

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 001-32205

CBRE

CBRE GROUP, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

2100 McKinney Avenue, Suite 1250

Dallas, Texas

(Address of principal executive offices)

94-3391143

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

75201

(Zip Code)

(214) 979-6100

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, \$0.01 par value per share	"CBRE"	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 (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

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

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

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

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

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

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

As of June 30, 2020, the aggregate market value of Class A Common Stock held by non-affiliates of the registrant was \$14.6 billion based upon the last sales price on June 30, 2020 on the New York Stock Exchange of \$45.22 for the registrant's Class A Common Stock.

As of February 18, 2021, the number of shares of Class A Common Stock outstanding was 335,597,172.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement for the registrant's 2021 Annual Meeting of Stockholders to be held May 20, 2021 are incorporated by reference in Part III of this Annual Report on Form 10-K.

CBRE GROUP, INC.
ANNUAL REPORT ON FORM 10-K

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PART I

Item 1. Business.

Company Overview

CBRE Group, Inc. is a Delaware corporation. References to “CBRE,” “the company,” “we,” “us” and “our” refer to CBRE Group, Inc. and include all of its consolidated subsidiaries, unless otherwise indicated or the context requires otherwise.

We are the world’s largest commercial real estate services and investment firm, based on 2020 revenue, with leading global market positions in our leasing, property sales, occupier outsourcing and valuation businesses. As of December 31, 2020, the company has more than 100,000 employees (excluding affiliates) serving clients in more than 100 countries.

Our business is focused on providing services to real estate investors and occupiers. For investors, we provide capital markets (property sales, mortgage origination, sales and servicing), property leasing, investment management, property management, valuation and development services, among others. For occupiers, we provide facilities management, project management, transaction (both property sales and leasing) and consulting services, among others. We provide services under the following brand names: “CBRE” (real estate advisory and outsourcing services); “CBRE Global Investors” (investment management); “Trammell Crow Company” (U.S. development); “Telford Homes” (U.K. development) and “Hana” (flexible-space solutions). In 2020, CBRE sponsored a special purpose acquisition company (SPAC), CBRE Acquisition Holdings, Inc. (CBRE Acquisition Holdings), which has the sole purpose of acquiring a privately held company with significant growth potential and to create value by supporting the company in the public markets. The company that it acquires is expected to operate in an industry that will benefit from the experience, expertise and operating skills of CBRE. CBRE Acquisition Holdings trades on the New York Stock Exchange (NYSE) under the symbols “CBAH,” “CBAH.U,” and “CBAH.W.”

Our revenue mix has shifted toward more stable revenue sources, particularly occupier outsourcing, and our dependence on highly cyclical property sales and lease transaction revenue has declined markedly over the past decade. We believe we are well-positioned to capture a substantial and growing share of market opportunities at a time when investors and occupiers increasingly prefer to purchase integrated, account-based services on a national and global basis. We generate revenue from both management fees (large multi-year portfolio and per-project contracts) and commissions on transactions.

In 2020, we generated revenue from a highly diversified base of clients, including more than 90 of the *Fortune* 100 companies. We have been an S&P 500 company since 2006 and in 2020 we were ranked #128 on the *Fortune* 500. We have been voted the most recognized commercial real estate brand in the Lipsey Company survey for 20 years in a row (including 2021). We have also been rated a World’s Most Ethical Company by the Ethisphere Institute for eight consecutive years (including 2021), and are included in both the Dow Jones World Sustainability Index and the Bloomberg Gender-Equality Index for two years in a row.

CBRE History

We will mark our 115th year of continuous operations in 2021, tracing our origins to a company founded in San Francisco in the aftermath of the 1906 earthquake. Since then, we have grown into the largest global commercial real estate services and investment firm (in terms of 2020 revenue) through organic growth and strategic acquisitions.

Our Business Segments and Primary Services

CBRE Group, Inc. is a holding company that conducts all of its operations through its indirect subsidiaries. CBRE Group, Inc. does not have any independent operations or employees. CBRE Services, Inc., our direct wholly-owned subsidiary, is also a holding company and is the primary obligor or issuer with respect to most of our long-term indebtedness.

We report our operations through the following business segments: (1) Advisory Services, (2) Global Workplace Solutions and (3) Real Estate Investments.

Advisory Services

Advisory Services provides a comprehensive range of services globally, including property leasing, property sales, mortgage services, property management, project management and valuation. Most of our Advisory Services operations are conducted through our indirect wholly-owned subsidiary CBRE, Inc. Our mortgage services, the vast majority of which are in the United States (U.S.), are conducted exclusively through our indirect wholly-owned subsidiary operating under the name CBRE Capital Markets, Inc. (CBRE Capital Markets) and its affiliates.

The primary services within Advisory Services are further described below.

Leasing Services

We provide strategic advice and execution for owners/investors, and occupiers/tenants of real estate, primarily in connection with the leasing of office, industrial and retail space. In 2020, we negotiated leases valued at approximately \$108.5 billion globally. While the majority of our leasing revenue is reported in the Advisory Services segment, we also earn leasing revenue for certain contractual occupier clients in the Global Workplace Solutions segment that arises as a direct result of a business relationship with that segment.

We generate significant business from account-based occupier clients, where we are retained to negotiate leases for all or a portion of their portfolio. This results in recurring revenue over time. We believe we are the market leader for leasing services in most leading U.S. metropolitan statistical areas (as defined by the U.S. Census Bureau), including Atlanta, Austin, Boston, Chicago, Dallas, Denver, Kansas City, Los Angeles, New York, Orlando, Philadelphia, Phoenix, San Francisco, Seattle and St. Louis.

Capital Markets

We offer clients property sales and mortgage services. The close integration of these services helps to meet marketplace demand for comprehensive capital markets solutions. During 2020, we closed approximately \$234.8 billion of capital markets transactions globally, including \$181.6 billion of property sales transactions and \$53.2 billion of mortgage originations and loan sales.

We are the leading property sales advisor globally. In the U.S., we accounted for approximately 17% of investment sales transactions greater than \$2.5 million across all property types in 2020, according to Real Capital Analytics. Our mortgage brokerage professionals arrange, originate and service commercial mortgage loans through relationships established with investment banking firms, national and regional banks, credit companies, insurance companies, U.S. Government-Sponsored Enterprises (GSEs), and pension funds.

Globally, our loan origination and sales volume in 2020 was \$53.2 billion, including approximately \$21.4 billion for U.S. GSEs. Most of the GSE loans were financed through revolving warehouse credit lines through a CBRE subsidiary that is dedicated exclusively for this purpose and were substantially risk mitigated by either obtaining a contractual purchase commitment from the GSE or confirming a forward-trade commitment for the issuance and purchase of a mortgage-backed security to be secured by the loan. We also oversee a loan servicing portfolio, which totaled approximately \$268.6 billion globally at year-end 2020.

In many countries that we operate in (including the U.S.), our real estate services professionals (both leasing and capital markets) are compensated primarily through commissions, which are payable upon completion of an assignment. This mitigates the effect of compensation, our largest expense, on our operating margins during difficult market conditions. We strive to retain top professionals through an attractive compensation program tied to productivity as well as investments in support resources, including professional development and training, market research and data/information, technology, branding and marketing.

Property and Project Management Services

We provide property management services on a contractual basis, primarily for owners of and investors in office, industrial and retail properties. These services include construction management, marketing, building engineering, accounting and financial services. As of December 31, 2020, we managed 2.7 billion square feet of properties globally for property owners/investors. We are compensated for our services through a monthly management fee earned based on either a specified percentage of the monthly rental income, rental receipts generated from the property under management or a fixed fee. We are also often reimbursed for our administrative and payroll costs directly attributable to the properties under management. Our management agreements with our property management services clients may be terminated by either party with notice generally ranging between 30 to 90 days; however, we have developed long-term relationships with many of these clients and the typical contract continues for multiple years. We believe our contractual relationships with these clients put us in an advantageous position to provide other services to them, including leasing, refinancing, disposition and appraisal.

Project management services are provided to owners, investors and occupiers of real estate in local markets. Revenues from project management services generally include fixed management fees, variable fees and incentive fees if certain agreed-upon performance targets are met. Revenues from project management may also include reimbursement of payroll and related costs for personnel providing the services and subcontracted vendor costs. While the majority of our project management revenue is reported in our Global Workplace Solutions segment, we also report one-off and non-contractual project management revenue in our Advisory Services segment. In 2020, project management revenue in our Advisory Services segment represented approximately 31% of total project management revenue for CBRE.

Valuation Services

We provide valuation services that include market-value appraisals, litigation support, discounted cash flow analyses, feasibility studies as well as consulting services such as property condition reports, hotel advisory and environmental consulting. Our valuation business has developed proprietary systems for data management, analysis and valuation report preparation, which we believe provide us with an advantage over our competitors. We believe that our valuation business is one of the largest in the commercial real estate industry. During 2020, we completed over 200,800 valuation, appraisal and advisory assignments, excluding residential valuations in Asia Pacific.

Global Workplace Solutions

Global Workplace Solutions provides a broad suite of integrated, contractually-based outsourcing services to occupiers of real estate, including facilities management, project management and transaction services (leasing and sales).

We believe the outsourcing of corporate real estate services is a long-term trend in our industry, with multi-national corporations, and other large occupiers of space utilizing global, full-service real estate firms to achieve better workplaces for their people, while attempting to lower their cost of occupancy. We typically enter into multi-year, often multi-service, outsourcing contracts with services delivered via dedicated account teams and/or an on-demand basis. The key outsourcing services offered through this business segment are described below.

Facilities Management Services

Facilities Management involves the day-to-day management of client-occupied space for traditional office space, such as headquarter buildings, regional offices and administrative offices, as well as facilities serving specialized industries, such as data centers, life science and medical facilities, distribution warehouses, government facilities and retail stores. Contracts for facilities management services are often structured so that we are reimbursed for client-dedicated personnel costs and subcontracted vendor costs as well as associated overhead expenses plus a monthly fee, and in some cases, annual incentives tied to agreed-upon performance targets, with any penalties typically capped. In addition, we have contracts for facilities management services based on fixed-fee unit prices or guaranteed maximum prices. Fixed-fee contracts are typically structured where an agreed-upon scope of work is delivered for a fixed price while guaranteed maximum price contracts are structured with an agreed upon scope of work that will be provided to the client for a not-to-exceed price. We furnish facilities management services to clients with single or multiple-location assets as well as regional, national and global portfolios. As of December 31, 2020, we managed approximately 4.3 billion square feet of facilities on behalf of occupiers.

Project Management Services

Project management services are typically provided on a portfolio-wide or programmatic basis. Revenues from project management services generally include fixed management fees, variable fees, lump sum and incentive fees if certain agreed-upon performance targets are met. Revenues from project management may also include reimbursement of payroll and related costs for personnel providing the services and subcontracted vendor costs. In 2020, we were responsible for implementing project management contracts valued at approximately \$93.0 billion. While the majority of our project management revenue is reported in our Global Workplace Solutions segment, as previously mentioned, we also report project management revenue in our Advisory Services segment. In 2020, project management revenue in our Global Workplace Solutions segment represented approximately 69% of total project management revenue for CBRE.

Transaction Services

We provide strategic advice and execution for occupiers of real estate in connection with the leasing, sale or acquisition of office, industrial and retail space. Within the Global Workplace Solutions business, transaction services are performed for account-based clients, often as a key part of an integrated suite of commercial real estate services (with leasing being the most meaningful revenue stream included in our Global Workplace Solutions revenue). In 2020, leasing revenue included in our Global Workplace Solutions revenue represented approximately 2% of global leasing revenue for CBRE.

Real Estate Investments

Real Estate Investments includes: (i) investment management services provided globally; (ii) development services in the U.S. and United Kingdom (U.K.); and (iii) flexible office space solutions.

Investment Management Services

Investment management services are conducted through our indirect wholly-owned subsidiary, CBRE Global Investors, LLC (CBRE Global Investors) and its global affiliates. CBRE Global Investors provides investment management services to pension funds, insurance companies, sovereign wealth funds, foundations, endowments and other institutional investors seeking to generate returns and diversification through investment in real assets such as real estate, infrastructure, master limited partnerships and other assets. We sponsor investment programs that span the risk/return spectrum in North America, Europe, Asia and Australia. In some strategies, CBRE Global Investors and its investment teams co-invest with its limited partners.

CBRE Global Investors' offerings are organized into five primary categories: (1) direct real estate investments through sponsored funds; (2) direct real estate investments through separate accounts; (3) indirect real estate and infrastructure investments through listed securities; (4) indirect real estate, infrastructure and private equity investments through multi-manager investment programs; and (5) credit investments backed by real estate through sponsored funds, separate accounts or pooled strategies.

Assets under management (AUM) totaled \$122.7 billion at December 31, 2020 as compared to \$112.9 billion at December 31, 2019, an increase of \$9.8 billion (\$5.2 billion in local currency).

Development Services

Development services are conducted through our indirect wholly-owned subsidiary Trammell Crow Company, LLC, which provides commercial real estate development services in the U.S., and Telford Homes Plc, a developer of residential multi-family properties in the U.K.

Trammell Crow Company pursues opportunistic, risk-mitigated development and investment strategies for users of and investors in commercial real estate, as well as for its own account. The company is active in industrial, office, residential multi-family/mixed-use projects, life sciences and healthcare facilities of all types (medical office buildings, hospitals and ambulatory surgery centers) and retail properties. Trammell Crow Company is compensated by its clients on a fee basis with

no, or limited, ownership interest in a property; in partnership with its clients through co-investment – either on an individual project basis or through programs with certain strategic capital partners or for its own account with 100% ownership. Development services activity in which Trammell Crow Company has an ownership interest is conducted through subsidiaries that are consolidated or unconsolidated for financial reporting purposes, depending primarily on the extent and nature of our ownership interest.

Telford Homes is a developer of residential-led, mixed-use sites in locations across London, where the need for homes exceeds supply. In recent years, Telford has undertaken a strategic shift to focus on the growing build-to-rent/multifamily market and is pursuing such opportunities with a number of third-party investors.

At December 31, 2020, we had \$14.9 billion of development projects in process, and our development pipeline (prospective projects that we estimate have a greater than 50% chance of closing or where land has been acquired and the projected construction start date is more than one year out) totaled \$6.1 billion at December 31, 2020.

Flexible-Space Solutions

Flexible-space solutions operations are conducted through our indirect wholly-owned subsidiary, CBRE Hana, LLC (Hana). Hana develops and operates integrated, scalable, flexible workspaces, with a particular focus on dedicated office suites that appeal to large enterprises. It also offers flexible conference room and event workspaces and communal co-working space. Hana helps institutional property owners meet the rapidly growing demand from real estate occupiers for flexible office space solutions.

Competition

We face competition across our lines of business on an international, national, regional and local level. Although we are the largest commercial real estate services firm in the world in terms of 2020 revenue, our relative competitive position varies significantly across geographic markets, property types and services. We face competition from other global, national, regional and local commercial real estate service providers; companies that traditionally competed in limited portions of our facilities management business and have expanded into other outsourcing offerings; in-house corporate real estate departments and property owners/developers that self-perform real estate services; investment banking firms, investment managers and developers that compete with us to raise and place investment capital; and accounting/consulting firms that advise on real estate strategies. Some of these firms may have greater financial resources than we do.

Despite ongoing consolidation, the commercial real estate services industry remains highly fragmented and competitive. Although many of our competitors are substantially smaller than we are, some of them are larger on a regional or local-market basis or have a stronger position in a specific market segment or service offering. Among our primary competitors are other large national and global firms, such as Jones Lang LaSalle Incorporated (JLL), Cushman & Wakefield plc, Colliers International Group Inc., Savills plc, and Newmark Group Inc.; market-segment specialists, such as Eastdil Secured, Marcus & Millichap, Inc. and Walker & Dunlop, Inc.; and firms with business lines that compete with our occupier outsourcing business, such as ISS, and Sodexo S.A. In addition, in recent years, providers of flexible office-space solutions, such as WeWork, IWG/Regus/Spaces, Industrious National Management Company LLC (“Industrious”) and Knotel, have offered services directly to occupiers, providing competition, particularly for smaller space requirements. These providers also compete directly with our flexible-space solutions subsidiary, Hana.

Seasonality

In a typical year, a significant portion of our revenue is seasonal, which an investor should keep in mind when comparing our financial condition and results of operations on a quarter-by-quarter basis. Historically, our revenue, operating income, net income and cash flow from operating activities have tended to be lowest in the first quarter and highest in the fourth quarter of each year. Revenue, earnings and cash flow have generally been concentrated in the fourth calendar quarter due to the focus on completing sales, financing and leasing transactions prior to year-end. The severe and ongoing impact of the novel coronavirus (Covid-19) pandemic may cause seasonality to deviate from historical patterns.

Human Capital

People & Culture

People are at the center of our strategy. As a services organization, we aspire to deliver measurably superior client outcomes. Attracting, retaining and developing the best talent is essential to achieving these goals. Our human capital programs help prepare our professionals for critical roles and future leadership positions, reward our people with competitive pay and benefits, foster an engaging and inclusive workplace, and improve employee productivity through investments in technology, tools and resources. At December 31, 2020, excluding our independent affiliates, we had more than 100,000 employees worldwide, approximately 48% of whose costs are fully reimbursed by clients and are mostly in our Global Workplace Solutions segment and our property management line of business within our Advisory Services segment. At December 31, 2020, approximately 13% of our employees worldwide were subject to collective bargaining agreements. Our global workforce at December 31, 2020 is comprised of approximately 33% female employees and 67% male employees.

RISE Values

We champion four key values—Respect, Integrity, Service, Excellence—which serve as the foundation upon which our company is built and as a touchstone for how our employees conduct themselves.

Diversity, Equity and Inclusion

We are committed to creating an inclusive workplace—one that promotes and values diversity, and thrives when our people feel safe, valued and heard. To lead this effort, we created the role of Chief Responsibility Officer, a senior executive-level position reporting directly to our Chief Executive Officer. We also continue to implement internal initiatives to increase diversity in our workforce and strengthen an inclusive culture. Among them is a company policy which provides that a diverse candidate should be included at the in-person interview stage for all positions at the Director level and above, the interview panel for all positions at the Director level and above should include a diverse interviewer, and at least one diversity and inclusion-focused hiring objective is included in all performance appraisals for Director level and above employees. Another significant way we advance workplace diversity is through our employee business resource groups, which are an integral component of our DE&I efforts. The resource groups offer career and professional development opportunities, connections and networking possibilities across all business lines and regions, and community involvement opportunities. The company has also rolled out four different programs that fund diversity recruiting and committed to spending \$1 billion with diverse suppliers in 2021, and to grow this spend to \$3 billion in five years. In 2020, our policies and practices earned the company a place in the Bloomberg Gender-Equality Index and the Human Rights Campaign's Corporate Equality Index.

Total Rewards

We recognize and appreciate that compensation and benefits are an important part of the employment relationship. We provide competitive total rewards programs in all the markets in which we operate, including fixed and variable pay, and comprehensive, company-specific benefits that complement legislatively required programs. Additionally, managers may implement flexible work arrangements, such as compressed work weeks and flextime, after considering several factors such as the nature of the employee's work. We remain committed to providing eligible employees with meaningful and affordable benefits. We provide a variety of programs to support holistic physical and behavioral health, short- and long-term financial stability, family planning and emotional resiliency for employees at any stage in their career.

Learning and Development

We prioritize and invest in a multitude of training and development programs that enable employees to build satisfying careers. These include webinars, classroom training, self-paced e-learning, coaching, mentoring and a variety of on-the-job projects. To increase diversity, equity and inclusion awareness and adoption, we also launched a new mandatory diversity training program in 2020 for all employees globally. As part of this diversity training program, our senior leaders completed an intercultural development inventory self-assessment, attended a 3-hour instructor-led virtual session and developed an inclusive leader personal action plan.

Communication and Engagement

Our success depends on employees understanding how their work contributes to the company's overall strategy. We use a variety of channels to facilitate two-way communication, including open forums with executives, employee experience surveys and engagement through our employee resource groups.

Workplace Safety and Well-Being

We drive a culture where safety and well-being are incorporated into every business decision. We insist on high global standards and leadership accountability and strive to continually improve safety outcomes. We define well-being across five dimensions: occupational, social, environmental, physical, and intellectual. In 2020, we hosted a globally coordinated Safety and Well-Being Week. We also launched the "Be Well" campaign, focused on supporting employee well-being and produced and published throughout the year well-being awareness podcasts and articles under the banner "Stay Well."

