stated value of \$3 billion. RBI, domiciled in Canada, is the ultimate parent company of Burger King and Tim Hortons. The RBI Preferred is entitled to dividends on a cumulative basis of 9% per annum plus an additional amount, if necessary, to produce an after-tax yield to Berkshire as if the dividends were paid by a U.S.-based company. The RBI Preferred is redeemable at the option of RBI beginning on December 12, 2017. If not redeemed prior to December 12, 2024, we can cause RBI to redeem the RBI Preferred. In either case, the redemption price will be 109.9% of the stated value of such shares.

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

On June 7, 2013, Berkshire and an affiliate of the global investment firm 3G Capital (such affiliate, “3G”), each made equity investments in H.J. Heinz Holding Corporation (“Heinz Holding”), which, together with debt financing obtained by Heinz Holding, was used to acquire H. J. Heinz Company (“Heinz”). Berkshire’s initial investments consisted of 425 million shares of Heinz Holding common stock; warrants, which we exercised in June 2015, to acquire approximately 46 million additional shares of common stock at one cent per share; and cumulative compounding preferred stock (“Preferred Stock”) with a liquidation preference of \$8 billion. The aggregate cost of our investments was \$12.25 billion. 3G also acquired 425 million shares of Heinz Holding common stock for \$4.25 billion. On June 7, 2016, our Preferred Stock investment was redeemed for cash of \$8.32 billion. Prior to its redemption, the Preferred Stock was entitled to dividends at 9% per annum. Dividends earned on the Preferred Stock were \$180 million in 2016, \$852 million in 2015 and \$720 million in 2014 and are included in interest, dividends and other investment income.

On July 1, 2015, Berkshire acquired 262.9 million shares of newly issued common stock of Heinz Holding for \$5.26 billion and 3G acquired 237.1 million shares of newly issued common stock of Heinz Holding for \$4.74 billion. Immediately thereafter, Heinz Holding executed a reverse stock split at a rate of 0.443332 of a share for each share. As of that date, Berkshire owned 52.5% of Heinz Holding’s outstanding common stock.

On July 2, 2015, Heinz Holding acquired Kraft Foods Group, Inc. (“Kraft”). Upon completion of the acquisition, Heinz Holding was renamed The Kraft Heinz Company (“Kraft Heinz”). Kraft Heinz is one of the world’s largest manufacturers and marketers of food and beverage products, including condiments and sauces, cheese and dairy products, meats, refreshment beverages, coffee, and other grocery products. Kraft Heinz’s leading brands include *Kraft*, *Heinz*, *ABC*, *Capri Sun*, *Classico*, *Jell-O*, *Kool-Aid*, *Lunchables*, *Maxwell House*, *Ore-Ida*, *Oscar Mayer*, *Philadelphia*, *Planters*, *Plasmon*, *Quero*, *Weight Watchers Smart Ones* and *Velveeta*.

In connection with the acquisition of Kraft, its shareholders received one share of newly issued Kraft Heinz common stock for each share of Kraft common stock and a special cash dividend of \$16.50 per share. Following the issuance of these additional shares, Berkshire and 3G together owned approximately 51% of the outstanding Kraft Heinz common stock, with Berkshire owning approximately 26.8% and 3G owning 24.2%. 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.

A summary of our investments in Kraft Heinz follows (in millions).

	Carrying Value	
	December 31, 2016	December 31, 2015
Common stock	\$ 15,345	\$ 15,714
Preferred Stock	—	7,710
	<u>\$ 15,345</u>	<u>\$ 23,424</u>

Our equity method earnings (losses) on the common stock were \$923 million in 2016, \$(122) million in 2015 and \$(26) million in 2014. Common stock dividends received were \$952 million in 2016 and \$366 million in 2015.

Summarized consolidated financial information of Kraft Heinz follows (in millions).

	December 31, 2016	January 3, 2016
Assets	\$ 120,480	\$ 122,973
Liabilities	62,906	56,737

	Year ending December 31, 2016	Year ending January 3, 2016	Year ending December 28, 2014
Sales	\$ 26,487	\$ 18,338	\$ 10,922
Net earnings	\$ 3,632	\$ 634	\$ 657
Net earnings (loss) attributable to common shareholders	<u>\$ 3,452</u>	<u>\$ (266)</u>	<u>\$ (63)</u>

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

Investment gains/losses, including other-than-temporary impairment (“OTTI”) losses, for each of the three years ending December 31, 2016 are summarized below (in millions).

	2016	2015	2014
Fixed maturity securities—			
Gross gains from sales and other disposals	\$ 58	\$ 104	\$ 360
Gross losses from sales and other disposals	(50)	(171)	(89)
Equity securities—			
Gross gains from sales and redemptions	7,853	9,526	4,016
Gross losses from sales and redemptions	(334)	(103)	(125)
OTTI losses	(82)	(26)	(697)
Other	108	43	110
	<u>\$7,553</u>	<u>\$9,373</u>	<u>\$3,575</u>

Gains from sales and redemptions of equity securities in 2016 included approximately \$2.4 billion from the disposition of our investment in Wrigley preferred stock, \$610 million from the redemption of our investment in Kraft Heinz Preferred Stock, \$1.2 billion upon the conversion of our investment in Dow Preferred and a non-cash holding gain of approximately \$1.1 billion from the exchange of our P&G common stock in the acquisition of Duracell. The non-cash gain from the P&G/Duracell exchange represented the excess of the fair value of net assets of Duracell over the cost basis of the P&G stock exchanged.

Gains from sales and redemptions of 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 6). Gains from sales and redemptions of equity securities during 2014 included non-cash holding gains of approximately \$2.1 billion from the exchange of Phillips 66 (“PSX”) common stock in connection with the acquisition of Phillips Specialty Products Inc. (currently named LiquidPower Specialty Products Inc. (“LSPI”)) and the exchange of Graham Holding Company (“GHC”) common stock for WPLG, Inc. (“WPLG”). These holding gains represented the excess of the respective fair value of the net assets of LSPI and WPLG received over the respective cost basis of the PSX and GHC shares exchanged.

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. OTTI losses recognized in earnings represent reductions in the cost basis of the investment, but not the fair value. Accordingly, such losses that are included in earnings are generally offset by a credit to other comprehensive income, producing no net effect on shareholders’ equity as of the balance sheet date. In 2014, we recorded an OTTI charge of \$678 million related to our investment in equity securities of Tesco PLC.

(8) Inventories

Inventories are comprised of the following (in millions).

	December 31,	
	2016	2015
Raw materials	\$ 2,789	\$ 1,852
Work in process and other	2,506	778
Finished manufactured goods	4,033	3,369
Goods acquired for resale	6,399	5,917
	<u>\$15,727</u>	<u>\$11,916</u>

Inventories at December 31, 2016 included approximately \$3.5 billion related to PCC and Duracell.

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Notes to Consolidated Financial Statements (Continued)

(9) Receivables

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

	December 31,	
	2016	2015
Insurance premiums receivable	\$10,462	\$ 8,843
Reinsurance recoverable on unpaid losses	3,338	3,307
Trade and other receivables	13,630	11,521
Allowances for uncollectible accounts	(333)	(368)
	<u>\$27,097</u>	<u>\$23,303</u>

Trade and other receivables at December 31, 2016 included approximately \$1.8 billion related to PCC and Duracell.

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

	December 31,	
	2016	2015
Loans and finance receivables before allowances and discounts	\$13,728	\$13,186
Allowances for uncollectible loans	(182)	(182)
Unamortized acquisition discounts	(246)	(232)
	<u>\$13,300</u>	<u>\$12,772</u>

Loans and finance receivables are predominantly installment loans originated or acquired by our manufactured housing business. Provisions for loan losses for 2016 and 2015 were \$144 million and \$148 million, respectively. Loan charge-offs, net of recoveries, were \$144 million in 2016 and \$177 million in 2015. At December 31, 2016, 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, 2016, approximately 98% of the loan balances were determined to be performing and approximately 94% of the loan balances were current as to payment status.

(10) 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).

	Ranges of estimated useful life	December 31,	
		2016	2015
Land	—	\$ 2,108	\$ 1,689
Buildings and improvements	5 – 40 years	8,360	7,329
Machinery and equipment	3 – 25 years	20,463	17,054
Furniture, fixtures and other	2 – 15 years	4,080	3,545
		<u>35,011</u>	<u>29,617</u>
Accumulated depreciation		<u>(15,686)</u>	<u>(14,077)</u>
		<u>\$ 19,325</u>	<u>\$ 15,540</u>

Property, plant and equipment at December 31, 2016 included approximately \$3.3 billion related to PCC and Duracell.