Communities and Giving

We are committed to supporting and adding value to the communities where our employees live and work around the world, as well as in communities where the need is greatest. In 2020, we raised approximately \$15.4 million for Covid-19 relief efforts, our largest-ever fund-raising program, thanks to the generosity of our people and a substantial company contribution. These funds are supporting organizations doing vital work in communities worldwide, and through our newly formed Employee Resilience Fund, our CBRE colleagues who are struggling financially due to the Covid-19 pandemic. Following social unrest in the U.S. in 2020, we launched a similar fund-raising program and raised approximately \$2.3 million for organizations that are working for racial justice.

Intellectual Property

We regard our intellectual property as an important part of our business. We hold various trademarks and trade names worldwide, which include the "CBRE," "Hana" and "Telford" marks. Although we believe our intellectual property plays a role in maintaining our competitive position in a number of the markets that we serve, we do not believe we would be materially, adversely affected by the expiration or termination of our trademarks or trade names or the loss of any of our other intellectual property rights other than the "CBRE" and "Trammell Crow Company" marks. We maintain trademark registrations for the "CBRE," "Hana" and "Telford" service marks in jurisdictions where we conduct significant business.

We hold a license to use the "Trammell Crow Company" trade name pursuant to a license agreement with CF98, L.P., an affiliate of Crow Realty Investors, L.P., d/b/a Crow Holdings, which may be revoked if we fail to satisfy usage and quality control covenants under the license agreement.

In addition to trademarks and trade names, we have acquired and developed proprietary technologies for the provision of complex services and analysis. We have a number of pending patent applications relating to these proprietary technologies. We will continue to file additional patent applications on new inventions, as appropriate, demonstrating our commitment to technology and innovation. We also offer proprietary research to clients through our CBRE Research and CBRE Econometric Advisors commercial real estate market information and forecasting groups and we offer proprietary investment analysis and structures through our CBRE Global Investors business.

Material Governmental Matters

Environment

Federal, state and local laws and regulations in the countries in which we do business impose environmental liabilities, controls, disclosure rules and zoning restrictions that affect the ownership, management, development, use or sale of commercial real estate. Certain of these laws and regulations may impose liability on current or previous real property owners or operators for the cost of investigating, cleaning up or removing contamination caused by hazardous or toxic substances at a

property, including contamination resulting from above-ground or underground storage tanks or the presence of asbestos or lead at a property. If contamination occurs or is present during our role as a property or facility manager or developer, we could be held liable for such costs as a current “operator” of a property, regardless of the legality of the acts or omissions that caused the contamination and without regard to whether we knew of, or were responsible for, the presence of such hazardous or toxic substances. The operator of a site also may be liable under common law to third parties for damages and injuries resulting from exposure to hazardous substances or environmental contamination at a site, including liabilities arising from exposure to asbestos-containing materials. Under certain laws and common law principles, any failure by us to disclose environmental contamination at a property could subject us to liability to a buyer or lessee of the property. Further, federal, state and local governments in the countries in which we do business have enacted various laws, regulations and treaties governing environmental and climate change, particularly for “greenhouse gases,” which seek to tax, penalize or limit their release. Such regulations could lead to increased operational or compliance costs over time.

While we are aware of the presence or the potential presence of regulated substances in the soil or groundwater at or near several properties owned, operated or managed by us that may have resulted from historical or ongoing activities on those properties, we are not aware of any material noncompliance with the environmental laws or regulations currently applicable to us, and we are not the subject of any material claim for liability with respect to contamination at any location. However, these laws and regulations may discourage sales and leasing activities and mortgage lending with respect to some properties, which may adversely affect both the commercial real estate services industry in general and us. Environmental contamination or other environmental liabilities may also negatively affect the value of commercial real estate assets held by entities that are managed by our investment management and development services businesses, which could adversely affect the results of operations of these business lines.

Available Information

Our Annual Report on Form 10-K (Annual Report), Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, Proxy Statements and amendments to those reports filed or furnished pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), are available on the Investor Relations section of our website (<https://ir.cbre.com>) as soon as reasonably practicable after we electronically file such material with, or furnish it to, the U.S. Securities and Exchange Commission (the SEC). We also make available through our website other reports filed with or furnished to the SEC under the Exchange Act, including reports filed by our officers and directors under Section 16(a) of the Exchange Act. All of the information on our Investor Relations website is available to be viewed free of charge. The SEC maintains a website (<http://www.sec.gov>) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

Our website (<http://www.cbre.com>) contains information concerning us. We routinely use our website as a channel of distribution for our information, including financial and other material information. Information contained on our website is not part of this Annual Report or our other filings with the SEC. We have included the web addresses of the company and the SEC as inactive textual references only. Except as specifically incorporated by reference into this document, information on these websites is not part of this document.

Item 1A. Risk Factors.

Set forth below and elsewhere in this Annual Report and in other documents we file with the SEC are risks and uncertainties that could cause our actual results to differ materially from the results contemplated by the forward-looking statements contained in this Annual Report and other public statements we make. Based on the information currently known to us, we believe that the matters discussed below identify the material risk factors affecting our business. However, the risks and uncertainties we face are not limited to those described below. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial, but that could later become material, may also adversely affect our business.

Risks Related to our Business Environment

Our performance is significantly related to general economic, political and regulatory conditions and, accordingly, our business, operations and financial condition could be materially adversely affected by economic slowdowns, liquidity constraints, significant public health events, fiscal or political uncertainty and possible subsequent downturns in commercial real estate asset values, property sales and leasing activities in the geographies or industry sectors that we or our clients serve.

Periods of economic weakness or recession, fiscal or political uncertainty, market volatility, declining employment levels, declining demand for commercial real estate, falling real estate values, disruption to the global capital or credit markets or the public perception that any of these events may occur, may materially and negatively affect the performance of some or all of our business lines.

Our business is significantly affected by generally prevailing economic conditions in the markets where we operate. Adverse economic conditions, political or regulatory uncertainty and significant public health events can result in declines in real estate sale and leasing volumes and the value of commercial real estate. It may also lead to a decrease in funds invested in commercial real estate assets and development projects. Such developments in turn may reduce our revenue from property management fees and commissions derived from property sales, leasing, valuation and financing, as well as revenues associated with development or investment management activities.

For example, during 2020, commercial real estate markets globally were severely impacted by a sharp decline in economic activity due to the spread of Covid-19, which put downward pressure on certain parts of our business. See “The Covid-19 pandemic could have a material adverse effect on our business, results of operations, cash flows and financial condition” below for additional risks related to the Covid-19 pandemic.

Our businesses could also suffer from political or economic disruptions (or the perception that such disruptions may occur) that affect interest rates or liquidity or create financial, market or regulatory uncertainty. For example, in 2020, uncertainty over the long-term economic and trade relationship between the U.K and European Union adversely impacted sales and leasing activity in the U.K. and may continue to adversely impact our business due to market and currency volatility and reduced economic activity.

We also make co-investments alongside our investor clients in our development and investment management businesses. During an economic downturn, capital for our investment activities could be constrained and it may take longer for us to dispose of real estate investments or sale prices we achieve may be lower than originally anticipated. As a result, the value of our commercial real estate investments may be reduced, and we could realize losses or diminished profitability. In addition, economic downturns may reduce the volume of loans our capital markets business originates and/or services. Fees within our property management business are generally based on a percentage of rent collections, making them sensitive to macroeconomic conditions that negatively impact rent collections and the performance of the properties we manage.

Economic, political and regulatory uncertainty as well as significant changes and volatility in the financial markets and business environment, and in the global landscape, make it difficult for us to predict our financial performance into the future. As a result, any guidance or outlook that we provide on our performance is based on then-current conditions, and there is a risk that such guidance may turn out to be inaccurate.

Adverse developments in the credit markets may materially harm our business, results of operations and financial condition.

Our investment management, development services and capital markets (including property sales and mortgage and structured financing services) businesses are sensitive to credit cost and availability as well as financial liquidity. Additionally, the revenues in all of our businesses are dependent to some extent on the overall volume of activity (and pricing) in the commercial real estate markets.

Disruptions in the credit markets may have a material adverse effect on our business of providing advisory services to owners, investors and occupiers of real estate in connection with the leasing, disposition and acquisition of property. If our clients are unable to obtain credit on favorable terms, there may be fewer property leasing, disposition and acquisition transactions. In addition, under such conditions, our investment management and development services businesses may be unable to attract capital or achieve returns sufficient to earn incentive fees and we may also experience losses of co-invested equity capital if the disruption causes a prolonged decline in the value of investments made.

Our operations are subject to social, political and economic risks in foreign countries as well as foreign currency volatility.

We conduct a significant portion of our business and employ a substantial number of people outside of the U.S. and, as a result, we are subject to risks associated with doing business globally. During the year ended December 31, 2020, approximately 44% of our revenue was transacted in foreign currencies. Fluctuations in foreign currency exchange rates may result in corresponding fluctuations in revenue and earnings as well as the assets under management for our investment management business, which could have a material adverse effect on our business, financial condition and operating results. Due to the constantly changing currency exposures to which we are subject and the volatility of currency exchange rates, we cannot predict the effect of exchange rate fluctuations upon future operating results.

In addition, international economic trends, foreign governmental policy actions and the following factors may have a material adverse effect on the performance of our business:

- difficulties and costs of staffing and managing international operations among diverse geographies, languages and cultures;
- currency restrictions, transfer-pricing regulations and adverse tax consequences, which may affect our ability to transfer capital and profits;
- adverse changes in regulatory or tax requirements and regimes or uncertainty about the application of or the future of such regulatory or tax requirements and regimes;
- responsibility for complying with numerous, potentially conflicting and frequently complex and changing laws in multiple jurisdictions, *e.g.*, with respect to data protection, privacy regulations, corrupt practices, embargoes, trade sanctions, employment and licensing;
- the impact of regional or country-specific business cycles and economic instability, including those related to public health or safety events;
- greater difficulty in collecting accounts receivable or delays in client payments in some geographic regions;
- foreign ownership restrictions in certain countries, particularly in Asia Pacific and the Middle East, or the risk that such restrictions will be adopted in the future; and
- changes in laws or policies governing foreign trade or investment and use of foreign operations or workers, and any negative sentiments towards multinational companies as a result of any such changes to laws or policies as well as other geopolitical risks.

We maintain anti-corruption and anti-money-laundering compliance programs throughout the company as well as programs designed to enable us to comply with any potential government economic sanctions, embargoes or other import/export controls. However, coordinating our activities to deal with the broad range of complex legal and regulatory

environments in which we operate presents significant challenges. We may not be successful in complying with regulations in all situations and violations may result in criminal or material civil sanctions and other costs against us or our employees, and may have a material adverse effect on our reputation and business.

We have committed additional resources to expand our worldwide sales and marketing activities, to globalize our service offerings and products in select markets and to develop local sales and support channels. If we are unable to successfully implement these plans, maintain adequate long-term strategies that successfully manage the risks associated with our global business or adequately manage operational fluctuations, our business, financial condition or results of operations could be harmed. In addition, we have established operations and seek to grow our presence in many emerging markets to further expand our global platform. However, we may not be successful in effectively evaluating and monitoring the key business, operational, legal and compliance risks specific to those markets. The political and cultural risks present in emerging countries could also harm our ability to successfully execute our operations or manage our businesses there.

Risks Related to Our Operations

The Covid-19 pandemic could have a material adverse effect on our business, results of operations, cash flows and financial condition.

The Covid-19 pandemic has created significant economic and societal disruption, which has adversely affected our business operations, and may materially and adversely affect our results of operations, cash flows and financial condition. In 2020, the Covid-19 pandemic resulted in a decline in real estate sales, financing, construction and leasing activity, adversely impacting deal volume in our property sales and leasing activity in our Advisory Services segment. We expect this impact to continue in 2021. The continued spread of the Covid-19 pandemic may cause further economic weakness and may result in a general decline in the value of commercial real estate and in rents, which in turn may reduce our revenue from property commissions derived from property leasing, sales, valuation and financing, as well as property management fees and other fees and revenues, equity earnings and gains on asset sales associated with development or investment management activities. It may also result in losses due to our participation in the Government Sponsored Enterprise lending programs, which require us to satisfy certain forbearance and loss sharing/repurchase obligations. Furthermore, our investment management, development services and capital markets (including property sales and mortgage and structured financing services) businesses are sensitive to credit costs and availability, as well as financial liquidity, and dislocations in the capital markets related to the Covid-19 pandemic may adversely impact the performance of these businesses. In addition, if office workers continue to work from home after the Covid-19 crisis has passed, it may alter the demand for office space, particularly in major urban areas, which may in turn lead to a decline in other sectors of commercial real estate such as multi-family and retail.

In 2020, we transitioned a significant subset of our employee population to remote work environments to help mitigate the public health risk and comply with government directives, most of whom continue to work remotely. These arrangements increase our reliance on technology and may exacerbate certain risks to our business, including those relating to the security and effectiveness of our information and technology networks. While we have undertaken measures that we believe to be best practices to safeguard CBRE operations and business continuity, there can be no assurance that these measures will be successful in every instance. In addition, certain of our employees and independent contractors, in particular in our Global Workplace Solutions segment, have been deemed to be “essential workers” and are unable to work remotely. As a result, they may be exposed to Covid-19 in their workplaces. If one of more of our employees, independent contractors, clients or others at our worksites becomes ill from Covid-19 and attributes their exposure to such illness to us or one of our worksites, we could be subject to allegations of failure to adequately mitigate the risk of such exposure. Such allegations could harm our reputation and expose us to the risks of litigation and liability.

The extent to which the Covid-19 pandemic impacts our business, results of operations, cash flows and financial condition will depend on numerous evolving factors that we may not be able to accurately predict, including: the duration and scope of the pandemic; governmental, business and other actions that have been and continue to be taken in response to the pandemic; the impact of the pandemic on economic activity and actions taken in response; the effect on our clients and client demand for our services; the health of and the effect on our workforce and our ability to meet staffing needs, particularly if members of our workforce are quarantined as a result of exposure; the ability of our clients to pay for our services; the acceleration of secular changes in the use of certain commercial real estate; and any closures of our or our clients’ offices and

facilities. In addition, if the pandemic continues to create disruptions in the credit or financial markets, or impacts our credit ratings, it could adversely affect our ability to access capital on favorable terms and continue to meet our liquidity needs, all of which are highly uncertain and cannot be predicted. This situation continues to change rapidly and additional impacts may arise that we are not aware of currently. To the extent the Covid-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described elsewhere in this Annual Report.

A significant portion of our loan origination and servicing business depends upon our relationships with U.S. Government Sponsored Enterprises. As an approved seller/servicer for the Government Sponsored Enterprises, we are required to originate and service loans in accordance with their individual program requirements, including participation in loss sharing and repurchase arrangements. Our obligations under these programs may materially and adversely impact our results of operations, cash flows and financial condition.

A significant portion of our loan origination and servicing business (which we conduct through certain of our wholly-owned subsidiaries) depends upon our relationship with the Federal National Mortgage Association (Fannie Mae), and the Federal Home Loan Mortgage Corporation (Freddie Mac), collectively the Government Sponsored Enterprises (GSEs). Numerous pieces of legislation seeking various types of changes designed to reform the GSEs and the U.S. housing finance system have been introduced in Congress including among other things, changes to the role the GSEs play in the U.S. housing finance system and the winding down or conservatorship of Fannie Mae and Freddie Mac over a period of years. Legislation that curtails the GSEs' activities and/or alters the structure or existence of the GSEs, if enacted, may result in a significant decrease in our loan origination and servicing revenue and could have a material impact on our loan origination and servicing business.

As an approved seller/servicer for the GSEs, we are required to comply with various eligibility criteria and are required to originate and service loans in accordance with their individual program requirements. Failure to comply with these requirements may result in termination or withdrawal of our approval to sell and service the GSE loans. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted in the U.S. in response to the Covid-19 pandemic. The CARES Act, among other things, permits borrowers with government-backed mortgages from GSEs who are experiencing a financial hardship to obtain forbearance of their loans, which may materially increase our exposure under such programs. For Fannie Mae loans that we service, we are obligated to advance scheduled principal and interest payments to Fannie Mae, regardless of whether the borrowers actually make the payments. These advances are reimbursable by Fannie Mae after 120 days, but require an immediate capital outlay. Further, with respect to Fannie Mae loans, if the loan goes into foreclosure or is restructured, we have an obligation to share in up to one-third of any losses. For the Freddie Mac Small Balance Lending (SBL) program, we could potentially be obligated to repurchase any loan that remains in default for 120 days following the forbearance period, if the default occurred during the first 12 months after origination and such loan had not been earlier securitized. In addition, we may be responsible for a loss not to exceed 10% of the original principal amount of any SBL loan that is not securitized and goes into default after the 12-month repurchase period. We may need to secure additional sources of financing in order to satisfy our forbearance and loss sharing/repurchase obligations under these programs. We cannot make any assurances that such financing would be available on attractive terms, if at all. Our forbearance and loss sharing/repurchase obligations under these programs may materially adversely impact our results of operations, cash flows and financial condition.

We have numerous local, regional and global competitors across all of our business lines and the geographies that we serve, and further industry consolidation, fragmentation or innovation could lead to significant future competition.

We compete across a variety of business disciplines within the commercial real estate services and investment industry, including property management, facilities management, project and transaction management, tenant and landlord leasing, capital markets solutions (property sales, commercial mortgage origination and structured finance), flexible space solutions, real estate investment management, valuation, loan servicing, development services and proprietary research. Although we are the largest commercial real estate services firm in the world in terms of 2020 revenue, our relative competitive position varies significantly across geographies, property types and services and business lines.

Depending on the geography, property type or service or business line, we face competition from other commercial real estate services providers and investment firms, including outsourcing companies that traditionally competed in limited portions of our facilities management business and have expanded their offerings from time to time, in-house corporate real estate departments, developers, flexible space providers, institutional lenders, insurance companies, investment banking firms, investment managers and accounting and consulting firms. Some of these firms may have greater financial resources allocated to a particular geography, property type or service or business line than we have allocated to that geography, property type, service or business line. In addition, future changes in laws could lead to the entry of other new competitors, such as financial institutions.

Although many of our existing competitors are local or regional firms that are smaller than we are, some of these competitors are larger on a local or regional basis. We are further subject to competition from large national and multi-national firms that have similar service and investment competencies to ours, and it is possible that further industry consolidation could lead to much larger and more formidable competitors globally or in the particular geographies, property types, service or business lines that we serve. In addition, disruptive innovation by existing or new competitors could alter the competitive landscape in the future and require us to accurately identify and assess such changes and make timely and effective changes to our strategies and business model to compete effectively. Furthermore, we are substantially dependent on long-term client relationships and on revenue received for services under various service agreements. Many of these agreements may be canceled by the client for any reason with as little as 30 to 60 days' notice, as is typical in the industry.

In this competitive market, if we are unable to maintain long-term client relationships or are otherwise unable to retain existing clients and develop new clients, our business, results of operations and/or financial condition may be materially adversely affected. There is no assurance that we will be able to compete effectively, to maintain current fee levels or margins, or maintain or increase our market share.

Our growth and financial performance have benefited significantly from acquisitions, which may not perform as expected and similar opportunities may not be available in the future.

Acquisitions have accounted for a significant component of our growth over time. Any future growth through acquisitions will depend in part upon the continued availability of suitable acquisition candidates at attractive prices, terms and conditions, as well as sufficient liquidity and credit to fund these acquisitions. We may incur significant additional debt from time to time to finance any such acquisitions, which could increase the risks associated with our leverage, including our ability to service our debt. Acquisitions involve risks that business judgments made concerning the value, strengths and weaknesses of businesses acquired may prove to be incorrect. Future acquisitions and any necessary related financings also may involve significant transaction-related expenses, which could include severance, lease termination, transaction and deferred financing costs, among others.

We have had, and may continue to experience, challenges in integrating operations and information technology systems acquired from other companies. This could result in the diversion of management's attention from other business concerns and the potential loss of our key employees or clients or those of the acquired operations. The integration process itself may be costly and may adversely impact our business and the acquired company's business as it requires coordination of geographically diverse organizations and implementation of accounting and information technology systems.

We complete acquisitions with the expectation that they will result in various benefits, but the anticipated benefits of these acquisitions are subject to a number of uncertainties, including the ability to timely realize accretive benefits, the level of attrition from professionals licensed or associated with the acquired companies and whether we can successfully integrate the acquired business. Failure to achieve these anticipated benefits could result in increased costs, decreases in the amount of expected revenues and diversion of management's time and energy, which could in turn materially and adversely affect our overall business, financial condition and operating results.

Our brand and reputation are key assets of our company, and our business may be affected by how we are perceived in the marketplace.

Our brand and reputation are key assets, and we believe our continued success depends on our ability to preserve, grow and leverage the value of our brand. Our ability to attract and retain clients is highly dependent upon the external perceptions of our level of service, trustworthiness, business practices, management, workplace culture, financial condition, our response to unexpected events and other subjective qualities. Negative perceptions or publicity regarding these matters, even if related to seemingly isolated incidents and whether or not factually correct, could erode trust and confidence and damage our reputation among existing and potential clients, which could make it difficult for us to attract new clients and maintain existing ones. Negative public opinion could result from actual or alleged conduct in any number of activities or circumstances, including handling of complaints, regulatory compliance, such as compliance with government sanctions, the Foreign Corrupt Practices Act (FCPA), the U.K. Bribery Act and other antibribery, anti-money laundering and corruption laws, the use and protection of client and other sensitive information and from actions taken by regulators or others in response to such conduct. Furthermore, as a company with headquarters and operations located in the U.S., a negative perception of the U.S. arising from its political or other positions could harm the perception of our company and our brand abroad. Although we monitor developments for areas of potential risk to our reputation and brand, negative perceptions or publicity would materially and adversely affect our revenues and profitability. Social media channels can also cause rapid, widespread reputational harm to our brand. Our brand and reputation may also be harmed by the actions of third parties that are outside of our control, including vendors and joint venture partners.

The protection of our brand, including related trademarks, may require the expenditure of significant financial and operational resources. Moreover, the steps we take to protect our brand may not adequately protect our rights or prevent third parties from infringing or misappropriating our trademarks. Even when we detect infringement or misappropriation of our trademarks, we may not be able to enforce all such trademarks. Any unauthorized use by third parties of our brand may adversely affect our brand. Furthermore, as we continue to expand our business, especially internationally, there is a risk we may face claims of infringement or other alleged violations of third-party intellectual property rights, which may restrict us from leveraging our brand in a manner consistent with our business goals.

Our Real Estate Investments businesses, including our real estate investment programs and co-investment activities, subject us to performance and real estate investment risks which could cause fluctuations in our earnings and cash flow and impact our ability to raise capital for future investments.

The revenue, net income and cash flow generated by our investment management business line within our Real Estate Investments segment can be volatile primarily because the management, transaction and incentive fees can vary as a result of market movements. In the event that any of the investment programs that our investment management business manages were to perform poorly, our revenue, net income and cash flow could decline because the value of the assets we manage would decrease, which would result in a reduction in some of our management fees, and our investment returns would decrease, resulting in a reduction in the incentive compensation we earn. Moreover, we could experience losses on co-investments of our own capital in such programs as a result of poor performance. Investors and potential investors in our programs continually assess our performance, and our ability to raise capital for existing and future programs and maintaining our current fee structure will depend on our continued satisfactory performance.

An important part of the strategy for our investment management business involves co-investing our capital in certain real estate investments with our clients, and there is an inherent risk of loss of our investments. As of December 31, 2020, we had committed \$76.5 million to fund future co-investments in our Real Estate Investments segment, approximately \$30.1 million of which is expected to be funded during 2021. In addition to required future capital contributions, some of the co-investment entities may request additional capital from us and our subsidiaries holding investments in those assets. The failure to provide these contributions could have adverse consequences to our interests in these investments, including damage to our reputation with our co-investment partners and clients, as well as the necessity of obtaining alternative funding from other sources that may be on disadvantageous terms for us and the other co-investors. Participating as a co-investor is an important part of our investment management line of business, which might suffer if we were unable to make these investments.

Selective investment in real estate projects is critical to our development services business strategy within our Real Estate Investments segment, and there is an inherent risk of loss of our investments. As of December 31, 2020, we had 21 real estate projects consolidated in our financial statements. In addition, as of December 31, 2020, we were involved as a principal (in most cases, co-investing with our clients) in approximately 80 unconsolidated real estate subsidiaries with invested equity of \$202.0 million and had committed additional capital to these unconsolidated subsidiaries of \$34.8 million. As of December 31, 2020, we also had letters of credit of \$15.0 million in our U.K. development business, which relate to our share of certain cost overrun of unconsolidated subsidiaries, as well as guaranteed outstanding notes payable of these unconsolidated subsidiaries in our U.S. development business with outstanding balances of \$7.5 million.

During the ordinary course of business within our development services business line, we provide numerous completion and budget guarantees requiring us to complete the relevant project within a specified timeframe and/or within a specified budget, with us potentially being liable for costs to complete in excess of such timeframe or budget. There can be no assurance that we will not have to perform under any such guarantees. If we are required to perform under a significant number of such guarantees, it could harm our business, results of operations and financial condition.

Because the disposition of a single significant investment can affect our financial performance in any period, our real estate investment activities could cause fluctuations in our net earnings and cash flow. In many cases, we have limited control over the timing of the disposition of these investments and the recognition of any related gain or loss, or incentive participation fee.

The success of our Global Workplace Solutions segment depends on our ability to enter into mutually beneficial contracts, deliver high quality levels of service and accurately assess working capital requirements.

Contracts for our Global Workplace Solutions clients often include complex terms regarding payment of fees, risk transfer, liability limitations, termination, due diligence and transition timeframes. Further, the facilities management and project management businesses within our Global Workplace Solutions segment are often impacted by transition activities in the first year of a contract as well as the timing of starting operations on these large client contracts. If we are unable to negotiate contracts with our clients in a timely manner and on mutually beneficial terms, or there is a delay in becoming fully operational, our business and results of operation may be negatively impacted. Further, if we fail to deliver the high-quality levels of service expected by our clients, it may result in reputational and financial damage, and could impact our ability to retain existing clients and attract new clients.

Our Global Workplace Solutions segment also requires us to accurately model the working capital needs of this business. Should we fail to accurately assess working capital requirements, the cash flow generated by this business may be adversely impacted. In addition, if we do not accurately assess the creditworthiness of a client or if a client's creditworthiness changes during the term of the contract, we could potentially be unable to collect on any outstanding payments.

A failure by third parties to comply with service level agreements or regulatory or legal requirements could result in economic and reputational harm to us.

We rely on third parties, and in some cases subcontractors, to perform activities on behalf of our organization to improve quality, increase efficiencies, cut costs and lower operational risks across our business and support functions. We have instituted a Supplier Code of Conduct, which is intended to communicate to our vendors the standards of conduct we expect them to uphold. Our contracts with vendors typically impose a contractual obligation to comply with our Supplier Code of Conduct. In addition, we leverage technology to help us better screen vendors, with the aim of gaining a deeper understanding of the compliance, data privacy, health and safety, environmental, sustainability and other risks posed to our business by potential and existing vendors. If our third parties do not have the proper safeguards and controls in place, or appropriate oversight cannot be provided, we could be exposed to increased operational, regulatory, financial or reputational risks. A failure by third parties to comply with service level agreements or regulatory or legal requirements in a high quality and timely manner could result in economic and reputational harm to us. In addition, these third parties face their own technology, operating, business and economic risks, and any significant failures by them, including the improper use or disclosure of our confidential client, employee or company information, could cause damage to our reputation and harm to our business.

Our success depends upon the retention of our senior management, as well as our ability to attract and retain qualified and experienced employees.

Our continued success is highly dependent upon the efforts of our executive officers and other key employees. While certain of our executive officers and key employees are subject to long-term compensatory arrangements, there can be no assurance that we will be able to retain all key members of our senior management. We also are highly dependent upon the retention of our property sales and leasing professionals, who generate a significant amount of our revenues, as well as other revenue producing professionals. The departure of any of our key employees, or the loss of a significant number of key revenue producers, if we are unable to quickly hire and integrate qualified replacements, could cause our business, financial condition and results of operations to materially suffer. Competition for these personnel is significant and we may not be able to successfully recruit, integrate or retain sufficiently qualified personnel. In addition, the growth of our business is largely dependent upon our ability to attract and retain qualified personnel in all areas of our business. We and our competitors use equity incentives and sign-on and retention bonuses to help attract, retain and incentivize key personnel. As competition is significant for the services of such personnel, the expense of such incentives and bonuses may increase, which could negatively impact our profitability, or result in our inability to attract or retain such personnel to the same extent that we have in the past. Any significant decline in, or failure to grow, our stock price may result in an increased risk of loss of these key personnel. If we are unable to attract and retain these qualified personnel, our growth may be limited, and our business and operating results could materially suffer.

If we are unable to manage the organizational challenges associated with our global operations, we might be unable to achieve our business objectives.

Our global operations present significant management and organizational challenges. It might become increasingly difficult to maintain effective standards across a large enterprise and effectively institutionalize our knowledge. It might also become more difficult to maintain our culture, effectively manage and monitor our personnel and operations and effectively communicate our core values, policies and procedures, strategies and goals. The size of our employee base increases the possibility that we will have individuals who engage in unlawful or fraudulent activity, or otherwise expose us to business and reputational risks. If we are not successful in continuing to develop and implement the processes and tools designed to manage our enterprise and instill our culture and core values into all of our employees, our reputation and ability to compete successfully and achieve our business objectives could be impaired. In addition, from time to time, we have made, and may continue to make, changes to our operating model, including how we are organized, as the needs and size of our business change. If we do not successfully implement any such changes, our business and results of operation may be negatively and materially impacted.

Our policies, procedures and programs to safeguard the health, safety and security of our employees and others may not be adequate.

We have more than 100,000 employees as well as independent contractors working in over 100 countries. We have undertaken to implement what we believe to be best practices to safeguard the health, safety and security of our employees, independent contractors, clients and others at our worksites. However, if these policies, procedures and programs are not adequate, or employees do not receive related adequate training or follow them for any reason, the consequences may be severe to us, including serious injury or loss of life, which could impair our operations and cause us to incur significant legal liability or fines as well as reputational damage. Our insurance may not cover, or may be insufficient to cover, any legal liability or fines that we incur for health, safety or security incidents.

We may be subject to actual or perceived conflicts of interest.

Similar to other global services companies with different business lines and a broad client base, we may be subject to potential conflicts of interests in the provision of our services. For example, conflicts may arise from our role in advising or representing both owners and tenants in commercial real estate lease transactions. In certain cases, we are also subject to fiduciary obligations to our clients. In such situations, our policies are designed to give full disclosure and transparency to all parties as well as implement appropriate barriers on information-sharing and other activities to ensure each party's interests are protected; however, there can be no assurance that our policies will be successful in every case. If we fail, or appear to fail, to identify, disclose and appropriately address potential conflicts of interest or fiduciary obligations, there could be an adverse effect on our business or reputation regardless of whether any such claims have merit. In addition, it is possible that in some jurisdictions, regulations could be changed to limit our ability to act for certain parties where potential conflicts may exist even with informed consent, which could limit our market share in those markets. There can be no assurance that potential conflicts of interest will not materially adversely affect us.

Infrastructure disruptions may disrupt our ability to manage real estate for clients or may adversely affect the value of real estate investments we make on behalf of clients.

Our ability to conduct a global business may be adversely impacted by disruptions to the infrastructure that supports our businesses and the communities in which they are located. This may include disruptions as a result of political instability, public health crises, attacks on our information technology systems, terrorist attacks, interruptions or delays in services from third-party data center hosting facilities or cloud computing platform providers, employee errors or malfeasance, building defects, utility outages and natural disasters such as fires, earthquakes, floods and hurricanes. The infrastructure disruptions we may experience as a result of such disasters could also disrupt our ability to manage real estate for clients or may adversely affect the value of our real estate investments in our investment management and development services businesses.

The buildings we manage for clients, which include some of the world's largest office properties and retail centers, are used by people daily. We also manage the critical facilities (including data centers) that our clients rely on to serve the public and their customers, where unplanned downtime could potentially disrupt other parts of their businesses or society. As a result, fires, earthquakes, floods, other natural disasters, building defects, terrorist attacks, mass shootings or infrastructure disruptions can result in significant loss of life or injury, and, to the extent we are held to have been negligent in connection with our management of the affected properties, we could incur significant financial liabilities and reputational harm.

Our joint venture activities and affiliate program involve risks that are often outside of our control and that, if realized, could materially harm our business.

We have utilized joint ventures for commercial investments, select local brokerage and other affiliations both in the U.S. and internationally, and we may acquire interests in other joint ventures in the future. Under our affiliate program, we enter into contractual relationships with local brokerage, property management or other operations pursuant to which we license to that operation our name and make available certain of our resources, in exchange for a royalty or economic participation in that operation's revenue, profits or transactional activity. In many of these joint ventures and affiliations, we may not have the right or power to direct the management and policies of the joint ventures or affiliates, and other participants or operators of affiliates may take action contrary to our instructions or requests and against our policies and objectives. In addition, the other participants and operators may become bankrupt or have economic or other business interests or goals that are inconsistent with ours. If a joint venture participant or affiliate acts contrary to our interest, it could harm our brand, business, results of operations and financial condition.

A significant portion of our revenue is seasonal, which could cause our financial results to fluctuate significantly.

A significant portion of our revenue is seasonal. Historically, our revenue, operating income, net income and cash flow from operating activities tend to be lowest in the first calendar quarter, and highest in the fourth calendar quarter of each year. Earnings and cash flow have generally been concentrated in the fourth calendar quarter due to the focus on completing sales, financing and leasing transactions prior to calendar year-end. This variance among periods makes it difficult to compare our financial condition and results of operations on a quarter-by-quarter basis. In addition, as a result of the seasonal nature of our business, political, economic or other unforeseen disruptions occurring in the fourth quarter, particularly those that impact our ability to close large transactions, may have a proportionally larger effect on our financial condition and results of operations.

Risks Related to Our Indebtedness

Our debt instruments impose operating and financial restrictions on us, and in the event of a default, all of our borrowings would become immediately due and payable.

As of December 31, 2020, our total debt, excluding notes payable on real estate (which are generally non-recourse to us) and warehouse lines of credit (which are recourse only to our wholly-owned subsidiary, CBRE Capital Markets, and are secured by our related warehouse receivables), was \$1.4 billion. For the year ended December 31, 2020, our interest expense was \$82.9 million.

Our debt instruments impose, and the terms of any future debt may impose, operating and other restrictions on us and many of our subsidiaries. These restrictions affect, and in many respects limit or prohibit, our ability to:

- plan for or react to market conditions;
- meet capital needs or otherwise restrict our activities or business plans; and
- finance ongoing operations, strategic acquisitions, investments or other capital needs or to engage in other business activities that would be in our interest, including:
 - incurring or guaranteeing additional indebtedness;
 - entering into mergers and consolidations;
 - creating liens; and
 - entering into sale/leaseback transactions.

Our credit agreement requires us to maintain a minimum interest coverage ratio of consolidated EBITDA (as defined in the credit agreement) to consolidated interest expense (as defined in the credit agreement) and a maximum leverage ratio of total debt (as defined in the credit agreement) less available cash (as defined in the credit agreement) to consolidated EBITDA as of the end of each fiscal quarter. Our ability to meet these financial ratios may be affected by events beyond our control, and we cannot give assurance that we will be able to meet those ratios when required. We continue to monitor our projected compliance with these financial ratios and other terms of our credit agreement.

A breach of any of these restrictive covenants or the inability to comply with the required financial ratios could result in a default under our debt instruments. If any such default occurs, the lenders under our credit agreement may elect to declare all outstanding borrowings, together with accrued interest and other fees, to be immediately due and payable. The lenders under our credit agreement also have the right in these circumstances to terminate any commitments they have to provide further borrowings. In addition, a default under our credit agreement could trigger a cross default or cross acceleration under our other debt instruments.

We have limited restrictions on the amount of additional recourse debt we are able to incur, which may intensify the risks associated with our leverage, including our ability to service our indebtedness. In addition, in the event of a credit-ratings downgrade, our ability to borrow and the costs of such borrowings could be adversely affected.

Subject to the maximum amounts of indebtedness permitted by our credit agreement covenants, we are not restricted in the amount of additional recourse debt we are able to incur, and so we may in the future incur such indebtedness in order to finance our operations and investments. In addition, Moody's Investors Service, Inc. and Standard & Poor's Ratings Services, rate our significant outstanding debt. These ratings, and any downgrades of them, may affect our ability to borrow as well as the costs of our current and future borrowings.

Risks Related to our Information Technology, Cybersecurity and Data Protection

Failure to maintain and execute information technology strategies and ensure that our employees adapt to changes in technology could materially and adversely affect our ability to remain competitive in the market.

Our business relies heavily on information technology, including solutions provided by third parties, to deliver services that meet the needs of our clients. If we are unable to effectively execute or maintain our information technology strategies or adopt new technologies and processes relevant to our service platform, our ability to deliver high-quality services may be materially impaired. In addition, we make significant investments in new systems and tools to achieve competitive advantages and efficiencies. Implementation of such investments in information technology could exceed estimated budgets and we may experience challenges that prevent new strategies or technologies from being realized according to anticipated schedules. If we are unable to maintain current information technology and processes or encounter delays, or fail to exploit new technologies, then the execution of our business plans may be disrupted. Similarly, our employees require effective tools and techniques to perform functions integral to our business. Failure to successfully provide such tools and systems, or ensure that employees have properly adopted them, could materially and adversely impact our ability to achieve positive business outcomes.

Interruption or failure of our information technology, communications systems or data services could impair our ability to provide our services effectively, which could damage our reputation and materially harm our operating results.

Our business requires the continued operation of information technology and communication systems and network infrastructure. Our ability to conduct our global business may be materially adversely affected by disruptions to these systems or our infrastructure. Our information technology and communications systems are vulnerable to damage or disruption from fire, power loss, telecommunications failure, system malfunctions, computer viruses, cyberattacks, natural disasters such as hurricanes, earthquakes and floods, acts of war or terrorism, employee errors or malfeasance, or other events which are beyond our control. With respect to cyberattacks and viruses, these pose growing threats to many companies, and we have been a target and may continue to be a target of such threats, which could expose us to liability, reputational harm and significant remediation costs and cause material harm to our business and financial results. In addition, the operation and maintenance of these systems and networks is in some cases dependent on third-party technologies, systems and service providers for which there is no certainty of uninterrupted availability. Any of these events could cause system interruption, delays and loss, corruption or exposure of critical data or intellectual property and may also disrupt our ability to provide services to or interact with our clients, contractors and vendors, and we may not be able to successfully implement contingency plans that depend on communication or travel. Furthermore, while we have certain business interruption insurance coverage and various contractual arrangements that can serve to mitigate costs, damages and liabilities, any such event could result in substantial recovery and remediation costs and liability to customers, business partners and other third parties. We have crises management, business continuity and disaster recovery plans and backup systems to reduce the potentially adverse effect of such events, but our disaster recovery planning may not be sufficient and cannot account for all eventualities, and a catastrophic event that results in the destruction or disruption of any of our data centers or our critical business or information technology systems could severely affect our ability to conduct normal business operations, and as a result, our future operating results could be materially adversely affected.

Our business relies heavily on the use of commercial real estate data. A portion of this data is purchased or licensed from third-party providers for which there is no certainty of uninterrupted availability. A disruption of our ability to provide data to our professionals and/or our clients or an inadvertent exposure of proprietary data could damage our reputation and competitive position, and our operating results could be adversely affected.

Failure to maintain the security of our information and technology networks, including personally identifiable and client information, intellectual property and proprietary business information could materially adversely affect us.

Security breaches and other disruptions of our information and technology networks, as well as that of third-party vendors, could compromise our information and intellectual property and expose us to liability, reputational harm and significant remediation costs, which could cause material harm to our business and financial results. In the ordinary course of our business, we collect and store sensitive data, including our proprietary business information and intellectual property, and that of our clients and personally identifiable information of our employees, contractors and vendors, in our data centers, networks and third-party cloud hosting providers. The secure processing, maintenance and transmission of this information are critical to our operations. Although we and our vendors continue to implement new security measures and regularly conduct employee training, our information technology and infrastructure may nevertheless be vulnerable to cyberattacks by third parties or breached due to employee error, malfeasance or other disruptions. An increasing number of companies that rely on information and technology networks have disclosed breaches of their security, some of which have involved sophisticated and highly targeted attacks on portions of their websites or infrastructure. The techniques used to obtain unauthorized access, disable, or degrade service, or sabotage systems, change frequently, may be difficult to detect, and often are not recognized until launched against a target. To date, we have not yet experienced any cybersecurity breaches that have been material, either individually or in the aggregate. However, there can be no assurance that we will be able to prevent any material events from occurring in the future.

We are subject to numerous laws and regulations designed to protect sensitive information, such as the European Union's General Data Protection Regulation, China's Cyber Security Laws, various U.S. federal and state laws governing the protection of health or other personally identifiable information, including the California Consumer Privacy Act, and data privacy and cybersecurity laws in other regions. These laws and regulations are increasing in complexity and number, change frequently and increasingly conflict among the various countries in which we operate, which has resulted in greater compliance risk and cost for us.