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

A summary of property, plant and equipment of our railroad and our utilities and energy businesses follows (in millions).

	Ranges of estimated useful life	December 31,	
		2016	2015
Railroad:			
Land	—	\$ 6,063	\$ 6,037
Track structure and other roadway	7 – 100 years	48,277	45,967
Locomotives, freight cars and other equipment	6 – 40 years	12,075	11,320
Construction in progress	—	965	1,031
		67,380	64,355
Accumulated depreciation		(6,130)	(4,845)
		61,250	59,510
Utilities and energy:			
Utility generation, transmission and distribution systems	5 – 80 years	71,536	69,248
Interstate natural gas pipeline assets	3 – 80 years	6,942	6,755
Independent power plants and other assets	3 – 30 years	6,596	5,626
Construction in progress	—	2,098	2,627
		87,172	84,256
Accumulated depreciation		(24,663)	(23,487)
		62,509	60,769
		<u>\$123,759</u>	<u>\$120,279</u>

The utility generation, transmission and distribution systems and interstate natural gas pipeline assets are owned by regulated public utility and natural gas pipeline subsidiaries.

Assets held for lease and property, plant and equipment of our finance and financial products businesses are summarized below (in millions).

	Ranges of estimated useful life	December 31,	
		2016	2015
Assets held for lease			
Assets held for lease	5 – 35 years	\$11,902	\$11,317
Land	—	224	220
Buildings, machinery and other	3 – 50 years	1,302	1,207
		13,428	12,744
Accumulated depreciation		(3,739)	(3,397)
		<u>\$ 9,689</u>	<u>\$ 9,347</u>

Assets held for lease includes railcars, intermodal tank containers, cranes, over-the-road trailers, storage units and furniture. As of December 31, 2016, the minimum future lease rentals to be received on assets held for lease (including rail cars leased from others) were as follows (in millions): 2017 – \$1,251; 2018 – \$992; 2019 – \$744; 2020 – \$543; 2021 – \$358; and thereafter – \$525.

Depreciation expense for each of the three years ending December 31, 2016 is summarized below (in millions).

	2016	2015	2014
Insurance and other	\$2,148	\$1,680	\$1,632
Railroad, utilities and energy	4,639	4,383	3,981
Finance and financial products	624	610	602
	<u>\$7,411</u>	<u>\$6,673</u>	<u>\$6,215</u>

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Notes to Consolidated Financial Statements (Continued)
(11) Goodwill and other intangible assets

A reconciliation of the change in the carrying value of goodwill is as follows (in millions).

	December 31,	
	2016	2015
Balance at beginning of year	\$62,708	\$60,714
Acquisitions of businesses	17,650	2,563
Other, including foreign currency translation	(872)	(569)
Balance at end of year	<u>\$79,486</u>	<u>\$62,708</u>

Other intangible assets are summarized as follows (in millions).

	December 31, 2016		December 31, 2015	
	Gross carrying amount	Accumulated amortization	Gross carrying amount	Accumulated amortization
Insurance and other	\$ 39,976	\$ 6,495	\$ 14,610	\$ 5,462
Railroad, utilities and energy	898	293	888	239
	<u>\$ 40,874</u>	<u>\$ 6,788</u>	<u>\$ 15,498</u>	<u>\$ 5,701</u>
Trademarks and trade names	\$ 5,175	\$ 616	\$ 3,041	\$ 765
Patents and technology	4,341	2,328	4,252	2,050
Customer relationships	28,243	2,879	5,474	2,131
Other	3,115	965	2,731	755
	<u>\$ 40,874</u>	<u>\$ 6,788</u>	<u>\$ 15,498</u>	<u>\$ 5,701</u>

Amortization expense was \$1,490 million in 2016, \$1,106 million in 2015 and \$1,155 million in 2014. Estimated amortization expense over the next five years is as follows (in millions): 2017 – \$1,383; 2018 – \$1,349; 2019 – \$1,229; 2020 – \$1,131 and 2021 – \$1,042. Intangible assets with indefinite lives as of December 31, 2016 and 2015 were \$18,705 million and \$2,964 million, respectively. Other intangible assets at December 31, 2016 included assets of PCC and Duracell of approximately \$24.8 billion, which included approximately \$13.6 billion in customer relationships and \$2.3 billion in trade names that were determined to have indefinite lives.

(12) Derivative contracts

Derivative contracts have been entered into primarily through our finance and financial products and our utilities and energy businesses. A summary of the liabilities and related notional values of derivative contracts of our finance and financial products businesses follows (in millions).

	December 31, 2016		December 31, 2015	
	Liabilities	Notional Value	Liabilities	Notional Value
Equity index put options	\$ 2,890	\$26,497 ⁽¹⁾	\$ 3,552	\$27,722 ⁽¹⁾
Credit default ⁽²⁾	—	—	284	7,792
	<u>\$ 2,890</u>		<u>\$ 3,836</u>	

⁽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.

⁽²⁾ In July 2016, our remaining credit default contract was terminated by mutual agreement with the counterparty. We no longer have any exposure to losses under credit default contracts.

The derivative contract liabilities of our finance and financial products businesses are recorded at fair value and the changes in the fair values of such contracts are reported in earnings as derivative gains/losses. We entered into these contracts

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

with the expectation that the premiums received would exceed the amounts ultimately paid to counterparties. A summary of the derivative gains/losses included in our Consolidated Statements of Earnings in each of the three years ending December 31, 2016 follows (in millions).

	2016	2015	2014
Equity index put options	\$662	\$1,008	\$108
Credit default and other	89	(34)	398
	<u>\$751</u>	<u>\$ 974</u>	<u>\$506</u>

The equity index put option contracts are European style options written between 2004 and 2008 on four major equity indexes. These 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 the premiums on these contracts at the inception dates and therefore 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) of our equity index put option contracts was approximately \$1.0 billion at December 31, 2016 and \$1.1 billion at December 31, 2015. However, these contracts may not be unilaterally terminated or fully settled before the expiration dates. Therefore, the ultimate amount of cash basis gains or losses on these contracts will not be determined for several years. The remaining weighted average life of all contracts was approximately four years at December 31, 2016.

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, 2016, 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, 2016 and \$103 million as of December 31, 2015. Derivative contract liabilities are included in accounts payable, accruals and other liabilities and were \$145 million as of December 31, 2016 and \$237 million as of December 31, 2015. Net derivative contract assets or liabilities of our regulated utilities that are probable of recovery through rates, 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.

(13) Supplemental cash flow information

A summary of supplemental cash flow information for each of the three years ending December 31, 2016 is presented in the following table (in millions).

	2016	2015	2014
Cash paid during the period for:			
Income taxes	\$ 4,719	\$4,535	\$4,014
Interest:			
Insurance and other businesses	555	346	360
Railroad, utilities and energy businesses	2,788	2,717	2,487
Finance and financial products businesses	389	403	465
Non-cash investing and financing activities:			
Liabilities assumed in connection with business acquisitions	16,555	2,812	6,334
Equity securities exchanged in connection with business acquisitions	4,239	—	2,478
Treasury stock acquired in connection with business acquisition	—	—	400
Conversions and other exchanges of investments	4,154	1,597	—

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

The liabilities for unpaid losses and loss adjustment expenses (also referred to as “claim liabilities”) under our 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 for each of the three years ending December 31, 2016 is as follows (in millions).

	2016	2015	2014
Unpaid losses and loss adjustment expenses—beginning of year:			
Gross liabilities	\$ 73,144	\$ 71,477	\$ 64,866
Reinsurance recoverable and deferred charges	(10,994)	(10,888)	(7,414)
Net balance	62,150	60,589	57,452
Incurred losses and loss adjustment expenses recorded during the year:			
Current accident year events	30,636	27,829	24,335
Prior accident years’ events	(1,512)	(2,014)	(2,280)
Retroactive reinsurance and discount accretion	1,782	712	4,351
Total incurred losses and loss adjustment expenses	30,906	26,527	26,406
Paid losses and loss adjustment expenses during the year with respect to:			
Current accident year events	(14,898)	(13,070)	(11,291)
Prior accident years’ events	(10,958)	(10,268)	(10,297)
Retroactive reinsurance	(1,130)	(1,151)	(1,082)
Total payments	(26,986)	(24,489)	(22,670)
Foreign currency translation adjustment	(537)	(545)	(666)
Business acquisitions	—	68	67
Unpaid losses and loss adjustment expenses—end of year:			
Net balance	65,533	62,150	60,589
Reinsurance recoverable and deferred charges	11,385	10,994	10,888
Gross liabilities	\$ 76,918	\$ 73,144	\$ 71,477

Incurred losses and loss adjustment expenses in the preceding table reflect the losses and loss adjustment expenses recorded in earnings in each year related to insured events occurring in the current year and in prior years. We present incurred and paid losses under retroactive reinsurance contracts and discount accretion separately. Such amounts relate to prior years’ underlying loss events. Additionally, we discount unpaid losses from certain workers’ compensation reinsurance contracts. Discounted workers’ compensation liabilities at December 31, 2016 and 2015 were approximately \$1.9 billion and \$2.0 billion, respectively, reflecting net discounts of \$1.4 billion and \$1.6 billion.