A significant actual or potential theft, loss, corruption, exposure, fraudulent use or misuse of client, employee or other personally identifiable or proprietary business data, whether by third parties or as a result of employee malfeasance or otherwise, non-compliance with our contractual or other legal obligations regarding such data or intellectual property or a violation of our privacy and security policies with respect to such data could result in significant remediation and other costs, fines, litigation or regulatory actions against us. Such an event could additionally disrupt our operations and the services we provide to clients, harm our relationships with contractors and vendors, damage our reputation, result in the loss of a competitive advantage, impact our ability to provide timely and accurate financial data and cause a loss of confidence in our services and financial reporting, which could adversely affect our business, revenues, competitive position and investor confidence. Additionally, we rely on third parties to support our information and technology networks, including cloud storage solution providers, and as a result have less direct control over our data and information technology systems. Such third parties are also vulnerable to security breaches and compromised security systems, for which we may not be indemnified and which could materially adversely affect us and our reputation.

Legal and Regulatory Related Risks

We are subject to various litigation and regulatory risks and may face financial liabilities and/or damage to our reputation as a result of litigation or regulatory proceedings.

Our businesses are exposed to various litigation and regulatory risks, especially within our valuations business. Although we maintain insurance coverage for most of this risk, insurance coverage is unavailable at commercially reasonable pricing for certain types of exposures. Additionally, our insurance policies may not cover us in the event of grossly negligent or intentionally wrongful conduct. Accordingly, an adverse result in a litigation against us, or a lawsuit that results in a substantial

legal liability for us (and particularly a lawsuit that is not insured), could have a disproportionate and material adverse effect on our business, financial condition and results of operations. Furthermore, an adverse result in regulatory proceedings, if applicable, could result in fines or other liabilities or adversely impact our operations. In addition, we depend on our business relationships and our reputation for high-caliber professional services to attract and retain clients. As a result, allegations against us, or the announcement of a regulatory investigation involving us, irrespective of the ultimate outcome of that allegation or investigation, may harm our professional reputation and as such materially damage our business and its prospects.

Our businesses, financial condition, results of operations and prospects could be adversely affected by new laws or regulations or by changes in existing laws or regulations or the application thereof. If we fail to comply with laws and regulations applicable to us, or make incorrect determinations in complex tax regimes, we may incur material financial penalties.

We are subject to numerous federal, state, local and non-U.S. laws and regulations specific to the services we perform in our business. Brokerage of real estate sales and leasing transactions and the provision of property management and valuation services require us and our employees to maintain applicable licenses in each U.S. state and certain non-U.S. jurisdictions in which we perform these services. If we and our employees fail to maintain our licenses or conduct these activities without a license, or violate any of the regulations covering our licenses, we may be required to pay fines (including treble damages in certain states) or return commissions received or have our licenses suspended or revoked. A number of our services, including the services provided by our indirect wholly-owned subsidiaries, CBRE Capital Markets and CBRE Global Investors, are subject to regulation by the SEC, Financial Industry Regulatory Authority (FINRA), or other self-regulatory organizations and state securities regulators and compliance failures or regulatory action could adversely affect our business. We could be subject to disciplinary or other actions in the future due to claimed noncompliance with these regulations, which could have a material adverse effect on our operations and profitability.

We are also subject to laws of broader applicability, such as tax, securities, environmental, employment laws and anti-bribery, anti-money laundering and corruption laws, including the Fair Labor Standards Act, occupational health and safety regulations, U.S. state wage-and-hour laws, the U.S. FCPA and the U.K. Bribery Act. Failure to comply with these requirements could result in the imposition of significant fines by governmental authorities, awards of damages to private litigants and significant amounts paid in legal fees or settlements of these matters.

As the size and scope of our business has increased significantly, compliance with numerous licensing and other regulatory requirements and the possible loss resulting from non-compliance have both increased. New or revised legislation or regulations applicable to our business, both within and outside of the U.S., as well as changes in administrations or enforcement priorities may have an adverse effect on our business, including increasing the costs of regulatory compliance or preventing us from providing certain types of services in certain jurisdictions or in connection with certain transactions or clients. We are unable to predict how any of these new laws, rules, regulations and proposals will be implemented or in what form, or whether any additional or similar changes to laws or regulations, including the interpretation or implementation thereof, will occur in the future. Any such action could affect us in substantial and unpredictable ways and could have an adverse effect on our businesses, financial condition, results of operations and prospects.

We also operate in many jurisdictions with complex and varied tax regimes and are subject to different forms of taxation resulting in a variable effective tax rate. In addition, from time to time we engage in transactions across different tax jurisdictions. Due to the different tax laws in the many jurisdictions where we operate, we are often required to make subjective determinations. The tax authorities in the various jurisdictions where we carry on business may not agree with the determinations that are made by us with respect to the application of tax law. Such disagreements could result in disputes and, ultimately, in the payment of additional funds to the government authorities in the jurisdictions where we carry on business, which could have an adverse effect on our results of operations. In addition, changes in tax rules or the outcome of tax assessments and audits could have an adverse effect on our results in any particular quarter.

We may be subject to environmental liability as a result of our role as a property or facility manager or developer of real estate.

Various laws and regulations impose liability on real property owners or operators for the cost of investigating, cleaning up or removing contamination caused by hazardous or toxic substances at a property. In our role as a property or facility manager or developer, we could be held liable as an operator for such costs. This liability may be imposed without regard to the legality of the original actions and without regard to whether we knew of, or were responsible for, the presence of the hazardous or toxic substances. If we fail to disclose environmental issues, we could also be liable to a buyer or lessee of a property. If we incur any such liability, our business could suffer significantly as it could be difficult for us to develop or sell such properties, or borrow funds using such properties as collateral. In the event of a substantial liability, our insurance coverage might be insufficient to pay the full damages, or the scope of available coverage may not cover certain of these liabilities. Additionally, liabilities incurred to comply with more stringent future environmental requirements could adversely affect any or all of our lines of business.

Risks Related to our Internal Controls and Accounting Policies

If we are unable to implement and maintain effective internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and our results of operations and stock price could be materially adversely affected.

The accuracy of our financial reporting is dependent on the effectiveness of our internal controls. We are required to provide a report from management to our stockholders on our internal control over financial reporting that includes an assessment of the effectiveness of these controls. As disclosed in Part II, Item 9A, during the fourth quarter of 2019, management identified several material weaknesses in internal control related to our Global Workplace Solutions segment in the Europe, Middle East & Africa region, or GWS EMEA. Remediation of these material weaknesses is ongoing. As a result, even though a material misstatement was not identified in the GWS EMEA financial statements, it was determined that there was a reasonable possibility that a material misstatement in the GWS EMEA financial statements would not have been prevented or detected on a timely basis and, therefore, management concluded that our internal control over financial reporting was not effective as of December 31, 2020. Internal control over financial reporting has inherent limitations, including human error, the possibility that controls could be circumvented or become inadequate because of changed conditions, and fraud. Because of these inherent limitations, internal control over financial reporting might not prevent or detect all misstatements or fraud. If we are unable to remediate the material weaknesses in a timely manner, or are otherwise unable to maintain and execute adequate internal control over financial reporting or implement required new or improved controls that provide reasonable assurance of the reliability of the financial reporting and preparation of our financial statements for external use, we could suffer harm to our reputation, incur incremental compliance costs, fail to meet our public reporting requirements on a timely basis, be unable to properly report on our business and our results of operations, or be required to restate our financial statements, and our results of operations, our stock price and our ability to obtain new business could be materially adversely affected.

Our goodwill and other intangible assets could become impaired, which may require us to take material non-cash charges against earnings.

Under current accounting guidelines, we must assess, at least annually and potentially more frequently, whether the value of our goodwill and other intangible assets has been impaired. Any impairment of goodwill or other intangible assets as a result of such analysis would result in a non-cash charge against earnings, and such charge could materially adversely affect our reported results of operations, stockholders' equity and our stock price. A significant and sustained decline in our future cash flows, a significant adverse change in the economic environment, slower growth rates or if our stock price falls below our net book value per share for a sustained period, could result in the need to perform additional impairment analysis in future periods. If we were to conclude that a future write-down of goodwill or other intangible assets is necessary, then we would record such additional charges, which could materially adversely affect our results of operations.

Cautionary Note on Forward-Looking Statements

This Annual Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act) and Section 21E of the Exchange Act. The words “anticipate,” “believe,” “could,” “should,” “propose,” “continue,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “will” and similar terms and phrases are used in this Annual Report to identify forward-looking statements. Except for historical information contained herein, the matters addressed in this Annual Report are forward-looking statements. These statements relate to analyses and other information based on forecasts of future results and estimates of amounts not yet determinable. These statements also relate to our future prospects, developments and business strategies.

These forward-looking statements are made based on our management’s expectations and beliefs concerning future events affecting us and are subject to uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. These uncertainties and factors could cause our actual results to differ materially from those matters expressed in or implied by these forward-looking statements.

The following factors are among those, but are not only those, that may cause actual results to differ materially from the forward-looking statements:

- disruptions in general economic, political and regulatory conditions and significant public health events, particularly in geographies or industry sectors where our business may be concentrated;
- volatility or adverse developments in the securities, capital or credit markets, interest rate increases and conditions affecting the value of real estate assets, inside and outside the U.S.;
- poor performance of real estate investments or other conditions that negatively impact clients’ willingness to make real estate or long-term contractual commitments and the cost and availability of capital for investment in real estate;
- foreign currency fluctuations and changes in currency restrictions, trade sanctions and import/export and transfer pricing rules;
- disruptions to business, market and operational conditions related to the Covid-19 pandemic and the impact of government rules and regulations intended to mitigate the effects of this pandemic, including, without limitation, rules and regulations that impact us as a loan originator and servicer for U.S. GSEs;
- our ability to compete globally, or in specific geographic markets or business segments that are material to us;
- our ability to identify, acquire and integrate accretive businesses;
- costs and potential future capital requirements relating to businesses we may acquire;
- integration challenges arising out of companies we may acquire;
- increases in unemployment and general slowdowns in commercial activity;
- trends in pricing and risk assumption for commercial real estate services;
- the effect of significant changes in capitalization rates across different property types;
- a reduction by companies in their reliance on outsourcing for their commercial real estate needs, which would affect our revenues and operating performance;
- client actions to restrain project spending and reduce outsourced staffing levels;
- our ability to further diversify our revenue model to offset cyclical economic trends in the commercial real estate industry;
- our ability to attract new user and investor clients;

- our ability to retain major clients and renew related contracts;
- our ability to leverage our global services platform to maximize and sustain long-term cash flow;
- our ability to continue investing in our platform and client service offerings;
- our ability to maintain expense discipline;
- the emergence of disruptive business models and technologies;
- negative publicity or harm to our brand and reputation;
- the failure by third parties to comply with service level agreements or regulatory or legal requirements;
- the ability of our investment management business to maintain and grow assets under management and achieve desired investment returns for our investors, and any potential related litigation, liabilities or reputational harm possible if we fail to do so;
- our ability to manage fluctuations in net earnings and cash flow, which could result from poor performance in our investment programs, including our participation as a principal in real estate investments;
- the ability of CBRE Capital Markets to periodically amend, or replace, on satisfactory terms, the agreements for its warehouse lines of credit;
- declines in lending activity of U.S. GSEs, regulatory oversight of such activity and our mortgage servicing revenue from the commercial real estate mortgage market;
- changes in U.S. and international law and regulatory environments (including relating to anti-corruption, anti-money laundering, trade sanctions, tariffs, currency controls and other trade control laws), particularly in Asia, Africa, Russia, Eastern Europe and the Middle East, due to the level of political instability in those regions;
- litigation and its financial and reputational risks to us;
- our exposure to liabilities in connection with real estate advisory and property management activities and our ability to procure sufficient insurance coverage on acceptable terms;
- our ability to retain and incentivize key personnel;
- our ability to manage organizational challenges associated with our size;
- liabilities under guarantees, or for construction defects, that we incur in our development services business;
- variations in historically customary seasonal patterns that cause our business not to perform as expected;
- our leverage under our debt instruments as well as the limited restrictions therein on our ability to incur additional debt, and the potential increased borrowing costs to us from a credit-ratings downgrade;
- our and our employees' ability to execute on, and adapt to, information technology strategies and trends;
- cybersecurity threats or other threats to our information technology networks, including the potential misappropriation of assets or sensitive information, corruption of data or operational disruption;
- our ability to comply with laws and regulations related to our global operations, including real estate licensure, tax, labor and employment laws and regulations, as well as the anti-corruption laws and trade sanctions of the U.S. and other countries;
- changes in applicable tax or accounting requirements;
- any inability for us to implement and maintain effective internal controls over financial reporting;

- the effect of implementation of new accounting rules and standards or the impairment of our goodwill and intangible assets; and
- the other factors described elsewhere in this Annual Report, included under the headings “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies,” “Quantitative and Qualitative Disclosures About Market Risk” or as described in the other documents and reports we file with the SEC.

Forward-looking statements speak only as of the date the statements are made. You should not put undue reliance on any forward-looking statements. We assume no obligation to update forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information, except to the extent required by applicable securities laws. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements. Additional information concerning these and other risks and uncertainties is contained in our other periodic filings with the SEC.

Investors and others should note that we routinely announce financial and other material information using our Investor Relations website (<https://ir.cbre.com>), SEC filings, press releases, public conference calls and webcasts. We use these channels of distribution to communicate with our investors and members of the public about our company, our services and other items of interest. Information contained on our website is not part of this Annual Report or our other filings with the SEC.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

As of December 31, 2020, we occupied offices, excluding affiliates, in the following geographical regions:

	Sales Offices	Corporate Offices	Total
Americas	220	2	222
Europe, Middle East and Africa (EMEA)	181	1	182
Asia Pacific	93	1	94
Total	494	4	498

Some of our offices house employees from more than one of our business segments (i.e. an office might house employees from all three of our business segments). As such, we have provided the above office totals by geographic region rather than by business segment in order to avoid double counting or triple counting our offices.

We lease all of our office space and believe it is adequate for our current needs. The most significant terms of the leasing arrangements for our offices are the length of the lease and rent. Our leases have terms varying in duration. The rent payable under our office leases varies significantly from location to location as a result of differences in prevailing commercial real estate rates in different geographic areas. Our management believes that no single office lease is material to our business, results of operations or financial condition. In addition, we believe there is adequate alternative office space available at acceptable rental rates to meet our needs, although adverse movements in rental rates in some markets may negatively affect our profits in those markets when we enter into new leases.

Item 3. Legal Proceedings.

We are a party to a number of pending or threatened lawsuits arising out of, or incident to, our ordinary course of business. We believe that any losses in excess of the amounts accrued therefore as liabilities on our consolidated financial statements are unlikely to be significant, but litigation is inherently uncertain and there is the potential for a material adverse effect on our consolidated financial statements if one or more matters are resolved in a particular period in an amount materially in excess of what we anticipated.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

Stock Price Information

Our Class A common stock has traded on the NYSE under the symbol “CBRE” since March 19, 2018. Prior to that, from June 10, 2004 to March 18, 2018, our Class A common stock traded on the NYSE under the symbol “CBG.”

As of February 18, 2021, there were 52 stockholders of record of our Class A common stock.

Dividend Policy

We have not declared or paid any cash dividends on any class of our common stock since our inception on February 20, 2001, and we do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. We currently intend to retain any future earnings to finance future growth and possibly reduce debt or repurchase shares of our common stock. Any future determination to pay cash dividends will be at the discretion of our board of directors and will depend on our financial condition, acquisition or other opportunities to invest capital, results of operations, capital requirements and other factors that the board of directors deems relevant.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

There were no open market stock repurchases during the three months ended December 31, 2020. Our stock repurchase program does not obligate us to acquire any specific number of shares. Under this program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act. Our stock repurchases have been funded with cash on hand and we intend to continue funding future repurchases with existing cash. We may utilize our stock repurchase program to continue offsetting the impact of our stock-based compensation program and on a more opportunistic basis if we believe our stock presents a compelling investment compared to other discretionary uses. The timing of any future repurchases and the actual amounts repurchased will depend on a variety of factors, including the market price of our common stock, general market and economic conditions and other factors. As of December 31, 2020, we had \$350.0 million of capacity remaining under our repurchase program.

Equity Compensation Plan Information

The following table summarizes information about our equity compensation plans as of December 31, 2020. All outstanding awards relate to our Class A common stock.

	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by security holders ⁽¹⁾	8,947,330	\$ —	6,265,195
Equity compensation plans not approved by security holders	—	—	—
Total	8,947,330	\$ —	6,265,195

⁽¹⁾ Consists of restricted stock units (RSUs) issued under our 2019 Equity Incentive Plan (the 2019 Plan), our 2017 Equity Incentive Plan (the 2017 Plan) and our 2012 Equity Incentive Plan (the 2012 Plan). Our 2012 Plan terminated in May 2017 in connection with the adoption of the 2017 Plan. Our 2017 Plan terminated in May 2019 in connection with the adoption of the 2019 Plan. We cannot issue any further awards under both the 2012 Plan and the 2017 Plan.

In addition:

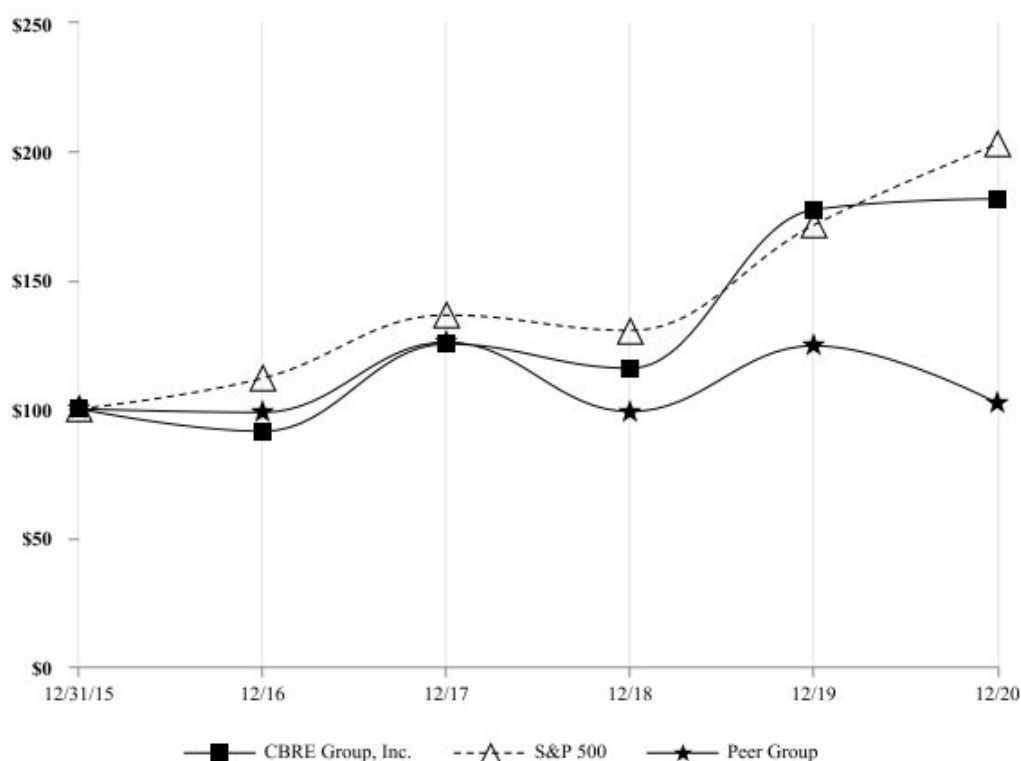
- The figures in the foregoing table include:
 - 5,297,733 RSUs that are performance vesting in nature, with the figures in the table reflecting the maximum number of RSUs that may be issued if all performance-based targets are satisfied and
 - 3,649,597 RSUs that are time vesting in nature.

Stock Performance Graph

The graph below matches the 5 Year Cumulative Total Return of holders of CBRE Group, Inc.'s common stock with the cumulative total returns of the S&P-500 Index and a customized peer group of nine companies that includes: JLL, a global commercial real estate services company publicly traded in the U.S., as well as the following companies that have significant commercial real estate or real estate capital markets businesses within the U.S. or globally, that in each case are publicly traded in the U.S. or abroad: Colliers International Group Inc., Cushman & Wakefield plc, ISS A/S, Marcus & Millichap, Inc., Newmark Group Inc., Savills plc, Sodexo S.A., and Walker & Dunlop, Inc. These companies are or include divisions with business lines reasonably comparable to some or all of ours, and which represent our current primary competitors.