Incurred losses and loss adjustment expenses reflected reductions for prior years’ insured events of approximately \$1.5 billion in 2016, \$2.0 billion in 2015 and \$2.3 billion in 2014. In each year, these reductions derived from our direct insurance business (including private passenger automobile and medical malpractice and workers’ compensation coverages), as well as from reinsurance business. The reductions for our reinsurance business were primarily attributable to lower than expected reported losses from ceding companies with respect to property coverages.

Estimated claim liabilities for environmental, asbestos and other latent injury exposures, net of reinsurance recoverables, were approximately \$15.3 billion at December 31, 2016 and \$14.0 billion at December 31, 2015, and included approximately \$13.7 billion at December 31, 2016 and \$12.4 billion at December 31, 2015 from retroactive reinsurance contracts. 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. Such development 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.

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Notes to Consolidated Financial Statements (Continued)
(14) 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, General Re, Berkshire Hathaway Reinsurance Group (“BHRG”) and Berkshire Hathaway Primary Group (“BH Primary”) to our consolidated unpaid losses and loss adjustment expenses as of December 31, 2016, along with a discussion regarding each group’s liability estimation processes, follows.

	<u>December 31, 2016</u> (in millions)	
Unpaid losses and ALAE, net of reinsurance recoverable:		
GEICO	\$	12,981
General Re		13,973
BHRG		10,172
BH Primary		10,173
		<u>\$47,299</u>
Reinsurance recoverable:		
GEICO		1,084
General Re		611
BHRG		121
BH Primary		1,099
		<u>2,915</u>
Retroactive reinsurance, unpaid losses and loss adjustment expenses		24,675
Other short-duration contracts, unpaid losses and loss adjustment expenses		1,390
Discount on workers’ compensation reinsurance liabilities		(1,433)
Unpaid unallocated loss adjustment expenses		<u>2,072</u>
Unpaid losses and loss adjustment expenses		<u><u>\$76,918</u></u>

GEICO

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.

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.

GEICO’s claims are counted 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” in the table which follows includes the combined number of reported claims for all policy coverages and excludes projected IBNR claims.

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

GEICO's claim liabilities predominantly relate to various types of private passenger auto liability and physical damage claims. 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, 2016. 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)
	2012*	2013*	2014*	2015*	2016		
2012	\$12,034	\$11,904	\$11,893	\$11,906	\$11,900	\$ 79	6,459
2013		12,990	12,815	12,859	12,837	184	7,102
2014			14,597	14,488	14,477	539	7,965
2015				16,807	16,798	1,394	8,891
2016					18,982	3,132	9,336
					Incurred losses and ALAE	\$74,994	

Accident Year	Cumulative Paid Losses and ALAE through December 31,					Paid losses and ALAE	
	2012*	2013*	2014*	2015*	2016		
2012	\$ 7,550	\$ 9,832	\$ 10,744	\$ 11,311	\$ 11,609		
2013		7,944	10,494	11,569	12,174		
2014			9,133	11,956	13,060		
2015				10,543	13,785		
2016					11,927		
						Paid losses and ALAE	62,555
						Net unpaid losses and ALAE for 2012—2016 accident years	12,439
						Net unpaid losses and ALAE for accident years before 2012*	542
						Net unpaid losses and ALAE	\$ 12,981

* Unaudited supplemental information

General Re

General Re's liabilities for unpaid losses and loss adjustment expenses include case and IBNR estimates and primarily relate to casualty and workers' compensation coverages. Case losses are reported under reinsurance contracts either individually or in bulk as provided under the terms of the contracts. We independently evaluate reported loss amounts and if deemed appropriate, we establish case liabilities based on our estimates.

We primarily use Bornhuetter—Ferguson methods to estimate IBNR amounts for claims liabilities. The expected case loss emergence patterns and expected loss ratios are the critical assumptions applicable to these estimates. Once the annual IBNR liabilities are determined, we estimate the expected case loss emergence for the next calendar year based on the prior year-end expected loss emergence patterns and expected loss ratios. Liability estimates also include estimates of the impact of major catastrophe events as they become known, which rely more on a per-policy assessment of the ultimate cost associated with the individual loss event. Claim count data is excluded, as such information is not provided consistently by ceding companies under our contracts or is otherwise considered unreliable.

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

General Re'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, 2016. Dollars are in millions.

Accident Year	Incurred Losses and ALAE through December 31,										IBNR and Case Development Liabilities
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016	
2007	\$ 1,857	\$ 1,915	\$ 1,852	\$ 1,746	\$ 1,673	\$ 1,619	\$ 1,574	\$ 1,559	\$ 1,535	\$ 1,512	\$ 73
2008		1,920	2,011	1,903	1,818	1,746	1,713	1,669	1,648	1,635	93
2009			1,703	1,790	1,704	1,601	1,523	1,490	1,471	1,431	125
2010				1,881	2,055	1,939	1,845	1,757	1,712	1,674	156
2011					2,102	2,126	1,897	1,792	1,744	1,669	208
2012						1,810	1,850	1,707	1,603	1,535	335
2013							1,945	2,095	1,994	1,854	417
2014								1,740	1,843	1,794	578
2015									1,811	1,999	777
2016										1,715	1,173
	Incurred losses and ALAE										\$ 16,818

Accident Year	Cumulative Paid Losses and ALAE through December 31,										2016
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016	
2007	\$ 282	\$ 821	\$ 1,020	\$ 1,132	\$ 1,195	\$ 1,238	\$ 1,291	\$ 1,309	\$ 1,322	\$ 1,335	
2008		330	894	1,074	1,187	1,246	1,289	1,315	1,330	1,354	
2009			264	734	897	994	1,065	1,115	1,145	1,161	
2010				247	782	997	1,147	1,243	1,304	1,359	
2011					302	841	1,086	1,190	1,259	1,317	
2012						199	664	829	916	991	
2013							275	829	1,060	1,162	
2014								171	666	864	
2015									207	693	
2016										171	
	Paid losses and ALAE										10,407
	Net unpaid losses and ALAE for 2007—2016 accident years										6,411
	Net unpaid losses and ALAE for accident years before 2007*										7,562
	Net unpaid losses and ALAE										\$ 13,973

* Unaudited supplemental information

BHRG

BHRG's liabilities for losses and ALAE are principally a function of reported losses from ceding companies and IBNR and case development liability estimates which are based on expected loss ratios established on a portfolio basis. Liability estimates also include estimates of the impact of major catastrophe events, as they become known, which rely more on a per-policy assessment of the ultimate cost associated with the individual loss event. The expected loss ratios are based upon management's judgment considering the type of business covered, analysis of each ceding company's loss history and evaluation of the portion of the underlying contracts that we reinsure. Claim count data is excluded, as such information is not provided consistently by ceding companies under our contracts or is otherwise considered unreliable.

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

BHRG'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, 2016. Dollars are in millions.

Accident Year	Incurred Losses and ALAE through December 31,**										IBNR and Case Development Liabilities
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016	
2007	\$1,810	\$1,756	\$1,659	\$1,658	\$1,652	\$1,590	\$1,583	\$1,560	\$1,500	\$ 1,471	\$ 133
2008		3,388	3,130	2,988	2,903	2,835	2,748	2,683	2,605	2,578	244
2009			2,974	2,858	2,989	2,926	2,847	2,759	2,691	2,668	215
2010				2,876	2,974	2,883	2,771	2,610	2,575	2,551	238
2011					4,418	4,544	4,358	4,440	4,389	4,365	452
2012						4,054	3,878	3,648	3,583	3,531	694
2013							3,326	3,144	2,935	2,832	733
2014								2,688	2,585	2,492	736
2015									3,207	3,070	1,113
2016										3,390	1,907
	Incurred losses and ALAE										\$28,948

Accident Year	Cumulative Paid Losses and ALAE through December 31,**										2016
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016	
2007	\$ 171	\$ 677	\$ 891	\$ 993	\$ 1,055	\$ 1,120	\$ 1,170	\$ 1,196	\$ 1,211	\$ 1,221	
2008		364	1,146	1,617	1,836	1,976	2,056	2,131	2,205	2,228	
2009			372	1,182	1,605	1,937	2,147	2,306	2,336	2,363	
2010				193	889	1,414	1,736	2,041	2,119	2,177	
2011					552	2,130	2,872	3,315	3,475	3,600	
2012						360	1,279	2,080	2,350	2,519	
2013							516	1,070	1,555	1,774	
2014								437	1,031	1,319	
2015									550	1,354	
2016										778	
	Paid losses and ALAE										19,333
	Net unpaid losses and ALAE for 2007—2016 accident years										9,615
	Net unpaid losses and ALAE for accident years before 2007*										557
	Net unpaid losses and ALAE										\$ 10,172

* Unaudited supplemental information

** Excludes retroactive reinsurance losses and ALAE

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 claim that ultimately result in no liability or payment.

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Notes to Consolidated Financial Statements (Continued)
(14) 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, 2016. 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)
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016		
2007	\$1,328	\$1,233	\$1,174	\$1,090	\$ 955	\$ 901	\$ 852	\$ 817	\$ 788	\$ 775	\$ 46	137
2008		1,349	1,273	1,228	1,168	1,081	1,015	979	948	920	80	136
2009			1,298	1,211	1,180	1,159	1,068	1,020	966	936	99	117
2010				1,268	1,186	1,191	1,129	1,062	994	956	150	111
2011					1,888	1,633	1,605	1,452	1,375	1,297	223	109
2012						2,129	2,079	2,017	1,944	1,903	453	135
2013							2,294	2,213	2,133	2,060	595	150
2014								2,967	2,780	2,730	1,027	177
2015									3,575	3,458	1,631	188
2016										4,149	2,682	135
	Incurred losses and ALAE										\$19,184	

Accident Year	Cumulative Paid Losses and ALAE through December 31,										2015*	2016
	2007*	2008*	2009*	2010*	2011*	2012*	2013*	2014*	2015*	2016		
2007	\$128	\$ 284	\$ 409	\$ 510	\$ 578	\$ 628	\$ 660	\$ 679	\$ 696	\$ 705		
2008		174	333	464	578	662	728	772	795	810		
2009			147	305	445	569	655	726	771	798		
2010				146	313	458	570	657	722	758		
2011					163	396	602	753	898	973		
2012						211	598	844	1,053	1,208		
2013							350	706	985	1,197		
2014								453	896	1,247		
2015									502	1,078		
2016										634		
	Paid losses and ALAE											9,408
	Net unpaid losses and ALAE for 2007—2016 accident years											9,776
	Net unpaid losses and ALAE for accident years before 2007*											397
	Net unpaid losses and ALAE											\$10,173

* 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	62.2%	19.6%	8.0%	4.8%	2.7%					
Gen Re	14.8%	31.0%	12.2%	6.8%	4.6%	3.2%	2.6%	1.1%	1.2%	0.9%
BHRG	14.7%	28.2%	17.2%	9.4%	6.3%	3.9%	2.4%	1.9%	1.0%	0.7%
BH Primary	15.4%	17.8%	14.5%	11.9%	9.2%	6.8%	4.3%	2.6%	1.9%	1.2%

Retroactive Reinsurance

BHRG's retroactive reinsurance contracts cover underlying loss events that occurred prior to the contract inception date, which are paid immediately after the contract date or once a contractual retention amount has been reached. As of December 31, 2016 approximately 83% of gross unpaid losses pertained to underlying loss events that occurred prior to January 2007. We do

Notes to Consolidated Financial Statements (Continued)

(14) Unpaid losses and loss adjustment expenses (Continued)

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 no practical analytical value.

In establishing retroactive reinsurance liabilities, we often analyze historical aggregate loss payment patterns and project losses into the future under various scenarios. We expect the claim-tail to be very long for many contracts, with some lasting several decades. We assign judgmental probability factors to these aggregate loss payment scenarios and an expectancy outcome is determined. We monitor claim payment activity and review ceding company reports and other information concerning the underlying losses. Since the expected claim-tails are often very long, 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.

Incurred losses and loss adjustment expenses attributable to retroactive reinsurance contracts included \$1.26 billion in 2016 and \$3.43 billion in 2014 from new contracts written in those years. Incurred losses related to retroactive reinsurance contracts written in prior years were \$440 million in 2016, \$631 million in 2015 and \$831 million in 2014, which included recurring amortization of deferred charges and the effect of changes in the timing and amount of expected future loss payments.

(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, 2016.

	Weighted Average Interest Rate	December 31,	
		2016	2015
<i>Insurance and other:</i>			
Issued by Berkshire due 2017-2047	2.2%	\$17,703	\$ 9,799
Short-term subsidiary borrowings	2.5%	2,094	1,989
Other subsidiary borrowings due 2017-2045	4.0%	7,378	2,811
		<u>\$27,175</u>	<u>\$14,599</u>

In January 2016, Berkshire entered into a \$10 billion 364-day revolving credit agreement and, in connection with the PCC acquisition, borrowed \$10 billion. In March 2016, Berkshire issued €2.75 billion and \$5.5 billion in senior unsecured notes. The notes consisted of €1.0 billion of 0.50% notes due in 2020, €1.0 billion of 1.30% notes due in 2024, €750 million of 2.15% notes due in 2028, \$1.0 billion of 2.20% notes due in 2021, \$2.0 billion of 2.75% notes due in 2023 and \$2.5 billion of 3.125% notes due in 2026. The proceeds from these debt issues were used in the repayment of all outstanding borrowings under the aforementioned credit agreement, which was subsequently terminated. In August 2016, Berkshire issued \$750 million in senior unsecured notes consisting of \$500 million of 1.15% notes due in 2018 and \$250 million of floating rate notes due in 2018, to replace \$750 million of maturing debt. Other subsidiary borrowings at December 31, 2016 included \$4.5 billion attributable to PCC.

	Weighted Average Interest Rate	December 31,	
		2016	2015
<i>Railroad, utilities and energy:</i>			
Issued by Berkshire Hathaway Energy Company ("BHE") and its subsidiaries:			
BHE senior unsecured debt due 2017-2045	5.1%	\$ 7,818	\$ 7,814
Subsidiary and other debt due 2017-2064	4.7%	29,223	28,188
Issued by BNSF due 2017-2097	4.8%	22,044	21,737
		\$59,085	\$57,739

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

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Notes to Consolidated Financial Statements (Continued)

(15) Notes payable and other borrowings (Continued)

service coverage ratios. In 2016, BHE subsidiaries issued approximately \$1.8 billion of debt with maturity dates ranging from 2025 to 2046 and a weighted average interest rate of 3.0%.

BNSF's borrowings are primarily senior unsecured debentures. In 2016, BNSF issued \$750 million of senior unsecured 3.9% debentures due in 2046. As of December 31, 2016, 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.

	Weighted Average Interest Rate	December 31,	
		2016	2015
<i>Finance and financial products:</i>			
Issued by Berkshire Hathaway Finance Corporation ("BHFC") due 2017-2043	2.5%	\$14,423	\$10,679
Issued by other subsidiaries due 2017-2036	4.9%	961	1,272
		\$15,384	\$11,951

In March 2016, BHFC issued \$3.5 billion of senior notes consisting of \$750 million of 1.45% notes due in 2018, \$1.0 billion of floating rate notes due in 2018, \$1.25 billion of 1.70% notes due in 2019 and \$500 million of floating rate notes due in 2019. In August 2016, BHFC issued \$1.25 billion of senior notes consisting of \$1 billion of 1.30% notes due in 2019 and \$250 million of floating rate notes due in 2019, primarily to replace \$1 billion of maturing debt. The borrowings of BHFC, a wholly owned finance subsidiary of Berkshire, are fully and unconditionally guaranteed by Berkshire.

As of December 31, 2016, our subsidiaries had unused lines of credit and commercial paper capacity aggregating approximately \$7.6 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, 2016, Berkshire guaranteed approximately \$3.3 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).