The graph assumes that the value of the investment in our common stock, in each index, and in the peer group (including reinvestment of dividends) was \$100 on December 31, 2015 and tracks it through December 31, 2020. Our stock price performance shown in the graph below is not necessarily indicative of future stock price performance.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN ⁽¹⁾
AMONG CBRE GROUP, INC., THE S&P 500 INDEX ⁽²⁾,
AND PEER GROUP ⁽³⁾



	12/31/15	12/16	12/17	12/18	12/19	12/20
CBRE Group, Inc.	\$ 100.00	\$ 91.06	\$ 125.25	\$ 115.79	\$ 177.24	\$ 181.38
S&P 500	100.00	111.96	136.40	130.42	171.49	203.04
Peer Group	100.00	98.60	125.82	99.07	124.52	102.16

⁽¹⁾ \$100 invested on December 31, 2015 in stock or index-including reinvestment of dividends. Fiscal year ending December 31.

⁽²⁾ Copyright© 2021 Standard & Poor's, a division of S&P Global. All rights reserved.

⁽³⁾ Peer group contains companies with the following ticker symbols: JLL, CIGI, CWK, ISS, MMI, NMRK, SVS.L (London), SW and WD.

This graph shall not be deemed incorporated by reference by any general statement incorporating by reference this Annual Report into any filing under the Securities Act or the Exchange Act, except to the extent that we specifically incorporate this information by reference therein, and shall not otherwise be deemed filed under the Securities Act or the Exchange Act.

Item 6. Selected Financial Data.

The following table sets forth our selected historical consolidated financial information for each of the five years in the period ended December 31, 2020. The statements of operations, statements of cash flows and other data for the years ended December 31, 2020, 2019 and 2018 and the balance sheet data as of December 31, 2020 and 2019 were derived from our audited consolidated financial statements included elsewhere in this Annual Report. The statement of operations, statement of cash flows and other data for the years ended December 31, 2017 and 2016, and the balance sheet data as of December 31, 2018, 2017 and 2016 were derived from our audited consolidated financial statements that are not included in this Annual Report.

The selected financial data presented below is not necessarily indicative of results of future operations and should be read in conjunction with our consolidated financial statements and the information described elsewhere in this Annual Report included under the heading Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” (dollars in thousands, except share and per share data).

	Year Ended December 31,				
	2020	2019 ⁽¹⁾	2018 ⁽²⁾	2017	2016
STATEMENTS OF OPERATIONS DATA:					
Revenue	\$ 23,826,195	\$ 23,894,091	\$ 21,340,088	\$ 18,628,787	\$ 17,369,108
Operating income	969,759	1,259,875	1,087,989	1,078,682	816,831
Interest expense, net of interest income	67,753	85,754	98,685	126,961	136,800
Write-off of financing costs on extinguished debt	75,592	2,608	27,982	—	—
Net income	755,868	1,291,450	1,065,948	703,576	585,170
Net income attributable to non-controlling interests	3,879	9,093	2,729	6,467	12,091
Net income attributable to CBRE Group, Inc.	751,989	1,282,357	1,063,219	697,109	573,079
Income per share attributable to CBRE Group, Inc. ⁽³⁾					
Basic income per share	\$ 2.24	\$ 3.82	\$ 3.13	\$ 2.06	\$ 1.71
Diluted income per share	2.22	3.77	3.10	2.05	1.69
Weighted average shares:					
Basic	335,196,296	335,795,654	339,321,056	337,658,017	335,414,831
Diluted	338,392,210	340,522,871	343,122,741	340,783,556	338,424,563
STATEMENTS OF CASH FLOWS DATA ⁽⁴⁾:					
Net cash provided by operating activities	\$ 1,830,779	\$ 1,223,380	\$ 1,131,249	\$ 894,411	\$ 616,985
Net cash used in investing activities	(341,585)	(721,024)	(560,684)	(302,600)	(150,524)
Net cash used in financing activities	(625,256)	(271,949)	(506,600)	(627,742)	(220,677)
OTHER DATA:					
Adjusted EBITDA ⁽⁵⁾	\$ 1,892,385	\$ 2,063,783	\$ 1,905,168	\$ 1,716,774	\$ 1,562,347
BALANCE SHEET DATA:					
Cash and cash equivalents	\$ 1,896,188	\$ 971,781	\$ 777,219	\$ 751,774	\$ 762,576
Total assets	18,039,143	16,197,196	13,456,793	11,718,396	10,994,338
Long-term debt, including current portion, net	1,381,716	1,763,059	1,770,406	1,999,611	2,548,137
Total liabilities	10,533,483	9,924,084	8,446,891	7,543,782	7,848,438
Non-controlling interest subject to possible redemption - special purpose acquisition company ⁽⁶⁾	385,573	—	—	—	—
Total CBRE Group, Inc. stockholders’ equity	7,078,326	6,232,693	4,938,797	4,114,496	3,103,142

Note: We have not declared any cash dividends on common stock for the periods shown.

⁽¹⁾ We adopted new lease accounting guidance effective January 1, 2019 using the optional transitional method. Accordingly, no adjustments were made to the financial statements presented for prior periods. As a result of the adoption of the leasing guidance, the consolidated balance sheet as of January 1, 2019 included \$1.2 billion of additional lease liabilities, along with corresponding right-of-use assets of \$1.0 billion, reflecting adjustments for items such

as prepaid and deferred rent, unamortized initial direct costs, and unamortized lease incentive balances. The adoption of the leasing guidance did not have a material impact on our consolidated statement of operations. See Note 2 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

- (2) We adopted new revenue recognition guidance in 2018 and restated the 2017 and 2016 consolidated financial statements to conform with the new guidance. See our [Annual Report](#) for the year ended December 31, 2018 filed with the SEC on March 1, 2019 for additional information.
- (3) See Income Per Share information in Note 17 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.
- (4) In the first quarter of 2018, we adopted Accounting Standards Update (ASU) 2016-15, "*Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*." Certain reclassifications were made to the 2017 and 2016 consolidated statements of cash flows to conform with the 2018 presentation.
- (5) Adjusted EBITDA is not a recognized measurement under accounting principles generally accepted in the United States, (GAAP). When analyzing our operating performance, investors should use this measure in addition to, and not as an alternative for, the most directly comparable financial measure calculated and presented in accordance with GAAP. We generally use this non-GAAP financial measure to evaluate operating performance and for other discretionary purposes. We believe this measure provides a more complete understanding of ongoing operations, enhances comparability of current results to prior periods and may be useful for investors to analyze our financial performance because it eliminates the impact of selected charges that may obscure trends in the underlying performance of our business. Because not all companies use identical calculations, our presentation of adjusted EBITDA may not be comparable to similarly titled measures of other companies.

EBITDA represents earnings before depreciation and amortization, asset impairments, interest expense, net of interest income, write-off of financing costs on extinguished debt, and provision for income taxes. Amounts shown for adjusted EBITDA further remove (from EBITDA) the impact of costs associated with transformation initiatives, costs associated with workforce optimization efforts, fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period, costs incurred related to legal entity restructuring, integration and other costs related to acquisitions, carried interest incentive compensation expense (reversal) to align with the timing of associated revenue, costs associated with our reorganization, including cost-savings initiatives, costs incurred in connection with litigation settlement, a one-time gain associated with remeasuring an investment in an unconsolidated subsidiary to fair value as of the date the remaining controlling interest was acquired, and cost-elimination expenses. We believe that investors may find these measures useful in evaluating our operating performance compared to that of other companies in our industry because their calculations generally eliminate the effects of acquisitions, which would include impairment charges of goodwill and intangibles created from acquisitions, the effects of financings and income taxes and the accounting effects of capital spending.

Adjusted EBITDA is not intended to be a measure of free cash flow for our discretionary use because it does not consider certain cash requirements such as tax and debt service payments. This measure may also differ from the amounts calculated under similarly titled definitions in our credit facilities and debt instruments, which are further adjusted to reflect certain other cash and non-cash charges and are used by us to determine compliance with financial covenants therein and our ability to engage in certain activities, such as incurring additional debt. We also use adjusted EBITDA as a significant component when measuring our operating performance under our employee incentive compensation programs. See below for a reconciliation of adjusted EBITDA to net income attributable to CBRE Group, Inc.

- (6) See Non-controlling interest subject to possible redemption - special purpose acquisition company in Note 2 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Adjusted EBITDA is calculated as follows (dollars in thousands):

	Year Ended December 31,				
	2020	2019	2018	2017	2016
Net income attributable to CBRE Group, Inc.	\$ 751,989	\$ 1,282,357	\$ 1,063,219	\$ 697,109	\$ 573,079
Add:					
Depreciation and amortization	501,728	439,224	451,988	406,114	366,927
Asset impairments	88,676	89,787	—	—	—
Interest expense, net of interest income	67,753	85,754	98,685	126,961	136,800
Write-off of financing costs on extinguished debt	75,592	2,608	27,982	—	—
Provision for income taxes	214,101	69,895	313,058	467,757	296,900
EBITDA	1,699,839	1,969,625	1,954,932	1,697,941	1,373,706
Adjustments:					
Costs associated with transformation initiatives ⁽¹⁾	155,148	—	—	—	—
Costs associated with workforce optimization efforts ⁽²⁾	37,594	—	—	—	—
Impact of fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period	11,598	9,301	—	—	—
Costs incurred related to legal entity restructuring	9,362	6,899	—	—	—
Integration and other costs related to acquisitions	1,756	15,292	9,124	27,351	125,743
Carried interest incentive compensation (reversal) expense to align with the timing of associated revenue	(22,912)	13,101	(5,261)	(8,518)	(15,558)
Costs associated with our reorganization, including cost-savings initiatives ⁽³⁾	—	49,565	37,925	—	—
Costs incurred in connection with litigation settlement	—	—	8,868	—	—
One-time gain associated with remeasuring an investment in an unconsolidated subsidiary to fair value as of the date the remaining controlling interest was acquired	—	—	(100,420)	—	—
Cost-elimination expenses	—	—	—	—	78,456
Adjusted EBITDA	<u>\$ 1,892,385</u>	<u>\$ 2,063,783</u>	<u>\$ 1,905,168</u>	<u>\$ 1,716,774</u>	<u>\$ 1,562,347</u>

⁽¹⁾ Commencing during the third quarter of 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

⁽²⁾ Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort. Of the total costs, \$7.4 million was included within the "Cost of revenue" line item and \$30.2 million was included in the "Operating, administrative and other" line item in the accompanying consolidated statement of operations for the year ended December 31, 2020.

⁽³⁾ Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Annual Report. Discussion regarding our financial condition and results of operations for the year ended December 31, 2018 and comparisons between the years ended December 31, 2019 and 2018 is included in Part II, Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the company’s [Annual Report](#) filed with the SEC on March 2, 2020.

Overview

We are the world’s largest commercial real estate services and investment firm, based on 2020 revenue, with leading global market positions in our leasing, property sales, occupier outsourcing and valuation businesses. As of December 31, 2020, the company has more than 100,000 employees (excluding affiliates) serving clients in more than 100 countries.

Our business is focused on providing services to real estate investors and occupiers. For investors, we provide capital markets (property sales, mortgage origination, sales and servicing), property leasing, investment management, property management, valuation and development services, among others. For occupiers, we provide facilities management, project management, transaction (both property sales and leasing) and consulting services, among others. We provide services under the following brand names: “CBRE” (real estate advisory and outsourcing services); “CBRE Global Investors” (investment management); “Trammell Crow Company” (U.S. development); “Telford Homes” (U.K. development) and “Hana” (flexible-space solutions). In 2020, CBRE sponsored a SPAC, CBRE Acquisition Holdings, which has the sole purpose of acquiring a privately held company with significant growth potential and to create value by supporting the company in the public markets. The company that it acquires is expected to operate in an industry that will benefit from the experience, expertise and operating skills of CBRE. CBRE Acquisition Holdings trades on the NYSE under the symbols “CBAH,” “CBAH.U,” and “CBAH.W.”

Our revenue mix has shifted toward more stable revenue sources, particularly occupier outsourcing, and our dependence on highly cyclical property sales and lease transaction revenue has declined markedly over the past decade. We believe we are well-positioned to capture a substantial and growing share of market opportunities at a time when investors and occupiers increasingly prefer to purchase integrated, account-based services on a national and global basis. We generate revenue from both management fees (large multi-year portfolio and per-project contracts) and commissions on transactions.

In 2020, we generated revenue from a highly diversified base of clients, including more than 90 of the *Fortune* 100 companies. We have been an S&P 500 company since 2006 and in 2020 we were ranked #128 on the *Fortune* 500. We have been voted the most recognized commercial real estate brand in the Lipsey Company survey for 20 years in a row (including 2021). We have also been rated a World’s Most Ethical Company by the Ethisphere Institute for eight consecutive years (including 2021), and are included in both the Dow Jones World Sustainability Index and the Bloomberg Gender-Equality Index for two years in a row.

Critical Accounting Policies

Our consolidated financial statements have been prepared in accordance with GAAP, which require us to make estimates and assumptions that affect reported amounts. The estimates and assumptions are based on historical experience and on other factors that we believe to be reasonable. Actual results may differ from those estimates. We believe that the following critical accounting policies represent the areas where more significant judgments and estimates are used in the preparation of our consolidated financial statements.

Revenue Recognition

To recognize revenue in a transaction with a customer, we evaluate the five steps of the Accounting Standards Codification (ASC) Topic 606 revenue recognition framework: (1) identify the contract; (2) identify the performance obligations(s) in the contract; (3) determine the transaction price; (4) allocate the transaction price to the performance obligation(s) and (5) recognize revenue when (or as) the performance obligations are satisfied.

Our revenue recognition policies are consistent with this five step framework. Understanding the complex terms of agreements and determining the appropriate time, amount, and method to recognize revenue for each transaction requires significant judgement. These significant judgements include: (i) determining what point in time or what measure of progress depicts the transfer of control to the customer; (ii) applying the series guidance to certain performance obligations satisfied over time; (iii) estimating how and when contingencies, or other forms of variable consideration, will impact the timing and amount of recognition of revenue and (iv) determining whether we control third party services before they are transferred to the customer in order to appropriately recognize the associated fees on either a gross or net basis. The timing and amount of revenue recognition in a period could vary if different judgments were made. Our revenues subject to the most judgment are brokerage commission revenue, incentive-based management fees, development fees and third party fees associated with our occupier outsourcing and property management services. For a detailed discussion of our revenue recognition policies, see the Revenue Recognition section within Note 2 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Goodwill and Other Intangible Assets

Our acquisitions require the application of purchase accounting, which results in tangible and identifiable intangible assets and liabilities of the acquired entity being recorded at fair value. The difference between the purchase price and the fair value of net assets acquired is recorded as goodwill. In determining the fair values of assets and liabilities acquired in a business combination, we use a variety of valuation methods including present value, depreciated replacement cost, market values (where available) and selling prices less costs to dispose. We are responsible for determining the valuation of assets and liabilities and for the allocation of purchase price to assets acquired and liabilities assumed.

Assumptions must often be made in determining fair values, particularly where observable market values do not exist. Assumptions may include discount rates, growth rates, cost of capital, royalty rates, tax rates and remaining useful lives. These assumptions can have a significant impact on the value of identifiable assets and accordingly can impact the value of goodwill recorded. Different assumptions could result in different values being attributed to assets and liabilities. Since these values impact the amount of annual depreciation and amortization expense, different assumptions could also impact our statement of operations and could impact the results of future asset impairment reviews.

We are required to test goodwill and other intangible assets deemed to have indefinite useful lives for impairment at least annually, or more often if circumstances or events indicate a change in the impairment status, in accordance with Financial Accounting Standards Board (FASB) ASC Topic 350, “*Intangibles – Goodwill and Other*” (Topic 350). We have the option to perform a qualitative assessment with respect to any of our reporting units to determine whether a quantitative impairment test is needed. We are permitted to assess based on qualitative factors whether it is more likely than not that a reporting unit’s fair value is less than its carrying amount before applying the quantitative goodwill impairment test. If it is more likely than not that the fair value of a reporting unit is less than its carrying amount, we would conduct a quantitative goodwill impairment test. If not, we do not need to apply the quantitative test. The qualitative test is elective and we can go directly to the quantitative test rather than making a more-likely-than-not assessment based on an evaluation of qualitative factors. When performing a quantitative test, we use a discounted cash flow approach to estimate the fair value of our reporting units. Management’s judgment is required in developing the assumptions for the discounted cash flow model. These assumptions include revenue growth rates, profit margin percentages, discount rates, etc. Due to the many variables inherent in the estimation of a business’s fair value and the relative size of our goodwill, if different assumptions and estimates were used, it could have an adverse effect on our impairment analysis.

For additional information on goodwill and intangible asset impairment testing, see Notes 2 and 9 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Income Taxes

Income taxes are accounted for under the asset and liability method in accordance with the “*Accounting for Income Taxes*,” Topic of the FASB ASC (Topic 740). Deferred tax assets and liabilities are determined based on temporary differences between the financial reporting and tax basis of assets and liabilities and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured by applying enacted tax rates and laws and are released in the years in which the temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are provided against deferred tax assets when it is more likely than not that some portion or all of the deferred tax asset will not be realized.

Accounting for tax positions requires judgments, including estimating reserves for potential uncertainties. We also assess our ability to utilize tax attributes, including those in the form of carryforwards, for which the benefits have already been reflected in the financial statements. We do not record valuation allowances for deferred tax assets that we believe will be realized in future periods. While we believe the resulting tax balances as of December 31, 2020 and 2019 are appropriately accounted for in accordance with Topic 740, as applicable, the ultimate outcome of such matters could result in favorable or unfavorable adjustments to our consolidated financial statements and such adjustments could be material.

On December 22, 2017, the Tax Cuts and Jobs Act (the Tax Act) was signed into law making significant changes to the Internal Revenue Code, including a decrease to the U.S. corporate tax rate from 35% to 21% and a one-time transition tax (i.e. toll charge or, the Transition Tax) on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. We are paying the federal tax liability for the Transition Tax in annual interest-free installments over a period of eight years through 2025 as allowed by the Tax Act.

On March 18, 2020, the Families First Coronavirus Response Act (FFCR Act), and on March 27, 2020, the CARES Act were each enacted in response to the Covid-19 pandemic. The FFCR Act and the CARES Act contain numerous tax provisions, such as net operating loss carry-back periods, alternative minimum tax credit refunds, deferral of employer payroll taxes deferring payroll tax payments, establishing a credit for the retention of certain employees, relaxing limitations on the deductibility of interest, and updating the definition of qualified improvement property. This legislation currently has no material impact to income tax expense on the company’s financial statements.

Our future effective tax rate could be adversely affected by earnings being lower than anticipated in countries that have lower statutory rates and higher than anticipated in countries that have higher statutory rates, changes in the valuation of our deferred tax assets or liabilities, or changes in tax laws, regulations, or accounting principles, as well as certain discrete items.

See Note 15 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report for further information regarding income taxes.

New Accounting Pronouncements

See New Accounting Pronouncements discussion within Note 3 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Seasonality

In a typical year, a significant portion of our revenue is seasonal, which an investor should keep in mind when comparing our financial condition and results of operations on a quarter-by-quarter basis. Historically, our revenue, operating income, net income and cash flow from operating activities have tended to be lowest in the first quarter and highest in the fourth quarter of each year. Revenue, earnings and cash flow have generally been concentrated in the fourth calendar quarter due to the focus on completing sales, financing and leasing transactions prior to year-end. The severe and ongoing impact of the Covid-19 pandemic may cause seasonality to deviate from historical patterns.

Inflation

Our commissions and other variable costs related to revenue are primarily affected by commercial real estate market supply and demand, which may be affected by inflation. However, to date, we believe that general inflation has not had a material impact upon our operations.

Items Affecting Comparability

When you read our financial statements and the information included in this Annual Report, you should consider that we have experienced, and continue to experience, several material trends and uncertainties (particularly those caused or exacerbated by Covid-19) that have affected our financial condition and results of operations that make it challenging to predict our future performance based on our historical results. We believe that the following material trends and uncertainties are crucial to an understanding of the variability in our historical earnings and cash flows and the potential for continued variability in the future.

Macroeconomic Conditions

Economic trends and government policies affect global and regional commercial real estate markets as well as our operations directly. These include overall economic activity and employment growth, with specific sensitivity to growth in office-based employment; interest rate levels and changes in interest rates; the cost and availability of credit; and the impact of tax and regulatory policies. Periods of economic weakness or recession, significantly rising interest rates, fiscal uncertainty, declining employment levels, decreasing demand for commercial real estate, falling real estate values, disruption to the global capital or credit markets, or the public perception that any of these events may occur, will negatively affect the performance of our business.