	2017	2018	2019	2020	2021
Insurance and other	\$ 3,329	\$ 3,022	\$1,362	\$1,650	\$1,824
Railroad, utilities and energy	3,610	4,283	2,935	2,123	1,741
Finance and financial products	3,317	4,706	3,099	616	777
	<u>\$10,256</u>	<u>\$12,011</u>	<u>\$7,396</u>	<u>\$4,389</u>	<u>\$4,342</u>

(16) Income taxes

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

	December 31,	
	2016	2015
Currently payable (receivable)	\$ 500	\$ (643)
Deferred	76,959	63,199
Other	485	570
	<u>\$77,944</u>	<u>\$63,126</u>

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

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,	
	2016	2015
Deferred tax liabilities:		
Investments—unrealized appreciation and cost basis differences	\$27,669	\$25,117
Deferred charges reinsurance assumed	2,876	2,798
Property, plant and equipment	39,345	36,770
Goodwill and other intangible assets	11,344	2,770
Other	5,550	4,555
	<u>86,784</u>	<u>72,010</u>
Deferred tax assets:		
Unpaid losses and loss adjustment expenses	(861)	(887)
Unearned premiums	(1,021)	(927)
Accrued liabilities	(3,821)	(3,487)
Other	(4,122)	(3,510)
	<u>(9,825)</u>	<u>(8,811)</u>
Net deferred tax liability	<u>\$76,959</u>	<u>\$63,199</u>

We have not established deferred income taxes on accumulated undistributed earnings of certain foreign subsidiaries. Such earnings were approximately \$12.4 billion as of December 31, 2016 and are expected to remain reinvested indefinitely. Upon distribution as dividends or otherwise, such amounts would be subject to taxation in the U.S. and potentially in other countries. However, U.S. income tax liabilities would be offset, in whole or in part, by allowable tax credits deriving from income taxes previously paid to foreign jurisdictions. Further, repatriation of all accumulated earnings of foreign subsidiaries would be impracticable to the extent that such earnings represent capital needed to support normal business operations. As a result, we currently believe that any incremental U.S. income tax liabilities arising from the repatriation of distributable earnings of foreign subsidiaries would not be material.

Income tax expense reflected in our Consolidated Statements of Earnings for each of the three years ending December 31, 2016 is as follows (in millions).

	2016	2015	2014
Federal	\$7,796	\$9,253	\$6,447
State	556	578	560
Foreign	888	701	928
	<u>\$9,240</u>	<u>\$10,532</u>	<u>\$7,935</u>
Current	\$6,565	\$5,426	\$3,302
Deferred	2,675	5,106	4,633
	<u>\$9,240</u>	<u>\$10,532</u>	<u>\$7,935</u>

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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, 2016 in the table below (in millions).

	2016	2015	2014
Earnings before income taxes	\$33,667	\$34,946	\$28,105
Hypothetical income tax expense computed at the U.S. federal statutory rate	\$11,783	\$12,231	\$ 9,837
Dividends received deduction and tax exempt interest	(789)	(1,146)	(820)
State income taxes, less U.S. federal income tax benefit	361	374	364
Foreign tax rate differences	(421)	(459)	(252)
U.S. income tax credits	(518)	(461)	(333)
Non-taxable exchange of investments	(1,143)	—	(679)
Other differences, net	(33)	(7)	(182)
	<u>\$ 9,240</u>	<u>\$10,532</u>	<u>\$ 7,935</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 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. 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 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, 2016 and 2015, net unrecognized tax benefits were \$485 million and \$570 million, respectively. Included in the balance at December 31, 2016, were \$369 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 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, 2016, 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 \$13 billion as ordinary dividends during 2017.

Combined shareholders' equity of U.S. based insurance subsidiaries determined pursuant to statutory accounting rules (Surplus as Regards Policyholders) was approximately \$136 billion at December 31, 2016 and \$124 billion at December 31, 2015. 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 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, 2016 and December 31, 2015 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, 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	1,117	1,117	—	1,117	—
Investments in equity securities	122,032	122,032	122,031	—	1
Investment in Kraft Heinz common stock	15,345	28,418	28,418	—	—
Other investments	17,256	17,256	—	—	17,256
Loans and finance receivables	13,300	13,717	—	13	13,704
Derivative contract assets ⁽¹⁾	142	142	5	43	94
Derivative contract liabilities:					
Railroad, utilities and energy ⁽¹⁾	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
December 31, 2015					
Investments in fixed maturity securities:					
U.S. Treasury, U.S. government corporations and agencies	\$ 3,427	\$ 3,427	\$ 2,485	\$ 942	\$ —
States, municipalities and political subdivisions	1,764	1,764	—	1,764	—
Foreign governments	11,468	11,468	9,188	2,280	—
Corporate bonds	7,926	7,926	—	7,826	100
Mortgage-backed securities	1,442	1,442	—	1,442	—
Investments in equity securities	112,137	112,137	112,101	35	1
Investment in Kraft Heinz common stock	15,714	23,679	23,679	—	—
Investment in Kraft Heinz Preferred Stock	7,710	8,363	—	—	8,363
Other investments	21,402	21,402	—	—	21,402
Loans and finance receivables	12,772	13,112	—	16	13,096
Derivative contract assets ⁽¹⁾	103	103	—	5	98
Derivative contract liabilities:					
Railroad, utilities and energy ⁽¹⁾	237	237	13	177	47
Finance and financial products:					
Equity index put options	3,552	3,552	—	—	3,552
Credit default	284	284	—	—	284
Notes payable and other borrowings:					
Insurance and other	14,599	14,773	—	14,773	—
Railroad, utilities and energy	57,739	62,471	—	62,471	—
Finance and financial products	11,951	12,363	—	11,887	476

⁽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. Considerable judgment may be required in interpreting market data used to develop the estimates of fair value. Accordingly, the fair values presented are not necessarily indicative of the amounts that could be realized in an actual current market exchange. The use of alternative market assumptions and/or estimation methodologies may have a material effect on the estimated fair value. 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, 2016 follow (in millions).

	Investments in fixed maturity securities	Investments in equity securities and other investments	Net derivative contract liabilities
Balance December 31, 2013	\$ 372	\$ 17,958	\$ (5,255)
Gains (losses) included in:			
Earnings	—	—	524
Other comprehensive income	13	1,373	—
Regulatory assets and liabilities	—	—	5
Acquisitions	—	3,000	1
Dispositions and settlements	(2)	—	1
Transfers into/out of Level 3	(375)	(335)	(35)
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)

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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. 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, 2016, 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).

	Fair Value	Principal Valuation Techniques	Unobservable Inputs	Weighted Average
Other investments:				
Preferred stocks	\$ 7,659	Discounted cash flow	Expected duration	7 years
			Discount for transferability restrictions and subordination	145 basis points
Common stock warrants	9,597	Warrant pricing model	Discount for transferability and hedging restrictions	5%
Derivative liabilities:				
Equity indexput options	2,890	Option pricing model	Volatility	20%

Our other investments currently include preferred stocks and common stock warrants that we acquired in private placement transactions. These investments are subject to contractual restrictions on transferability and may contain provisions that prevent us from economically hedging our investments. In applying discounted estimated cash flow techniques in valuing the preferred stocks, we made assumptions regarding the expected durations of the investments, as the issuers may have redemption rights. We also made estimates regarding the impact of subordination, as the preferred stocks have a lower priority in liquidation than debt instruments of the issuers. In valuing the common stock warrants, we used a warrant valuation model. While most of the inputs to the model are observable, we are subject to the aforementioned contractual restrictions and we have applied discounts with respect to such restrictions. Increases or decreases to these inputs would result in decreases or increases to the fair values of the investments.

Our equity indexput 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 indexput 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.

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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, 2016 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, 2013	868,616	(9,573)	859,043	1,178,775,092	(1,408,484)	1,177,366,608
Conversions of Class A common stock to Class B common stock and exercises of replacement stock options issued in a business acquisition	(30,597)	—	(30,597)	47,490,158	—	47,490,158
Treasury shares acquired	—	(2,107)	(2,107)	—	(1,278)	(1,278)
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	<u>788,058</u>	<u>(11,680)</u>	<u>776,378</u>	<u>1,303,323,927</u>	<u>(1,409,762)</u>	<u>1,301,914,165</u>

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 1,644,321 shares outstanding as of December 31, 2016 and 1,643,393 shares outstanding as of December 31, 2015. In addition to our common stock, 1,000,000 shares of preferred stock are authorized, but none are issued.

Berkshire's Board of Directors ("Berkshire's Board") has approved a common stock repurchase program under which Berkshire may repurchase its Class A and Class B shares at prices no higher than a 20% premium over the book value of the shares. Berkshire may repurchase shares in the open market or through privately negotiated transactions. Berkshire's Board authorization 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 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. In 2014, we acquired WPLG, whose assets included 2,107 shares of Berkshire Hathaway Class A Common Stock and 1,278 shares of Class B Common Stock, which are included in treasury stock.

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 out of accumulated other comprehensive income for each of the three years ending December 31, 2016 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, 2013	\$ 44,042	\$ (146)	\$ 46	\$ 83	\$ 44,025
Other comprehensive income, net before reclassifications	3,778	(1,877)	(1,130)	31	802
Reclassifications from accumulated other comprehensive income	(2,184)	66	45	(22)	(2,095)
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 from accumulated other comprehensive income	(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 from accumulated other comprehensive income	(4,433)	—	75	29	(4,329)
Balance December 31, 2016	\$ 43,176	\$ (5,268)	\$ (593)	\$ (17)	\$ 37,298
Reclassifications from other comprehensive income into net earnings:					
Year ending December 31, 2014:					
Investment gains/losses	\$ (3,360)	\$ —	\$ —	\$ —	\$ (3,360)
Other	—	75	58	(39)	94
Reclassifications before income taxes	(3,360)	75	58	(39)	(3,266)
Applicable income taxes	(1,176)	9	13	(17)	(1,171)
	\$ (2,184)	\$ 66	\$ 45	\$ (22)	\$ (2,095)
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)
	\$ (1,516)	\$ 128	\$ 86	\$ 22	\$ (1,280)
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)
	\$ (4,433)	\$ —	\$ 75	\$ 29	\$ (4,329)

(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.

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

The components of net periodic pension expense for each of the three years ending December 31, 2016 are as follows (in millions).

	2016	2015	2014
Service cost	\$ 282	\$ 266	\$ 230
Interest cost	691	591	629
Expected return on plan assets	(908)	(782)	(772)
Amortization of actuarial losses and other	148	179	102
Net periodic pension expense	<u>\$ 213</u>	<u>\$ 254</u>	<u>\$ 189</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 PBO of such plans was approximately \$1.2 billion as of December 31, 2016 and 2015.

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, 2016 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.

	2016			2015		
	BHE	All other	Consolidated	BHE	All other	Consolidated
Benefit obligations						
Accumulated benefit obligation end of year	<u>\$4,787</u>	<u>\$11,912</u>	<u>\$ 16,699</u>	<u>\$4,797</u>	<u>\$ 9,264</u>	<u>\$ 14,061</u>
PBO beginning of year	<u>\$5,076</u>	<u>\$10,183</u>	<u>\$ 15,259</u>	<u>\$5,398</u>	<u>\$10,489</u>	<u>\$ 15,887</u>
Service cost	49	233	282	57	209	266
Interest cost	198	493	691	200	391	591
Benefits paid	(309)	(705)	(1,014)	(316)	(518)	(834)
Business acquisitions	—	2,684	2,684	—	165	165
Actuarial (gains) or losses and other	63	(215)	(152)	(263)	(553)	(816)
PBO end of year	<u>\$5,077</u>	<u>\$12,673</u>	<u>\$ 17,750</u>	<u>\$5,076</u>	<u>\$10,183</u>	<u>\$ 15,259</u>
Plan assets						
Plan assets beginning of year	<u>\$4,765</u>	<u>\$ 8,066</u>	<u>\$ 12,831</u>	<u>\$5,086</u>	<u>\$ 8,280</u>	<u>\$ 13,366</u>
Employer contributions	133	214	347	90	116	206
Benefits paid	(309)	(705)	(1,014)	(316)	(518)	(834)
Actual return on plan assets	512	1,083	1,595	31	80	111
Business acquisitions	—	2,314	2,314	—	167	167
Other	(407)	(269)	(676)	(126)	(59)	(185)
Plan assets end of year	<u>\$4,694</u>	<u>\$10,703</u>	<u>\$ 15,397</u>	<u>\$4,765</u>	<u>\$ 8,066</u>	<u>\$ 12,831</u>
Funded status—net liability	<u>\$ 383</u>	<u>\$ 1,970</u>	<u>\$ 2,353</u>	<u>\$ 311</u>	<u>\$ 2,117</u>	<u>\$ 2,428</u>

The funded status of our defined benefit pension plans at December 31, 2016 was reflected in other assets (\$644 million) and liabilities (\$2,997 million). At December 31, 2015, the funded status was included in other assets (\$456 million) and liabilities (\$2,884 million).

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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.

	2016	2015	2014
Applicable to pension benefit obligations:			
Discount rate	3.8%	4.1%	3.8%
Expected long-term rate of return on plan assets	6.1	6.5	6.7
Rate of compensation increase	3.0	3.4	3.4
Discount rate applicable to net periodic pension expense	4.2	3.8	4.6

Benefits payments expected over the next ten years are as follows (in millions): 2017—\$992; 2018—\$1,007; 2019—\$987; 2020—\$1,003; 2021—\$994; and 2022 to 2026—\$5,043. Sponsoring subsidiaries expect to contribute \$224 million to defined benefit pension plans in 2017.

Fair value measurements of plan assets as of December 31, 2016 and 2015 follow (in millions).

	Fair Value				Investment funds and partnerships at net asset value
	Total	Level 1	Level 2	Level 3	
<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>
<i>December 31, 2015</i>					
Cash and equivalents	\$ 839	\$ 544	\$ 295	\$ —	\$ —
Equity securities	7,319	7,305	14	—	—
Government obligations	786	726	60	—	—
Other fixed maturity securities	990	87	903	—	—
Investment funds and other	2,897	272	1,446	228	951
	<u>\$12,831</u>	<u>\$ 8,934</u>	<u>\$2,718</u>	<u>\$ 228</u>	<u>\$ 951</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, 2016 follows (in millions).

	2016	2015
Balance beginning of year	\$(1,193)	\$(1,617)
Amount included in net periodic pension expense	101	129
Actuarial gains and other	253	295
Balance end of year	<u>\$ (839)</u>	<u>\$(1,193)</u>

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

Notes to Consolidated Financial Statements (Continued)

(21) Pension plans (Continued)

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 \$944 million in 2016, \$739 million in 2015 and \$737 million in 2014.

(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 \$1,573 million in 2016, \$1,516 million in 2015 and \$1,484 million in 2014. Future minimum rental payments for operating leases having non-cancellable terms in excess of one year are as follows (in millions).

2017	2018	2019	2020	2021	After 2021	Total
\$1,337	\$ 1,162	\$ 1,005	\$ 885	\$ 725	\$ 3,171	\$ 8,285

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, 2016, estimated future payments under such arrangements are as follows: \$11.1 billion in 2017, \$4.1 billion in 2018, \$3.5 billion in 2019, \$2.9 billion in 2020, \$2.0 billion in 2021 and \$14.6 billion after 2021.

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, 2016, Berkadia’s commercial paper outstanding was \$1.47 billion.

In the third quarter of 2016, our wholly-owned subsidiary, National Indemnity Company (“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’s assets and policyholders’ surplus determined under statutory accounting principles as of June 30, 2016 were approximately \$5.5 billion and \$1.9 billion, respectively. The acquisition price will be an amount equal to the sum of: (i) the tangible book value of MLMIC at the closing date (determined under U.S. GAAP); plus (ii) \$100 million. 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, customary closing conditions and the approval of the MLMIC policyholders eligible to vote on the proposed demutualization and sale. The transaction is expected to be completed in late 2017.

Pursuant to the terms of agreements with noncontrolling shareholders in our less than wholly-owned subsidiaries, we may be obligated to acquire their equity ownership interests. If we had acquired all outstanding noncontrolling interests as of December 31, 2016, we estimate the cost would have been approximately \$5.0 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. Our reportable business segments are organized in a manner that reflects how management views those business

[Table of Contents](#)**Notes to Consolidated Financial Statements (Continued)****(23) Business segment data (Continued)**

activities. Certain businesses have been 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 or amortization of certain purchase accounting adjustments related to Berkshire's business acquisitions in assessing the performance of reporting units. Collectively, these items are included in reconciliations of segment amounts to consolidated amounts.