Compensation is our largest expense and our sales and leasing professionals generally are paid on a commission and/or bonus basis that correlates with their revenue production. As a result, the negative effects on our operating margins of difficult market conditions, such as we are currently experiencing with the Covid-19 pandemic, is partially mitigated by the inherent variability of our compensation cost structure. In addition, when negative economic conditions have been particularly severe, like during the current Covid-19 pandemic, we have moved decisively to lower operating expenses to improve financial performance, and then have restored certain expenses as economic conditions improved. Additionally, our contractual revenue has increased primarily as a result of growth in our outsourcing business, and we believe this contractual revenue should help offset the negative impacts that macroeconomic deterioration could have on other parts of our business. Nevertheless, adverse global and regional economic trends could pose significant risks to the performance of our consolidated operations and financial condition.

From 2010 to early 2020, commercial real estate markets had generally been characterized by increased demand for space, falling vacancies, higher rents and strong capital flows, leading to solid property sales and leasing activity. This healthy backdrop changed abruptly in the first quarter of 2020 with the emergence of the Covid-19 pandemic and resultant sharp contraction of economic activity across much of the world. Since then, there has been a severe impact on commercial real estate markets, as many property owners and occupiers have put transactions on hold and withdrawn existing mandates, sharply reducing sales and leasing volumes. We expect to see the highly challenging operating environment continue, as Covid-19 caseloads remain elevated across our major markets, business travel and face-to-face business dealings are limited and the overwhelming majority of workers remain out of their offices. The recovery of real estate markets around the world remain uncertain as of the date of this report.

Covid-19 is putting downward pressure on parts of our business and creating larger opportunities in other parts. The severe economic effects of the pandemic continued to weigh most heavily on higher-margin property lease and sales revenue in the Advisory Services segment. However, global industrial leasing revenue, fueled by e-commerce, grew strongly during the fourth quarter, reflecting the resiliency of this asset type. Also, during the fourth quarter, we saw improvement in sales activity in the U.S. and certain North Asia markets, but transaction volumes there and elsewhere in the world remain well below pre-pandemic levels.

The future performance of our global real estate services and investment businesses depends on a recovery of global market conditions, including restored business and consumer confidence, sustained economic growth, solid and consistent job creation, stable, functioning global credit markets and a receding of the Covid-19 pandemic.

Effects of Acquisitions

We have historically made significant use of strategic acquisitions to add and enhance service capabilities around the world. Most recently, we acquired Telford Homes Plc (Telford), a leading developer of multifamily residential properties in the London area, in October 2019. Telford, which is reported in our Real Estate Investments segment, expanded our real estate development business outside the U.S. for the first time.

In June 2018, we acquired FacilitySource Holdings, LLC (FacilitySource) to help us build a tech-enabled supply chain capability for the occupier outsourcing industry, which would drive meaningfully differentiated outcomes for leading occupiers of real estate. FacilitySource results are reflected in our Global Workplace Solutions segment.

Strategic in-fill acquisitions have also played a key role in strengthening our service offerings. The companies we acquired have generally been regional or specialty firms that complement our existing platform, or independent affiliates, which, in some cases, we held a small equity interest. In early 2021, we acquired a construction and project management firm based in Southern California.

During 2020, we completed six in-fill acquisitions: leading local facilities management firms in Spain and Italy, a U.S. firm that helps companies reduce telecommunications costs, a technology-focused project management firm based in Florida, a firm specializing in performing real estate valuations in South Korea, and a facilities management and technical maintenance firm in Australia. During 2019, in addition to the Telford strategic acquisition, we completed eight in-fill acquisitions: a leading advanced analytics software company based in the U.K., a commercial and residential real estate appraisal firm in Florida, our former affiliate in Omaha, a project management firm in Australia, a valuation and consulting business in Switzerland, a leading project management firm in Israel, a full-service real estate firm in San Antonio with a focus on retail, office, medical office and land, and a debt-focused real estate investment management business in the U.K.

We believe strategic acquisitions can significantly decrease the cost, time and resources necessary to attain a meaningful competitive position – or expand our capabilities – within targeted markets or business lines. In general, however, most acquisitions will initially have an adverse impact on our operating income and net income as a result of transaction-related expenditures, including severance, lease termination, transaction and deferred financing costs, as well as costs and charges associated with integrating the acquired business and integrating its financial and accounting systems into our own.

Our acquisition structures often include deferred and/or contingent purchase consideration in future periods that are subject to the passage of time or achievement of certain performance metrics and other conditions. As of December 31, 2020, we have accrued deferred purchase consideration totaling \$82.5 million, which is included in “Accounts payable and accrued expenses” and in “Other long-term liabilities” in the accompanying consolidated balance sheets set forth in Item 8 of this Annual Report.

International Operations

We conduct a significant portion of our business and employ a substantial number of people outside of the U.S. and, as a result, we are subject to risks associated with doing business globally. Our Real Estate Investments business has a significant amount of euro-denominated assets under management, as well as associated revenue and earnings in Europe. In addition, our Global Workplace Solutions business also has a significant amount of its revenue and earnings denominated in foreign currencies, such as the euro and British pound sterling. Fluctuations in foreign currency exchange rates have resulted and may continue to result in corresponding fluctuations in our AUM, revenue and earnings.

We are closely monitoring the impact of the Covid-19 pandemic on business conditions across all regions worldwide. Covid-19 has significantly impacted our operations and has the potential to further constrain our business activity. See “The Covid-19 pandemic could have a material adverse effect on our business, results of operations, cash flows and financial condition” in Part I, Item 1A. “Risk Factors” for additional risks related to the Covid-19 pandemic.

Our businesses could also suffer from political or economic disruptions (or the perception that such disruptions may occur) that affect interest rates or liquidity or create financial, market or regulatory uncertainty. For example, we are continuing to monitor the trade and economic effects of the U.K.’s withdrawal from the European Union (Brexit), particularly its impact on sales and office and retail leasing activity in the U.K. Any currency volatility associated with the Covid-19 pandemic, Brexit or other economic dislocations could impact our results of operations.

During the year ended December 31, 2020, approximately 44% of our revenue was transacted in foreign currencies. The following table sets forth our revenue derived from our most significant currencies (U.S. dollars in thousands):

	Year Ended December 31,				
	2020		2019		
United States dollar	\$	13,472,013	56.5 %	\$ 13,852,018	58.0 %
British pound sterling		3,083,810	13.0 %	2,972,704	12.5 %
euro		2,612,421	11.0 %	2,492,952	10.4 %
Canadian dollar		788,497	3.3 %	774,825	3.2 %
Indian rupee		469,977	2.0 %	503,630	2.1 %
Australian dollar		417,060	1.8 %	453,847	1.9 %
Chinese yuan		387,099	1.6 %	349,762	1.5 %
Japanese yen		341,447	1.4 %	325,558	1.4 %
Swiss franc		334,558	1.4 %	194,354	0.8 %
Singapore dollar		259,721	1.1 %	300,116	1.3 %
Other currencies ⁽¹⁾		1,659,592	6.9 %	1,674,325	6.9 %
Total revenue	\$	23,826,195	100.0 %	\$ 23,894,091	100.0 %

⁽¹⁾ Approximately 40 currencies comprise 6.9% of our revenue for the years ended December 31, 2020 and 2019.

Although we operate globally, we report our results in U.S. dollars. As a result, the strengthening or weakening of the U.S. dollar may positively or negatively impact our reported results. For example, we estimate that had the British pound sterling-to-U.S. dollar exchange rates been 10% higher during the year ended December 31, 2020, the net impact would have been a decrease in pre-tax income of \$3.1 million. Had the euro-to-U.S. dollar exchange rates been 10% higher during the year ended December 31, 2020, the net impact would have been an increase in pre-tax income of \$9.3 million. These hypothetical calculations estimate the impact of translating results into U.S. dollars and do not include an estimate of the impact that a 10% change in the U.S. dollar against other currencies would have had on our foreign operations.

Fluctuations in foreign currency exchange rates may result in corresponding fluctuations in revenue and earnings as well as the assets under management for our investment management business, which could have a material adverse effect on our business, financial condition and operating results. Due to the constantly changing currency exposures to which we are subject and the volatility of currency exchange rates, we cannot predict the effect of exchange rate fluctuations upon future operating results. In addition, fluctuations in currencies relative to the U.S. dollar may make it more difficult to perform period-to-period comparisons of our reported results of operations. Our international operations also are subject to, among other things, political instability and changing regulatory environments, which affect the currency markets and which as a result may adversely affect our future financial condition and results of operations. We routinely monitor these risks and related costs and evaluate the appropriate amount of oversight to allocate towards business activities in foreign countries where such risks and costs are particularly significant.

Results of Operations

The following table sets forth items derived from our consolidated statements of operations for the years ended December 31, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			
	2020		2019	
Revenue:				
Fee revenue:				
Global workplace solutions	\$ 3,307,083	13.9 %	\$ 3,126,931	13.1 %
Property and advisory project management	1,257,569	5.3 %	1,259,222	5.3 %
Valuation	614,307	2.6 %	630,399	2.6 %
Loan servicing	239,596	1.0 %	206,736	0.9 %
Advisory leasing	2,404,273	10.1 %	3,269,993	13.7 %
Capital markets:				
Advisory sales	1,658,702	7.0 %	2,130,979	8.9 %
Commercial mortgage origination	577,851	2.4 %	575,963	2.4 %
Investment management	474,939	2.0 %	424,882	1.8 %
Development services	356,591	1.4 %	235,740	0.9 %
Total fee revenue	10,890,911	45.7 %	11,860,845	49.6 %
Pass through costs also recognized as revenue	12,935,284	54.3 %	12,033,246	50.4 %
Total revenue	23,826,195	100.0 %	23,894,091	100.0 %
Costs and expenses:				
Cost of revenue	19,047,620	79.9 %	18,689,013	78.2 %
Operating, administrative and other	3,306,205	13.9 %	3,436,009	14.4 %
Depreciation and amortization	501,728	2.1 %	439,224	1.8 %
Asset impairments	88,676	0.4 %	89,787	0.4 %
Total costs and expenses	22,944,229	96.3 %	22,654,033	94.8 %
Gain on disposition of real estate	87,793	0.4 %	19,817	0.1 %
Operating income	969,759	4.1 %	1,259,875	5.3 %
Equity income from unconsolidated subsidiaries	126,161	0.5 %	160,925	0.7 %
Other income	17,394	0.1 %	28,907	0.1 %
Interest expense, net of interest income	67,753	0.3 %	85,754	0.4 %
Write-off of financing costs on extinguished debt	75,592	0.3 %	2,608	0.0 %
Income before provision for income taxes	969,969	4.1 %	1,361,345	5.7 %
Provision for income taxes	214,101	0.9 %	69,895	0.3 %
Net income	755,868	3.2 %	1,291,450	5.4 %
Less: Net income attributable to non-controlling interests	3,879	0.0 %	9,093	0.0 %
Net income attributable to CBRE Group, Inc.	\$ 751,989	3.2 %	\$ 1,282,357	5.4 %
Adjusted EBITDA	\$ 1,892,385	7.9 %	\$ 2,063,783	8.6 %

Fee revenue and adjusted EBITDA are not recognized measurements under GAAP. When analyzing our operating performance, investors should use these measures in addition to, and not as an alternative for, their most directly comparable financial measure calculated and presented in accordance with GAAP. We generally use these non-GAAP financial measures to evaluate operating performance and for other discretionary purposes. We believe these measures provide a more complete understanding of ongoing operations, enhance comparability of current results to prior periods and may be useful for investors to analyze our financial performance because they eliminate the impact of selected charges that may obscure trends in the underlying performance of our business. Because not all companies use identical calculations, our presentation of fee revenue and adjusted EBITDA may not be comparable to similarly titled measures of other companies.

Fee revenue is gross revenue less both client reimbursed costs largely associated with employees that are dedicated to client facilities and subcontracted vendor work performed for clients. We believe that investors may find this measure useful to analyze the company's overall financial performance because it excludes costs reimbursable by clients, and as such provides greater visibility into the underlying performance of our business.

EBITDA represents earnings before depreciation and amortization, asset impairments, interest expense, net of interest income, write-off of financing costs on extinguished debt, and provision for income taxes. Amounts shown for adjusted EBITDA further remove (from EBITDA) the impact of costs associated with transformation initiatives, costs associated with workforce optimization efforts, fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period, costs incurred related to legal entity restructuring, integration and other costs related to acquisitions, carried interest incentive compensation expense (reversal) to align with the timing of associated revenue, and costs associated with our reorganization, including cost-savings initiatives. We believe that investors may find these measures useful in evaluating our operating performance compared to that of other companies in our industry because their calculations generally eliminate the effects of acquisitions, which would include impairment charges of goodwill and intangibles created from acquisitions, the effects of financings and income taxes and the accounting effects of capital spending.

Adjusted EBITDA is not intended to be a measure of free cash flow for our discretionary use because it does not consider certain cash requirements such as tax and debt service payments. This measure may also differ from the amounts calculated under similarly titled definitions in our credit facilities and debt instruments, which are further adjusted to reflect certain other cash and non-cash charges and are used by us to determine compliance with financial covenants therein and our ability to engage in certain activities, such as incurring additional debt. We also use adjusted EBITDA as a significant component when measuring our operating performance under our employee incentive compensation programs.

Adjusted EBITDA is calculated as follows (dollars in thousands):

	Year Ended December 31,	
	2020	2019
Net income attributable to CBRE Group, Inc.	\$ 751,989	\$ 1,282,357
Add:		
Depreciation and amortization	501,728	439,224
Asset impairments	88,676	89,787
Interest expense, net of interest income	67,753	85,754
Write-off of financing costs on extinguished debt	75,592	2,608
Provision for income taxes	214,101	69,895
EBITDA	1,699,839	1,969,625
Adjustments:		
Costs associated with transformation initiatives ⁽¹⁾	155,148	—
Costs associated with workforce optimization efforts ⁽²⁾	37,594	—
Impact of fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period	11,598	9,301
Costs incurred related to legal entity restructuring	9,362	6,899
Integration and other costs related to acquisitions	1,756	15,292
Carried interest incentive compensation (reversal) expense to align with the timing of associated revenue	(22,912)	13,101
Costs associated with our reorganization, including cost-savings initiatives ⁽³⁾	—	49,565
Adjusted EBITDA	\$ 1,892,385	\$ 2,063,783

⁽¹⁾ During 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

- (2) Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort. Of the total costs, \$7.4 million was included within the "Cost of revenue" line item and \$30.2 million was included in the "Operating, administrative, and other" line item in the accompanying consolidated statements of operations for the year ended December 31, 2020.
- (3) Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

We reported consolidated net income of \$752.0 million for the year December 31, 2020 on revenue of \$23.8 billion as compared to consolidated net income of \$1.3 billion on revenue of \$23.9 billion for the year ended December 31, 2019.

Our revenue on a consolidated basis for the year ended December 31, 2020 decreased by \$67.9 million, or 0.3%, as compared to the year ended December 31, 2019. The revenue decrease reflects decreases in our Advisory Services segment due to the impact of Covid-19, including lower sales (down 22.2% as compared to the same period in 2019) and leasing revenue (down 26.5% as compared to the same period in 2019). These decreases were partially offset by increases in revenue in our Global Workplace Solutions segment (up 8.0% as compared to the same period in 2019) led by growth in our facilities management line of business, driven by its contractual nature, and improved revenue in our Real Estate Investments segment (up 25.9% as compared to the same period in 2019) largely due to the Telford Acquisition and an increase in investment management fees. Foreign currency translation had a negligible impact on total revenue during the year ended December 31, 2020.

Our cost of revenue on a consolidated basis increased by \$358.6 million, or 1.9%, during the year ended December 31, 2020 as compared to the same period in 2019. This increase was primarily due to higher costs associated with our Global Workplace Solutions segment due to growth in our facilities management business and higher costs in our Real Estate Investments segment due to the Telford Acquisition. We also incurred \$42.1 million of costs (primarily employee separation benefits) related to the company's transformation initiatives during 2020 to enable the company to reduce costs, streamline operations and support future growth. These items were partially offset by lower commission expense incurred during the year ended December 31, 2020. Our sales and leasing professionals generally are paid on a commission basis, which substantially correlates with our sales and lease revenue performance. Accordingly, the decrease in advisory sales and leasing revenue led to a corresponding decrease in commission expense. These items were partially offset by the impact of foreign currency translation which had a 0.12% positive impact on total cost of revenue during the year ended December 31, 2020. Cost of revenue as a percentage of revenue increased from 78.2% for the year ended December 31, 2019 to 79.9% for the year ended December 31, 2020, primarily driven by our mix of revenue, with revenue from our Global Workplace Solutions segment, which has a lower margin than our other revenue streams, comprising a higher percentage of revenue than in the prior period.

Our operating, administrative and other expenses on a consolidated basis decreased by \$129.8 million, or 3.8%, during the year ended December 31, 2020 as compared to the same period in 2019. The negative impact of Covid-19 on our operating results led to a corresponding reduction in certain operating expenses such as travel and entertainment, marketing and employee events to manage financial performance as well as reduced stock compensation expense. These items were partially offset by \$113.0 million of costs, primarily related to employee separation benefits, lease termination costs and professional fees related to the company's transformation initiatives mentioned above, as well as \$30.2 million of costs related to workforce optimization efforts executed primarily in the second quarter of 2020. We also incurred higher incremental costs associated with Telford, which we acquired on October 1, 2019, rent expense for our new flexible space offering, higher bad debt expense as a result of Covid-19, and higher charitable contributions due to donations to our Covid-19 relief fund. Foreign currency translation had a negligible impact on total operating, administrative and other expenses during the year ended December 31, 2020. Operating expenses as a percentage of revenue decreased from 14.4% for the year ended December 31, 2019 to 13.9% for the year ended December 31, 2020, reflecting the operating leverage inherent in our business and reduced discretionary spending.

Our depreciation and amortization expense on a consolidated basis increased by \$62.5 million, or 14.2%, during the year ended December 31, 2020 as compared to the same period in 2019. This increase was primarily attributable to a rise in depreciation expense of \$60.5 million during the year ended December 31, 2020 driven by technology-related capital expenditures and accelerated depreciation related to lease terminations included in our transformation initiatives.

Our asset impairments on a consolidated basis totaled \$88.7 million and \$89.8 million during the years ended December 31, 2020 and 2019, respectively. For the year ended December 31, 2020, asset impairments comprised the following: \$50.2 million of non-cash asset impairment charges in our Global Workplace Solutions segment; a non-cash goodwill impairment charge of \$25.0 million and non-cash asset impairment charges of \$13.5 million in our Real Estate Investments segment. Primarily as a result of the recent global economic disruption and uncertainty due to Covid-19, we deemed there to be triggering events during 2020 that required testing of goodwill and certain assets for impairment. Based on these events, we recorded the aforementioned non-cash impairment charges, which were primarily driven by lower anticipated cash flows in certain businesses directly resulting from a downturn in forecasts as well as increased forecast risk due to Covid-19 and changes in our business going forward. During the year ended December 31, 2019, we recorded a non-cash intangible asset impairment charge of \$89.8 million in our Real Estate Investments segment. This non-cash write-off resulted from a review of the anticipated cash flows and the decrease in assets under management in our public securities business driven in part by a continued industry-wide shift in investor preference for passive investment programs.

Our gain on disposition of real estate on a consolidated basis increased by \$68.0 million, or 343.0%, during the year ended December 31, 2020 as compared to the same period in 2019. These gains resulted from property sales within our Real Estate Investments segment.

Our equity income from unconsolidated subsidiaries on a consolidated basis decreased by \$34.8 million, or 21.6%, during the year ended December 31, 2020 as compared to the same period in 2019, primarily driven by lower equity earnings associated with gains on property sales reported in our Real Estate Investments segment.

Our other income on a consolidated basis was \$17.4 million for the year ended December 31, 2020 versus \$28.9 million for the same period in the prior year. The decrease was primarily due to higher net unrealized gains in the prior year compared to the current year on certain of our co-investments.

Our consolidated interest expense, net of interest income, decreased by \$18.0 million, or 21.0%, for the year ended December 31, 2020 as compared to the same period in 2019. This decrease was primarily due to lower interest expense on borrowings associated with our credit agreement (driven by lower interest rates) as well as reduced net interest expense overseas associated with cash pooling arrangements.

Our write-off of financing costs on extinguished debt on a consolidated basis was \$75.6 million for the year ended December 31, 2020 as compared to \$2.6 million for the year ended December 31, 2019. The costs for the year ended December 31, 2020 included a \$73.6 million premium paid and the write-off of \$2.0 million of unamortized premium and debt issuance costs in connection with the redemption, in full, of the \$425.0 million aggregate outstanding principal amount of our 5.25% senior notes. The costs for the year ended December 31, 2019 were incurred in connection with the refinancing of our credit agreement.

Our provision for income taxes on a consolidated basis was \$214.1 million for the year ended December 31, 2020 as compared to \$69.9 million for the same period in 2019. Our effective tax rate increased from 5.1% for the year ended December 31, 2019 to 22.1% for the year ended December 31, 2020. The lower tax rate for year ended December 31, 2019 was primarily driven by a \$277.2 million net tax benefit recorded in 2019 attributable to outside basis differences recognized as a result of a legal entity restructuring.

Segment Operations

We organize our operations around, and publicly report our financial results on, three global business segments: (1) Advisory Services; (2) Global Workplace Solutions; and (3) Real Estate Investments. For additional information on our segments, see Note 19 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Advisory Services

The following table summarizes our results of operations for our Advisory Services operating segment for the years ended December 31, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			
	2020		2019	
Revenue:				
Fee revenue:				
Property and advisory project management	\$	1,257,569	16.3 %	\$ 1,259,222 13.9 %
Valuation		614,307	7.9 %	630,399 6.9 %
Loan servicing		239,596	3.1 %	206,736 2.3 %
Advisory leasing		2,404,273	31.1 %	3,269,993 36.0 %
Capital markets:				
Advisory sales		1,658,702	21.5 %	2,130,979 23.5 %
Commercial mortgage origination		577,851	7.5 %	575,963 6.4 %
Total fee revenue		6,752,298	87.7 %	8,073,292 89.0 %
Pass through costs also recognized as revenue		946,694	12.3 %	996,176 11.0 %
Total revenue		7,698,992	100.0 %	9,069,468 100.0 %
Costs and expenses:				
Cost of revenue		4,693,684	61.0 %	5,465,391 60.3 %
Operating, administrative and other		2,030,873	26.4 %	2,169,980 23.9 %
Depreciation and amortization		348,669	4.5 %	304,766 3.4 %
Operating income		625,766	8.1 %	1,129,331 12.4 %
Equity income from unconsolidated subsidiaries		2,245	0.0 %	6,894 0.1 %
Other income		17,329	0.2 %	7,532 0.1 %
Less: Net income attributable to non-controlling interests		887	0.0 %	1,021 0.0 %
Add-back: Depreciation and amortization		348,669	4.5 %	304,766 3.4 %
EBITDA		993,122	12.9 %	1,447,502 16.0 %
Adjustments:				
Costs associated with transformation initiatives ⁽¹⁾		113,987	1.5 %	— 0.0 %
Costs associated with workforce optimization efforts ⁽²⁾		27,418	0.4 %	— 0.0 %
Costs incurred related to legal entity restructuring		9,362	0.1 %	6,899 0.1 %
Costs associated with our reorganization, including cost-savings initiatives ⁽³⁾		—	0.0 %	11,088 0.1 %
Integration and other costs related to acquisitions		—	0.0 %	303 0.0 %
Adjusted EBITDA and Adjusted EBITDA on revenue margin	\$	1,143,889	14.9 %	\$ 1,465,792 16.2 %
Adjusted EBITDA on fee revenue margin			16.9 %	18.2 %

⁽¹⁾ During 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

⁽²⁾ Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort. Of the total costs, \$6.1 million was included within the "Cost of revenue" line item and \$21.3 million was included in the "Operating, administrative, and other" line item in the accompanying consolidated statements of operations for the year ended December 31, 2020.

⁽³⁾ Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Revenue decreased by \$1.4 billion, or 15.1%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The revenue decrease primarily reflects the impact of Covid-19, which resulted in lower sales and leasing revenue. Foreign currency translation had a negligible impact on total revenue during the year ended December 31, 2020.

Cost of revenue decreased by \$771.7 million, or 14.1%, for the year ended December 31, 2020 as compared to the same period in 2019, primarily due to reduced commission expense resulting from lower sales and leasing revenue as a result of Covid-19. Foreign currency translation had a negligible impact on total cost of revenue during the year ended December 31, 2020. Cost of revenue as a percentage of revenue increased to 61.0% for the year ended December 31, 2020 versus 60.3% for the same period in 2019, primarily as a result of costs incurred during the year ended December 31, 2020 for the transformation initiatives and workforce optimization that were not incurred during the year ended December 31, 2019.

Operating, administrative and other expenses decreased by \$139.1 million, or 6.4%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The negative impact of Covid-19 on our operating results led to corresponding decreases in bonus and stock compensation expense. In addition, to manage financial performance, we reduced certain operating expenses such as travel and entertainment, marketing and employee events. These items were partially offset by \$80.8 million of costs, primarily related to employee separation benefits, lease termination costs and professional fees, as management commenced the implementation of certain transformation initiatives during the year ended December 31, 2020 to enable the company to reduce costs, streamline operations and support future growth. Lastly, we saw an increase in charitable donations largely driven by a sizeable donation by the company to its Covid-19 relief fund. Foreign currency translation had a negligible impact on total operating expenses during the year ended December 31, 2020.

For the year ended December 31, 2020, mortgage servicing rights (MSRs) contributed to operating income \$207.8 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by \$134.3 million of amortization of related intangible assets. For the year ended December 31, 2019, MSRs contributed to operating income \$182.4 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by \$123.0 million of amortization of related intangible assets.

Global Workplace Solutions

The following table summarizes our results of operations for our Global Workplace Solutions operating segment for the years ended December 31, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			
	2020		2019	
Revenue:				
Fee revenue:				
Global workplace solutions	\$ 3,307,083	21.6 %	\$ 3,126,931	22.1 %
Pass through costs also recognized as revenue	11,988,590	78.4 %	11,037,070	77.9 %
Total revenue	15,295,673	100.0 %	14,164,001	100.0 %
Costs and expenses:				
Cost of revenue	14,180,395	92.7 %	13,138,627	92.8 %
Operating, administrative and other	643,207	4.2 %	637,282	4.5 %
Depreciation and amortization	125,692	0.8 %	120,975	0.9 %
Asset impairments	50,171	0.3 %	—	0.0 %
Operating income	296,208	2.0 %	267,117	1.8 %
Equity income (loss) from unconsolidated subsidiaries	368	0.0 %	(1,423)	0.0 %
Other income (loss)	1,192	0.0 %	(1,170)	0.0 %
Less: Net loss attributable to non-controlling interests	—	0.0 %	(271)	0.0 %
Add-back: Depreciation and amortization	125,692	0.8 %	120,975	0.9 %
Add-back: Asset impairments	50,171	0.3 %	—	0.0 %
EBITDA	473,631	3.1 %	385,770	2.7 %
Costs associated with transformation initiatives ⁽¹⁾	38,179	0.2 %	—	0.0 %
Costs associated with workforce optimization efforts ⁽²⁾	5,004	0.0 %	—	0.0 %
Costs associated with our reorganization, including cost savings initiatives ⁽³⁾	—	0.0 %	38,256	0.3 %
Adjusted EBITDA and Adjusted EBITDA on revenue margin	\$ 516,814	3.3 %	\$ 424,026	3.0 %
Adjusted EBITDA on fee revenue margin		15.6 %		13.6 %

⁽¹⁾ During 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

⁽²⁾ Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort. Of the total costs, \$1.2 million was included within the "Cost of revenue" line item and \$3.8 million was included in the "Operating, administrative, and other" line item in the accompanying consolidated statements of operations for the year ended December 31, 2020.

⁽³⁾ Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Revenue increased by \$1.1 billion, or 8.0%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The revenue increase was primarily attributable to growth in our facilities management line of business, which is contractual in nature. Foreign currency translation had a 0.13% negative impact on total revenue during the year ended December 31, 2020, primarily driven by weakness in the Argentine peso and Brazilian real partially offset by strength in the British pound sterling and euro.

Cost of revenue increased by \$1.0 billion, or 7.9%, for the year ended December 31, 2020 as compared to the same period in 2019, driven by the higher revenue leading to higher pass through costs. Foreign currency translation had a 0.14% positive impact on total cost of revenue during the year ended December 31, 2020. Cost of revenue as a percentage of revenue was relatively consistent at 92.7% for the year ended December 31, 2020 versus 92.8% for the same period in 2019.

Operating, administrative and other expenses increased by \$5.9 million, or 0.9%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019. This increase was attributable to costs incurred as a result of Covid-19, including higher bad debt expense, \$3.8 million of costs incurred (mainly severance) primarily related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic, and increased staff bonus accruals. During the year ended December 31, 2020, investments were also made in both people and technology associated with ongoing efforts to remediate material weaknesses in our Europe, Middle East and Africa (EMEA) region. These increases were partially offset by a targeted reduction in certain operating expenses, such as travel and entertainment costs, during the year ended December 31, 2020 as a result of Covid-19. Foreign currency translation had a negligible impact on total operating expenses during the year ended December 31, 2020.

Real Estate Investments

The following table summarizes our results of operations for our Real Estate Investments operating segment for the years ended December 31, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			
	2020		2019	
Revenue:				
Investment management	\$ 474,939	57.1 %	\$ 424,882	64.3 %
Development services	356,591	42.9 %	235,740	35.7 %
Total revenue	831,530	100.0 %	660,622	100.0 %
Costs and expenses:				
Cost of revenue	173,541	20.9 %	84,995	12.9 %
Operating, administrative and other	632,125	76.0 %	628,747	95.2 %
Depreciation and amortization	27,367	3.3 %	13,483	2.0 %
Asset impairments	38,505	4.6 %	89,787	13.6 %
Gain on disposition of real estate	87,793	10.6 %	19,817	3.0 %
Operating income (loss)	47,785	5.8 %	(136,573)	(20.7)%
Equity income from unconsolidated subsidiaries	123,548	14.9 %	155,454	23.5 %
Other (loss) income	(1,127)	(0.1)%	22,545	3.4 %
Less: Net income attributable to non-controlling interests	2,992	0.3 %	8,343	1.2 %
Add-back: Depreciation and amortization	27,367	3.3 %	13,483	2.0 %
Add-back: Asset impairments	38,505	4.6 %	89,787	13.6 %
EBITDA	233,086	28.0 %	136,353	20.6 %
Adjustments:				
Impact of fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period	11,598	1.4 %	9,301	1.4 %
Costs associated with workforce optimization efforts ⁽¹⁾	5,172	0.6 %	—	0.0 %
Costs associated with transformation initiatives ⁽²⁾	2,982	0.4 %	—	0.0 %
Integration and other costs related to acquisitions	1,756	0.2 %	14,989	2.3 %
Carried interest incentive compensation (reversal) expense to align with the timing of associated revenue	(22,912)	(2.8)%	13,101	2.0 %
Costs associated with our reorganization, including cost-savings initiatives ⁽³⁾	—	0.0 %	221	0.0 %
Adjusted EBITDA	\$ 231,682	27.8 %	\$ 173,965	26.3 %

- (1) Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort and were included in the "Operating, administrative and other" line in the accompanying consolidated statements of operations for the year ended December 31, 2020.
- (2) During 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.
- (3) Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Revenue increased by \$170.9 million, or 25.9%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019, primarily driven by the Telford Acquisition in our development services line of business and an increase in investment management fees primarily related to growth in AUM. Foreign currency translation had a 0.7% positive impact on total revenue during the year ended December 31, 2020 primarily driven by strength in the British pound sterling and euro.

Cost of revenue increased by \$88.5 million, or 104.2%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019, driven by the Telford Acquisition, which we acquired on October 1, 2019.

Operating, administrative and other expenses increased by \$3.4 million, or 0.5%, for the year ended December 31, 2020 as compared to the same period in 2019, primarily driven by incremental costs associated with Telford which we acquired on October 1, 2019, increased results driven bonus expense in our development services line of business (driven by higher property sales in 2020), rent expense for our new flexible space offering, workforce optimization costs, and transformation initiative costs. These increases are partially offset by decreases in certain operating expenses, such as travel and entertainment costs, as a result of Covid-19, a reduction in integration and transaction costs for Telford, and a reduction in carried interest expense. Foreign currency translation had a negligible impact on total operating expenses during the year ended December 31, 2020.

A roll forward of our AUM by product type for the year ended December 31, 2020 is as follows (dollars in billions):

	Funds	Separate Accounts	Securities	Total
Balance at January 1, 2020	\$ 40.1	\$ 64.9	\$ 7.9	\$ 112.9
Inflows	5.3	9.1	1.4	15.8
Outflows	(2.1)	(7.5)	(1.6)	(11.2)
Market appreciation (depreciation)	3.9	1.4	(0.1)	5.2
Balance at December 31, 2020	<u>\$ 47.2</u>	<u>\$ 67.9</u>	<u>\$ 7.6</u>	<u>\$ 122.7</u>

AUM generally refers to the properties and other assets with respect to which we provide (or participate in) oversight, investment management services and other advice, and which generally consist of real estate properties or loans, securities portfolios and investments in operating companies and joint ventures. Our AUM is intended principally to reflect the extent of our presence in the real estate market, not the basis for determining our management fees. Our assets under management consist of:

- the total fair market value of the real estate properties and other assets either wholly-owned or held by joint ventures and other entities in which our sponsored funds or investment vehicles and client accounts have invested or to which they have provided financing. Committed (but unfunded) capital from investors in our sponsored funds is not included in this component of our AUM. The value of development properties is included at estimated completion cost. In the case of real estate operating companies, the total value of real properties controlled by the companies, generally through joint ventures, is included in AUM; and

- the net asset value of our managed securities portfolios, including investments (which may be comprised of committed but uncalled capital) in private real estate funds under our fund of funds investments.

Our calculation of AUM may differ from the calculations of other asset managers, and as a result, this measure may not be comparable to similar measures presented by other asset managers.

Liquidity and Capital Resources

We believe that we can satisfy our working capital and funding requirements with internally generated cash flow and, as necessary, borrowings under our revolving credit facility. Our expected capital requirements for 2021 include up to approximately \$235 million of anticipated capital expenditures, net of tenant concessions. As of December 31, 2020, we had aggregate commitments of \$76.5 million to fund future co-investments in our Real Estate Investments business, \$30.1 million of which is expected to be funded in 2021. Additionally, as of December 31, 2020, we are committed to fund \$34.8 million of additional capital to unconsolidated subsidiaries within our Real Estate Investments business, which we may be required to fund at any time. As of December 31, 2020, we had \$2.8 billion of borrowings available under our revolving credit facility and \$1.8 billion of cash and cash equivalents available for general corporate use.

We have historically relied on our internally generated cash flow and our revolving credit facility to fund our working capital, capital expenditure and general investment requirements (including strategic in-fill acquisitions) and have not sought other external sources of financing to help fund these requirements. In the absence of extraordinary events or a large strategic acquisition, we anticipate that our cash flow from operations and our revolving credit facility would be sufficient to meet our anticipated cash requirements for the foreseeable future, and at a minimum for the next 12 months. Given compensation is our largest expense and our sales and leasing professionals are generally paid on a commission and/or bonus basis that correlates with their revenue production, the negative effect of difficult market conditions is partially mitigated by the inherent variability of our compensation cost structure. In addition, when negative economic conditions have been particularly severe, we have moved decisively to lower operating expenses to improve financial performance, and then have restored certain expenses as economic conditions improved. We may seek to take advantage of market opportunities to refinance existing debt instruments, as we have done in the past, with new debt instruments at interest rates, maturities and terms we deem attractive. We may also, from time to time in our sole discretion, purchase, redeem, or retire our existing senior notes, through tender offers, in privately negotiated or open market transactions, or otherwise. On December 28, 2020, we redeemed the \$425.0 million aggregate outstanding principal amount of our 5.25% senior notes due 2025 in full. We funded this redemption using cash on hand.

As noted above, we believe that any future significant acquisitions we may make could require us to obtain additional debt or equity financing. In the past, we have been able to obtain such financing for material transactions on terms that we believed to be reasonable. However, it is possible that we may not be able to obtain acquisition financing on favorable terms, or at all, in the future if we decide to make any further significant acquisitions.

Our long-term liquidity needs, other than those related to ordinary course obligations and commitments such as operating leases, are generally comprised of three elements. The first is the repayment of the outstanding and anticipated principal amounts of our long-term indebtedness. If our cash flow is insufficient to repay our long-term debt when it comes due, then we expect that we would need to refinance such indebtedness or otherwise amend its terms to extend the maturity dates. We cannot make any assurances that such refinancing or amendments would be available on attractive terms, if at all.

The second long-term liquidity need is the payment of obligations related to acquisitions. Our acquisition structures often include deferred and/or contingent purchase consideration in future periods that are subject to the passage of time or achievement of certain performance metrics and other conditions. As of December 31, 2020 and 2019, we had accrued deferred purchase consideration totaling \$82.5 million (\$14.3 million of which was a current liability) and \$111.7 million (\$41.6 million of which was a current liability), respectively, which was included in “Accounts payable and accrued expenses” and in “Other liabilities” in the accompanying consolidated balance sheets set forth in Item 8 of this Annual Report.

Lastly, as described in Note 16 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report, our board of directors authorized a program for the repurchase of up to \$500.0 million of our Class A common stock over three years. During the year ended December 31, 2020, we spent \$50.0 million to repurchase 1,050,084 shares of our Class A common stock at an average price of \$47.62 per share using cash on hand. Our stock repurchases have been funded with cash on hand and we intend to continue funding future repurchases with existing cash. We may utilize our stock repurchase program to continue offsetting the impact of our stock-based compensation program and on a more opportunistic basis if we believe our stock presents a compelling investment compared to other discretionary uses. The timing of any future repurchases and the actual amounts repurchased will depend on a variety of factors, including the market price of our common stock, general market and economic conditions and other factors. As of December 31, 2020, we had \$350.0 million of capacity remaining under our repurchase program.

Historical Cash Flows

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Operating Activities

Net cash provided by operating activities totaled \$1.8 billion for the year ended December 31, 2020, an increase of \$607.4 million as compared to the year ended December 31, 2019. The company experienced an overall increase in net working capital of approximately \$1.1 billion, partially offset by lower net income of \$535.6 million as compared to the same period in the previous year. The positive impact from net working capital was largely attributable to a decrease in accounts receivable due to a heightened focus on cash collections across our businesses, and lower net income tax payments due to the refunds received in the current year related to the prior year tax restructuring, partially offset by a net decrease to accounts payable and accrued expenses, as well as compensation payable and accrued bonus.

Investing Activities

Net cash used in investing activities totaled \$341.6 million for the year ended December 31, 2020, a decrease of \$379.4 million as compared to the year ended December 31, 2019. This decrease was largely driven by a decrease of \$26.9 million in capital expenditures during 2020 and lower amounts paid for acquisitions compared to 2019 which was driven primarily by the Telford Acquisition.

Financing Activities

Net cash used in financing activities totaled \$625.3 million for the year ended December 31, 2020, an increase of \$353.3 million as compared to the year ended December 31, 2019. This increase was primarily due to the impact of the full redemption of the \$425.0 million aggregate outstanding principal amount of our 5.25% senior notes (including a premium of \$73.6 million) and due to \$44.8 million in lower net contributions received from non-controlling interests during the year ended December 31, 2020. This was partially offset by the impact of repayment of debt assumed in the Telford Acquisition of \$110.7 million during 2019. In addition, we used \$95.1 million less for repurchase of common stock during the year ended December 31, 2020.

Summary of Contractual Obligations and Other Commitments

The following is a summary of our various contractual obligations and other commitments as of December 31, 2020 (dollars in thousands):

Contractual Obligations	Payments Due by Period				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Total gross long-term debt ⁽¹⁾	\$ 1,390,273	\$ 1,514	\$ 488,759	\$ 300,000	\$ 600,000
Short-term borrowings ⁽²⁾	1,389,294	1,389,294	—	—	—
Operating leases ⁽³⁾	1,517,258	214,887	411,882	338,828	551,661
Financing leases ⁽³⁾	539,243	64,363	87,077	23,702	364,101
Total gross notes payable on real estate ⁽⁴⁾	80,064	—	65,064	—	15,000
Deferred purchase consideration ⁽⁵⁾	82,539	14,301	52,754	10,934	4,550
Total contractual obligations	<u>\$ 4,998,671</u>	<u>\$ 1,684,359</u>	<u>\$ 1,105,536</u>	<u>\$ 673,464</u>	<u>\$ 1,535,312</u>

Other Commitments	Amount of Other Commitments Expiration				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Self-insurance reserves ⁽⁶⁾	\$ 140,458	\$ 140,458	\$ —	\$ —	\$ —
Tax liabilities ⁽⁷⁾	54,761	—	24,328	30,433	—
Co-investments ⁽⁸⁾⁽⁹⁾	111,252	64,845	27,317	5,472	13,618
Letters of credit ⁽⁸⁾	154,484	154,484	—	—	—
Guarantees ⁽⁸⁾⁽¹⁰⁾	42,078	42,078	—	—	—
Total other commitments	<u>\$ 503,033</u>	<u>\$ 401,865</u>	<u>\$ 51,645</u>	<u>\$ 35,905</u>	<u>\$ 13,618</u>

The table above excludes estimated payment obligations for our qualified defined benefit pension plans. For information about our future estimated payment obligations for these plans, see Note 14 of our Notes to the Consolidated Financial Statements set forth in Item 8 of this Annual Report.