<u>Business Identity</u>	<u>Business Activity</u>
Insurance:	
GEICO	Underwriting private passenger automobile insurance mainly by direct response methods
Berkshire Hathaway Primary Group	Underwriting multiple lines of property and casualty insurance policies for primarily commercial accounts
General Re	Underwriting excess-of-loss, quota-share and facultative reinsurance worldwide
Berkshire Hathaway Reinsurance Group	Underwriting excess-of-loss and quota-share reinsurance for insurers and reinsurers worldwide
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

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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		
	2016	2015	2014	2016	2015	2014
Operating Businesses:						
Insurance:						
Underwriting:						
GEICO	\$ 25,483	\$ 22,718	\$ 20,496	\$ 462	\$ 460	\$ 1,159
BH Primary	6,257	5,394	4,377	657	824	626
General Re	5,637	5,975	6,264	190	132	277
BHRG	8,504	7,207	10,116	822	421	606
Total underwriting	45,881	41,294	41,253	2,131	1,837	2,668
Investment income	4,522	4,562	4,370	4,482	4,550	4,357
Total insurance	50,403	45,856	45,623	6,613	6,387	7,025
BNSF	19,829	21,967	23,239	5,693	6,775	6,169
Berkshire Hathaway Energy	17,859	18,231	17,614	2,973	2,851	2,711
Manufacturing	46,506	36,136	36,773	6,211	4,893	4,811
McLane Company	48,075	48,223	46,640	431	502	435
Service and retailing	25,478	23,466	14,276	1,820	1,720	1,546
Finance and financial products	7,675	6,964	6,526	2,130	2,086	1,839
	215,825	200,843	190,691	25,871	25,214	24,536
Reconciliation to consolidated amount:						
Investment and derivative gains/losses	8,304	10,347	4,081	8,304	10,347	4,081
Interest expense, not allocated to segments	—	—	—	(230)	(374)	(313)
Investments in Kraft Heinz	180	852	720	1,103	730	694
Corporate, eliminations and other	(705)	(1,099)	(793)	(1,381)	(971)	(893)
	<u>\$223,604</u>	<u>\$210,943</u>	<u>\$194,699</u>	<u>\$33,667</u>	<u>\$34,946</u>	<u>\$28,105</u>

	Interest expense			Income tax expense		
	2016	2015	2014	2016	2015	2014
Operating Businesses:						
Insurance	\$ —	\$ —	\$ —	\$1,585	\$ 1,475	\$1,768
BNSF	992	928	833	2,124	2,527	2,300
Berkshire Hathaway Energy	1,715	1,830	1,623	403	450	589
Manufacturing	164	50	69	1,945	1,548	1,544
McLane Company	—	13	14	169	195	169
Service and retailing	50	40	11	669	651	576
Finance and financial products	411	384	463	702	708	597
	3,332	3,245	3,013	7,597	7,554	7,543
Reconciliation to consolidated amount:						
Investment and derivative gains/losses	—	—	—	1,807	3,622	760
Interest expense, not allocated to segments	230	374	313	(81)	(131)	(110)
Investments in Kraft Heinz	—	—	—	397	(111)	41
Corporate, eliminations and other	(65)	(104)	(73)	(480)	(402)	(299)
	<u>\$3,497</u>	<u>\$3,515</u>	<u>\$3,253</u>	<u>\$9,240</u>	<u>\$10,532</u>	<u>\$7,935</u>

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

	Capital expenditures			Depreciation of tangible assets		
	2016	2015	2014	2016	2015	2014
Operating Businesses:						
Insurance	\$ 128	\$ 115	\$ 94	\$ 85	\$ 77	\$ 69
BNSF	3,819	5,651	5,243	2,079	1,932	1,804
Berkshire Hathaway Energy	5,090	5,875	6,555	2,560	2,451	2,177
Manufacturing	1,813	1,292	1,324	1,287	938	943
McLane Company	258	338	241	165	161	159
Service and retailing	804	574	591	611	504	461
Finance and financial products	1,042	2,237	1,137	624	610	602
	<u>\$12,954</u>	<u>\$16,082</u>	<u>\$15,185</u>	<u>\$ 7,411</u>	<u>\$ 6,673</u>	<u>\$ 6,215</u>

	Goodwill at year-end		Identifiable assets at year-end		
	2016	2015	2016	2015	2014
Operating Businesses:					
Insurance:					
GEICO	\$ 1,471	\$ 1,471	\$ 55,041	\$ 48,291	\$ 45,439
General Re	13,494	13,527	30,321	26,478	28,692
BHRG and BH Primary	509	538	148,675	144,682	151,301
Total insurance	15,474	15,536	234,037	219,451	225,432
BNSF	14,845	14,845	69,277	66,613	62,840
Berkshire Hathaway Energy	9,266	9,333	76,428	74,221	71,285
Manufacturing	32,041	14,833	69,900	34,141	34,509
McLane Company	734	656	5,896	5,871	5,419
Service and retailing	5,745	6,163	17,450	16,299	11,303
Finance and financial products	1,381	1,342	40,329	37,621	32,158
	<u>\$ 79,486</u>	<u>\$ 62,708</u>	513,317	454,217	442,946
Reconciliation to consolidated amount:					
Corporate and other			28,051	35,332	22,207
Goodwill			79,486	62,708	60,714
			<u>\$ 620,854</u>	<u>\$ 552,257</u>	<u>\$ 525,867</u>

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

	Property/Casualty			Life/Health		
	2016	2015	2014	2016	2015	2014
Premiums Written:						
Direct	\$34,001	\$30,544	\$27,541	\$1,060	\$ 821	\$ 879
Assumed	8,037	7,049	9,889	4,672	5,187	5,030
Ceded	(798)	(877)	(839)	(62)	(57)	(67)
	<u>\$41,240</u>	<u>\$36,716</u>	<u>\$36,591</u>	<u>\$5,670</u>	<u>\$5,951</u>	<u>\$5,842</u>
Premiums Earned:						
Direct	\$33,207	\$29,608	\$26,389	\$1,060	\$ 821	\$ 879
Assumed	7,848	6,584	9,872	4,671	5,192	5,030
Ceded	(843)	(854)	(850)	(62)	(57)	(67)
	<u>\$40,212</u>	<u>\$35,338</u>	<u>\$35,411</u>	<u>\$5,669</u>	<u>\$5,956</u>	<u>\$5,842</u>

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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		
	2016	2015	2014	2016	2015	2014
United States	\$35,878	\$31,171	\$31,362	\$3,473	\$3,247	\$3,402
Asia Pacific	3,616	3,472	1,953	715	673	651
Western Europe	1,406	1,638	2,424	822	1,263	1,135
All other	340	435	852	660	768	654
	<u>\$41,240</u>	<u>\$36,716</u>	<u>\$36,591</u>	<u>\$5,670</u>	<u>\$5,951</u>	<u>\$5,842</u>

Consolidated sales and service revenues were \$125.7 billion in 2016, \$112.4 billion in 2015 and \$102.2 billion in 2014. In 2016, 85% of such revenues were attributable to the United States compared to 87% in 2015 and 85% in 2014. The remainder of sales and service revenues were primarily in Europe, Canada and the Asia Pacific. Consolidated sales and service revenues included sales to Wal-Mart Stores, Inc. of approximately \$14 billion in 2016 and \$13 billion in 2015 and 2014. 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, 2016, 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 earnings by quarter for each of the last two years is presented in the following table. This information is unaudited. Dollars are in millions, except per share amounts.

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
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
2015				
Revenues	\$ 48,593	\$ 51,549	\$ 59,070	\$ 51,731
Net earnings attributable to Berkshire shareholders *	5,164	4,013	9,428	5,478
Net earnings attributable to Berkshire shareholders per equivalent Class A common share	3,143	2,442	5,737	3,333

* Includes investment and derivative gains/losses. After-tax investment and derivative gains/losses for the periods presented above are as follows (in millions):

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Investment and derivative gains/losses—2016	\$ 1,852	\$ 394	\$ 2,347	\$ 1,904
Investment and derivative gains/losses—2015	920	123	4,877	805

(25) Subsequent event

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, 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 for a premium of about \$10 billion. Berkshire has agreed to guarantee all amounts due to AIG under the agreement.

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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 62 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 63 of this report. There has been no change in the Corporation's internal control over financial reporting during the quarter ended December 31, 2016 that has materially affected, or is reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Item 9B. Other Information

None

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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 6, 2017, 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:

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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 115.

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 24, 2017

/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 24, 2017 Date
/S/ HOWARD G. BUFFETT Howard G. Buffett	Director	February 24, 2017 Date
/S/ STEPHEN B. BURKE Stephen B. Burke	Director	February 24, 2017 Date
/S/ SUSAN L. DECKER Susan L. Decker	Director	February 24, 2017 Date
/S/ WILLIAM H. GATES III William H. Gates III	Director	February 24, 2017 Date
/S/ DAVID S. GOTTESMAN David S. Gottesman	Director	February 24, 2017 Date
/S/ CHARLOTTE GUYMAN Charlotte Guyman	Director	February 24, 2017 Date
/S/ CHARLES T. MUNGER Charles T. Munger	Vice Chairman of the Board of Directors	February 24, 2017 Date
/S/ THOMAS S. MURPHY Thomas S. Murphy	Director	February 24, 2017 Date
/S/ RONALD L. OLSON Ronald L. Olson	Director	February 24, 2017 Date
/S/ WALTER SCOTT, JR. Walter Scott, Jr.	Director	February 24, 2017 Date
/S/ MERYL B. WITMER Meryl B. Witmer	Director	February 24, 2017 Date
/S/ MARC D. HAMBURG Marc D. Hamburg	Senior Vice President—Principal Financial Officer	February 24, 2017 Date
/S/ DANIEL J. JAKSICH Daniel J. Jaksich	Vice President—Principal Accounting Officer	February 24, 2017 Date

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders 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, 2016 and 2015, and for each of the three years in the period ended December 31, 2016, and the Company's internal control over financial reporting as of December 31, 2016, and have issued our report thereon dated February 24, 2017; such consolidated financial statements and report are included elsewhere in this Form 10-K. Our audits also included the financial statement schedule of the Company listed in Item 15. This financial statement schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits. In our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Deloitte & Touche LLP

Omaha, Nebraska
February 24, 2017

BERKSHIRE HATHAWAY INC.
(Parent Company)
Condensed Financial Information
(Dollars in millions)
Schedule I
Balance Sheets

	December 31,	
	2016	2015
Assets:		
Cash and cash equivalents and U.S. Treasury Bills:		
Cash and cash equivalents	\$ 3,221	\$ 10,609
U.S. Treasury Bills	8,220	—
Total cash, cash equivalents and U.S. Treasury Bills	11,441	10,609
Investments in fixed maturity and equity securities and other assets	59	113
Investments in and advances to/from consolidated subsidiaries	277,398	233,977
Investments in The Kraft Heinz Company	15,345	23,424
	<u>\$ 304,243</u>	<u>\$ 268,123</u>
Liabilities and Shareholders' Equity:		
Accounts payable, accrued interest and other liabilities	\$ 182	\$ 111
Income taxes, principally deferred	3,357	2,663
Notes payable and other borrowings	17,703	9,799
	21,242	12,573
Berkshire Hathaway shareholders' equity	283,001	255,550
	<u>\$ 304,243</u>	<u>\$ 268,123</u>

Statements of Earnings and Comprehensive Income

	Year ended December 31,		
	2016	2015	2014
Income items:			
From consolidated subsidiaries:			
Dividends	\$ 9,862	\$10,519	\$ 4,969
Undistributed earnings	13,264	8,508	14,496
	23,126	19,027	19,465
Investment gains/losses	700	6,854	—
Equity in net earnings of The Kraft Heinz Company	923	(122)	(26)
Other income	262	963	784
	<u>25,011</u>	<u>26,722</u>	<u>20,223</u>
Cost and expense items:			
General and administrative	80	73	(1)
Interest expense	208	302	236
Income taxes	649	2,264	116
	937	2,639	351
Net earnings attributable to Berkshire Hathaway shareholders	24,074	24,083	19,872
Other comprehensive income attributable to Berkshire Hathaway shareholders	3,316	(8,750)	(1,293)
Comprehensive income attributable to Berkshire Hathaway shareholders	<u>\$27,390</u>	<u>\$15,333</u>	<u>\$18,579</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,		
	2016	2015	2014
Cash flows from operating activities:			
Net earnings attributable to Berkshire Hathaway shareholders	\$ 24,074	\$24,083	\$ 19,872
Adjustments to reconcile net earnings to cash flows from operating activities:			
Investment gains/losses	(700)	(6,854)	—
Undistributed earnings of subsidiaries	(13,264)	(8,508)	(14,496)
Non-cash dividends from subsidiaries	—	(3,938)	—
Income taxes payable	629	2,227	136
Other	(161)	222	(75)
Net cash flows from operating activities	10,578	7,232	5,437
Cash flows from investing activities:			
Redemption (purchase) of Kraft Heinz investments	8,320	(5,258)	—
Investments in and advances to/repayments from subsidiaries	(26,398)	(2,274)	1,673
Purchases of U.S. Treasury Bills	(9,350)	—	—
Sales and maturities of U.S. Treasury Bills	1,145	—	—
Net cash flows from investing activities	(26,283)	(7,532)	1,673
Cash flows from financing activities:			
Proceeds from borrowings	9,278	3,165	832
Repayments of borrowings	(1,125)	(1,775)	(792)
Acquisitions of noncontrolling interests	(2)	(10)	(1,231)
Other	166	80	118
Net cash flows from financing activities	8,317	1,460	(1,073)
Increase (decrease) in cash and cash equivalents	(7,388)	1,160	6,037
Cash and cash equivalents at beginning of year	10,609	9,449	3,412
Cash and cash equivalents at end of year	\$ 3,221	\$10,609	\$ 9,449
Other cash flow information:			
Income taxes paid	\$ 3,583	\$ 3,180	\$ 2,512
Interest paid	307	206	233
Non-cash investments in subsidiaries	—	3,938	—

Note to Condensed Financial Information

In 2013, Berkshire Hathaway Inc. (“Berkshire”) invested \$12.25 billion in H.J. Heinz Holding Corporation (“Heinz Holding”), an entity formed to acquire H.J. Heinz Company. Berkshire’s investments included common stock and warrants and cumulative compounding preferred stock. In 2015, Berkshire exercised the common stock warrants and acquired additional shares of Kraft Heinz common stock for approximately \$5.3 billion. Thereafter, Heinz Holding and Kraft Foods Group, Inc. completed a merger, and Heinz Holding was renamed The Kraft Heinz Company (“Kraft Heinz”). Kraft Heinz issued additional common stock to Kraft Food holders, reducing Berkshire’s ownership from 52.5% to 26.8%. Berkshire accounted for its investment in Heinz Holding common stock and continues to account for its investment in Kraft Heinz common stock under the equity method. In applying the equity method, the investor treats the issuance of shares by an investee as if the investor had sold a proportionate share of its investment. As a result, Berkshire recorded a non-cash pre-tax holding gain of approximately \$6.8 billion in 2015. In 2016, Kraft Heinz redeemed the preferred stock for cash of \$8.32 billion.

On January 8, 2016, Berkshire entered into a \$10 billion 364-day revolving credit agreement and Berkshire borrowed \$10 billion under the agreement in connection with the acquisition of Precision Castparts Corp. on January 29. In March 2016, Berkshire issued €2.75 billion and \$5.5 billion in senior unsecured notes. The notes consisted of €1.0 billion of 0.50% notes due in 2020, €1.0 billion of 1.30% notes due in 2024, €750 million of 2.15% notes due in 2028, \$1.0 billion of 2.20% notes due in 2021, \$2.0 billion of 2.75% notes due in 2023 and \$2.5 billion of 3.125% notes due in 2026. The proceeds from these debt issues were used to repay all outstanding borrowings under the aforementioned credit agreement, which was subsequently terminated. In August 2016, Berkshire issued \$750 million in senior unsecured notes consisting of \$500 million of 1.15% notes due in 2018 and \$250 million of floating rate notes due in 2018, to replace \$750 million of maturing debt. Notes payable and borrowings at December 31, 2016 mature over the next five years as follows: 2017—\$1,101 million; 2018—\$1,551 million; 2019—\$754 million; 2020—\$1,054 million and 2021—\$1,500 million.

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Berkshire guarantees debt obligations of certain of its subsidiaries, which as of December 31, 2016, totaled approximately \$17.7 billion. Berkshire's guarantee of subsidiary debt is 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 of a subsidiary. The estimated fair value of liabilities recorded under such contracts was approximately \$2.9 billion as of December 31, 2016. The amount of subsidiary payments under these contracts, if any, is contingent upon 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, 2016. 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
- 21 Subsidiaries of Registrant
- 23 Consent of Independent Registered Public Accounting Firm
- 31 Rule 13a—14(a)/15d-14(a) Certifications
- 32 Section 1350 Certifications

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Exhibit No.

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, 2016, formatted in XBRL (Extensible Business Reporting Language) includes: (i) the Consolidated Balance Sheets as of December 31, 2016 and 2015, (ii) the Consolidated Statements of Earnings for each of the three years ended December 31, 2016, 2015 and 2014, (iii) Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2016, 2015 and 2014, (iv) the Consolidated Statements of Changes in Shareholders' Equity for each of the three years ended December 31, 2016, 2015 and 2014, (v) the Consolidated Statements of Cash Flows for each of the three years ended December 31, 2016, 2015 and 2014 and (vi) the Notes to Consolidated Financial Statements and Schedule I, tagged in summary and detail.