- ⁽¹⁾ Reflects gross outstanding long-term debt balances as of December 31, 2020, assumed to be paid at maturity, excluding unamortized discount, premium and deferred financing costs. See Note 11 of our Notes to the Consolidated Financial Statements set forth in Item 8 of this Annual Report. Figures do not include scheduled interest payments. Assuming each debt obligation is held until maturity, we estimate that we will make the following interest payments (dollars in thousands): 2021 – \$36,380; 2022 to 2023 – \$72,649; 2024 to 2025 – \$59,098 and thereafter – \$4,808.
- ⁽²⁾ The majority of this balance represents our warehouse lines of credit, which are recourse only to our wholly-owned subsidiary CBRE Capital Markets, Inc. (CBRE Capital Markets) and are secured by our related warehouse receivables. See Notes 5 and 11 of our Notes to the Consolidated Financial Statements set forth in Item 8 of this Annual Report.
- ⁽³⁾ See Note 12 of our Notes to the Consolidated Financial Statements set forth in Item 8 of this Annual Report.
- ⁽⁴⁾ Reflects gross outstanding notes payable on real estate as of December 31, 2020 (none of which is recourse to us, beyond being recourse to the single-purpose entity that held the real estate asset and was the primary obligor on the note payable), assumed to be paid at maturity, excluding unamortized deferred financing costs. Amounts do not include scheduled interest payments. The notes have either fixed or variable interest rates, ranging from 2.00% to 4.00% at December 31, 2020.
- ⁽⁵⁾ Represents deferred obligations related to previous acquisitions, which are included in accounts payable and accrued expenses and other long-term liabilities in the consolidated balance sheets at December 31, 2020 set forth in Item 8 of this Annual Report.
- ⁽⁶⁾ Represents outstanding reserves for claims under certain insurance programs, which are included in other current and other long-term liabilities in the consolidated balance sheets at December 31, 2020 set forth in Item 8 of this Annual Report. Due to the nature of this item, payments could be due at any time upon the occurrence of certain events. Accordingly, the entire balance has been reflected as expiring in less than one year.
- ⁽⁷⁾ As of December 31, 2020, we have a remaining federal tax liability of \$54.8 million associated with the Transition Tax on mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. We are paying the federal tax liability for the Transition Tax in annual interest-free installments over a period of eight years through 2025 as allowed by the Tax Act.

In addition, as of December 31, 2020, our current and non-current tax liabilities (including interest and penalties) for uncertain tax positions, totaled \$168.5 million. Of this amount, we can reasonably estimate that none will require cash settlement in less than one year. We are unable to reasonably estimate the timing of the effective settlement of tax positions for the remaining \$168.5 million. See Note 15 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

- (8) See Note 13 of our Notes to the Consolidated Financial Statements set forth in Item 8 of this Annual Report.
- (9) Includes \$76.5 million to fund future co-investments in our Real Estate Investments segment, \$30.1 million of which is expected to be funded in 2021, and \$34.8 million committed to invest in unconsolidated real estate subsidiaries as a principal, which is callable at any time.
- (10) Due to the nature of guarantees, payments could be due at any time upon the occurrence of certain triggering events, including default. Accordingly, all guarantees are reflected as expiring in less than one year.

Indebtedness

Our level of indebtedness increases the possibility that we may be unable to pay the principal amount of our indebtedness and other obligations when due. In addition, we may incur additional debt from time to time to finance strategic acquisitions, investments, joint ventures or for other purposes, subject to the restrictions contained in the documents governing our indebtedness. If we incur additional debt, the risks associated with our leverage, including our ability to service our debt, would increase.

Long-Term Debt

We maintain credit facilities with third-party lenders, which we use for a variety of purposes. On March 4, 2019, CBRE Services, Inc. (CBRE Services) entered into an incremental assumption agreement with respect to its credit agreement, dated October 31, 2017 (such agreement, as amended by a December 20, 2018 incremental loan assumption agreement and such March 4, 2019 incremental assumption agreement, is collectively referred to in this Annual Report as the 2019 Credit Agreement), which (i) extended the maturity of the U.S. dollar tranche A term loans under such credit agreement, (ii) extended the termination date of the revolving credit commitments available under such credit agreement and (iii) made certain changes to the interest rates and fees applicable to such tranche A term loans and revolving credit commitments under such credit agreement. The proceeds from the new tranche A term loan facility under the 2019 Credit Agreement were used to repay the \$300.0 million of tranche A term loans outstanding under the credit agreement in effect prior to the entry into the 2019 incremental assumption agreement.

The 2019 Credit Agreement is a senior unsecured credit facility that is jointly and severally guaranteed by us and certain of our subsidiaries. As of December 31, 2020, the 2019 Credit Agreement provided for the following: (1) a \$2.8 billion incremental revolving credit facility, which includes the capacity to obtain letters of credit and swingline loans and terminates on March 4, 2024; (2) a \$300.0 million incremental tranche A term loan facility maturing on March 4, 2024, requiring quarterly principal payments unless our leverage ratio (as defined in the 2019 Credit Agreement) is less than or equal to 2.50 to 1.00 on the last day of the fiscal quarter immediately preceding any such payment date and (3) a €400.0 million term loan facility due and payable in full at maturity on December 20, 2023.

On August 13, 2015, CBRE Services issued \$600.0 million in aggregate principal amount of 4.875% senior notes due March 1, 2026 at a price equal to 99.24% of their face value. The 4.875% senior notes are unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 4.875% senior notes are jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guarantees our 2019 Credit Agreement. Interest accrues at a rate of 4.875% per year and is payable semi-annually in arrears on March 1 and September 1.

On September 26, 2014, CBRE Services issued \$300.0 million in aggregate principal amount of 5.25% senior notes due March 15, 2025. On December 12, 2014, CBRE Services issued an additional \$125.0 million in aggregate principal amount of 5.25% senior notes due March 15, 2025 at a price equal to 101.5% of their face value, plus interest deemed to have accrued from September 26, 2014. The 5.25% senior notes were unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 5.25% senior notes were jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guaranteed our 2019 Credit Agreement. Interest accrued at a rate of 5.25% per year and was payable semi-annually in arrears on March 15 and September 15. We redeemed these notes in full on December 28, 2020 and incurred charges of \$75.6 million, including a premium of \$73.6 million and the write-off of \$2.0 million of unamortized premium and debt issuance costs. We funded this redemption using cash on hand.

On March 14, 2013, CBRE Services issued \$800.0 million in aggregate principal amount of 5.00% senior notes due March 15, 2023. The 5.00% senior notes were unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 5.00% senior notes were jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guaranteed our 2017 Credit Agreement. Interest accrued at a rate of 5.00% per year and was payable semi-annually in arrears on March 15 and September 15. The 5.00% senior notes were redeemable at our option, in whole or in part, on March 15, 2018 at a redemption price of 102.5% of the principal amount on that date. We redeemed these notes in full on March 15, 2018 and incurred charges of \$28.0 million, including a premium of \$20.0 million and the write-off of \$8.0 million of unamortized deferred financing costs. We funded this redemption with \$550.0 million of borrowings from our tranche A term loan facility and \$270.0 million of borrowings from our revolving credit facility under our 2017 Credit Agreement.

The indenture governing our 4.875% senior notes contains restrictive covenants that, among other things, limit our ability to create or permit liens on assets securing indebtedness, enter into sale/leaseback transactions and enter into consolidations or mergers. In addition, this indenture requires that the 4.875% senior notes be jointly and severally guaranteed on a senior basis by CBRE Group, Inc. and each domestic subsidiary of CBRE Services that guarantees the 2019 Credit Agreement.

Our 2019 Credit Agreement and 4.875% senior notes are fully and unconditionally and jointly and severally guaranteed by us and certain subsidiaries (see [Exhibit 22.1](#) to this Annual Report for a listing of all such subsidiary guarantors). Combined summarized financial information for CBRE Group, Inc. (parent); CBRE Services (subsidiary issuer); and the guarantor subsidiaries (collectively referred to as the obligated group), which excludes investment balances in non-guarantor subsidiaries as well as income from consolidated non-guarantor subsidiaries, is as follows (dollars in thousands):

	December 31,	
	2020	2019
Balance Sheet Data:		
Current assets	\$ 3,307,147	\$ 2,901,618
Noncurrent assets ⁽¹⁾	5,252,455	5,610,084
Total assets ⁽¹⁾	8,559,602	8,511,702
Current liabilities	\$ 3,241,264	\$ 2,893,775
Noncurrent liabilities	1,884,629	2,201,269
Total liabilities	5,125,893	5,095,044
Statement of Operations Data:		
Revenue	\$ 13,117,846	\$ 13,550,005
Operating income	363,829	670,145
Net income	353,068	998,319

⁽¹⁾ Includes \$360.0 million and \$574.6 million of intercompany loan receivables from non-guarantor subsidiaries as of December 31, 2020 and 2019, respectively. All intercompany balances and transactions between CBRE Group, CBRE Services and the guarantor subsidiaries have been eliminated.

The €400.0 million term loan facility under our 2019 Credit Agreement is jointly and severally guaranteed by five of our foreign subsidiaries. Such subsidiaries have been omitted from the table above given they do not jointly and severally guarantee other amounts under the 2019 Credit Agreement or the 4.875% senior notes. Additionally, such subsidiaries, if considered in the aggregate as if they were a single subsidiary, would not constitute a significant subsidiary.

For additional information on all of our long-term debt, see Note 11 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Short-Term Borrowings

We maintain a \$2.8 billion revolving credit facility under the 2019 Credit Agreement and warehouse lines of credit with certain third-party lenders. For additional information on all of our short-term borrowings, see Notes 5 and 11 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report.

Subsequent Event

As described in Note 10 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report, the company made a \$50.0 million non-controlling investment in Industrious in the fourth quarter of 2020. On February 19, 2021, the company made an additional non-controlling investment in Industrious, for approximately \$150.0 million in the form of primary and secondary shares, as well as shares issued in anticipation of Industrious closing on the transfer of Hana in the second quarter of 2021. Following this transaction, CBRE holds a 35% interest in Industrious. In addition, CBRE has entered into a series of agreements to acquire additional shares, whereby the company will increase its interest in Industrious from 35% to 40%.

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

Our exposure to market risk primarily consists of foreign currency exchange rate fluctuations related to our international operations and changes in interest rates on debt obligations. We manage such risk primarily by managing the amount, sources, and duration of our debt funding and by using derivative financial instruments. We apply FASB ASC (Topic 815), “*Derivatives and Hedging*,” when accounting for derivative financial instruments. In all cases, we view derivative financial instruments as a risk management tool and, accordingly, do not use derivatives for trading or speculative purposes.

Exchange Rates

Our foreign operations expose us to fluctuations in foreign exchange rates. These fluctuations may impact the value of our cash receipts and payments in terms of our functional (reporting) currency, which is the U.S. dollar. See the discussion of international operations, which is included in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations” under the caption “International Operations” and is incorporated by reference herein.

Interest Rates

We manage our interest expense by using a combination of fixed and variable rate debt. Historically, we have entered into interest rate swap agreements to attempt to hedge the variability of future interest payments due to changes in interest rates. As of December 31, 2020, we do not have any outstanding interest rate swap agreements.

The estimated fair value of our senior term loans was approximately \$772.2 million at December 31, 2020. Based on dealers’ quotes, the estimated fair value of our 4.875% senior notes was \$702.5 million at December 31, 2020.

We utilize sensitivity analyses to assess the potential effect on our variable rate debt. If interest rates were to increase 100 basis points on our outstanding variable rate debt at December 31, 2020, the net impact of the additional interest cost would be a decrease of \$7.5 million on pre-tax income and a decrease of \$7.5 million in cash provided by operating activities for the year ended December 31, 2020.

Item 8. Financial Statements and Supplementary Data.**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS
AND FINANCIAL STATEMENT SCHEDULES**

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All other schedules are omitted because they are either not applicable, not required or the information required is included in the Consolidated Financial Statements, including the notes thereto.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
CBRE Group, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of CBRE Group, Inc. and subsidiaries (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, cash flows, and equity for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 24, 2021 expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases due to the adoption of Accounting Standards Codification ("ASC") Topic 842, *Leases*, as of January 1, 2019.

Basis for Opinion

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

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

Critical Audit Matter

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

Assessment of Gross Unrecognized Tax Benefits

As discussed in Notes 2 and 15 to the consolidated financial statements, the Company has recorded gross unrecognized tax benefits of \$168.5 million as of December 31, 2020. The Company utilizes a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the available evidence indicates there is more than a 50% likelihood that the position will be sustained upon examination, including resolution of related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement.

We identified the assessment of the gross unrecognized tax benefits as a critical audit matter. Complex auditor judgment and the involvement of tax professionals with specialized skills and knowledge were required in evaluating the Company's interpretation of tax law and its estimate of the resolution of the tax positions underlying the unrecognized tax benefits.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls over the Company's unrecognized tax benefits process, including the interpretation of tax law. Since tax law is complex and often subject to interpretations, we involved tax professionals with specialized skills and knowledge, who assisted in:

- Obtaining an understanding of the Company's tax planning strategies including changes in legal entity structures and intercompany financing arrangements,
- Evaluating the Company's interpretation of tax law and the potential impact on the Company's tax positions,
- Inspecting correspondence with applicable taxing authorities, and assessing the expiration of statutes of limitations, and
- Performing an independent assessment of certain of the Company's tax positions and comparing the results to the Company's assessment.

/s/ KPMG LLP

We have served as the Company's auditor since 2008.

Los Angeles, California
February 24, 2021

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
CBRE Group, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited CBRE Group, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, because of the effect of the material weaknesses, described below, on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, cash flows, and equity for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and our report dated February 24, 2021 expressed an unqualified opinion on those consolidated financial statements.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The material weaknesses described as follows have been identified and included in management's assessment:

- The Global Workspace Solutions segment in the Company's EMEA region (GWS EMEA) did not have sufficient resources in the local GWS EMEA territories with the appropriate reporting lines, roles and responsibilities, authority, training and skill sets to design and operate financial activities, including controls, in an appropriate and timely manner.
- GWS EMEA did not effectively assess and address the risks posed by changes in the business and the related effect on the GWS EMEA system of internal controls. In relation to this, specific to the rollout of GWS EMEA's primary financial system, GWS EMEA did not effectively operate general information technology controls related to financial data migrations, user access, system changes and financial data processing. Because of the deficiencies in general information technology controls, the business process controls (automated and manual) that are dependent on this system were also deemed ineffective because they could have been adversely impacted.
- GWS EMEA did not design or execute control activities that sufficiently mitigated the financial reporting risks related to GWS EMEA.
- GWS EMEA did not have an effective information and communication process to identify, capture and process relevant information necessary for financial accounting and reporting.
- The Company did not monitor the presentation and effectiveness of components of internal control through evaluation and remediation in an appropriate manner within GWS EMEA and GWS EMEA was not sufficiently integrated with the corporate oversight function.

Consequently, there were control failures for GWS EMEA in the areas of revenue and receivables, balance sheet account reconciliations, journal entries and general information technology controls. The material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2020 consolidated financial statements, and this report does not affect our report on those consolidated financial statements.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit 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 audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ KPMG LLP

Los Angeles, California

February 24, 2021

CBRE GROUP, INC.
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands, except share data)

	December 31,	
	2020	2019
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 1,896,188	\$ 971,781
Restricted cash	143,059	121,964
Receivables, less allowance for doubtful accounts of \$95,533 and \$72,725 at December 31, 2020 and 2019, respectively	4,394,954	4,466,674
Warehouse receivables	1,411,170	993,058
Contract assets	318,191	328,012
Prepaid expenses	294,992	282,741
Income taxes receivable	93,756	93,915
Other current assets	293,321	276,319
Total Current Assets	8,845,631	7,534,464
Property and equipment, net	815,009	836,206
Goodwill	3,821,609	3,753,493
Other intangible assets, net of accumulated amortization of \$1,556,537 and \$1,358,528 at December 31, 2020 and 2019, respectively	1,367,913	1,379,546
Operating lease assets	1,020,352	997,966
Investments in unconsolidated subsidiaries (with \$116,314 and \$124,262 at fair value at December 31, 2020 and 2019, respectively)	452,365	426,711
Non-current contract assets	153,636	201,760
Real estate under development	277,630	185,508
Non-current income taxes receivable	43,555	139,136
Deferred tax assets, net	91,529	73,864
Investments held in trust - special purpose acquisition company	402,501	—
Other assets, net	747,413	668,542
Total Assets	\$ 18,039,143	\$ 16,197,196
LIABILITIES AND EQUITY		
Current Liabilities:		
Accounts payable and accrued expenses	\$ 2,692,939	\$ 2,436,084
Compensation and employee benefits payable	1,287,383	1,324,990
Accrued bonus and profit sharing	1,183,786	1,261,974
Operating lease liabilities	208,526	168,663
Contract liabilities	162,045	108,671
Income taxes payable	57,892	30,207
Warehouse lines of credit (which fund loans that U.S. Government Sponsored Enterprises have committed to purchase)	1,383,964	977,175
Other short-term borrowings	5,330	4,534
Current maturities of long-term debt	1,514	1,814
Other current liabilities	160,604	122,339
Total Current Liabilities	7,143,983	6,436,451
Long-term debt, net of current maturities	1,380,202	1,761,245
Non-current operating lease liabilities	1,116,795	1,057,758
Non-current income taxes payable	54,761	93,647
Non-current tax liabilities	87,954	85,966
Deferred tax liabilities, net	124,485	34,593
Other liabilities	625,303	454,424
Total Liabilities	10,533,483	9,924,084
Commitments and contingencies	—	—
Non-controlling interest subject to possible redemption - special purpose acquisition company	385,573	—
Equity:		
CBRE Group, Inc. Stockholders' Equity:		
Class A common stock; \$0.01 par value; 525,000,000 shares authorized; 335,561,345 and 334,752,283 shares issued and outstanding at December 31, 2020 and 2019, respectively	3,356	3,348
Additional paid-in capital	1,074,639	1,115,944
Accumulated earnings	6,530,057	5,793,149
Accumulated other comprehensive loss	(529,726)	(679,748)
Total CBRE Group, Inc. Stockholders' Equity	7,078,326	6,232,693
Non-controlling interests	41,761	40,419
Total Equity	7,120,087	6,273,112
Total Liabilities and Equity	\$ 18,039,143	\$ 16,197,196

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Dollars in thousands, except share and per share data)

	Year Ended December 31,		
	2020	2019	2018
Revenue	\$ 23,826,195	\$ 23,894,091	\$ 21,340,088
Costs and expenses:			
Cost of revenue	19,047,620	18,689,013	16,449,212
Operating, administrative and other	3,306,205	3,436,009	3,365,773
Depreciation and amortization	501,728	439,224	451,988
Asset impairments	88,676	89,787	—
Total costs and expenses	22,944,229	22,654,033	20,266,973
Gain on disposition of real estate	87,793	19,817	14,874
Operating income	969,759	1,259,875	1,087,989
Equity income from unconsolidated subsidiaries	126,161	160,925	324,664
Other income	17,394	28,907	93,020
Interest expense, net of interest income	67,753	85,754	98,685
Write-off of financing costs on extinguished debt	75,592	2,608	27,982
Income before provision for income taxes	969,969	1,361,345	1,379,006
Provision for income taxes	214,101	69,895	313,058
Net income	755,868	1,291,450	1,065,948
Less: Net income attributable to non-controlling interests	3,879	9,093	2,729
Net income attributable to CBRE Group, Inc.	\$ 751,989	\$ 1,282,357	\$ 1,063,219
<i>Basic income per share:</i>			
Net income per share attributable to CBRE Group, Inc.	\$ 2.24	\$ 3.82	\$ 3.13
Weighted average shares outstanding for basic income per share	335,196,296	335,795,654	339,321,056
<i>Diluted income per share:</i>			
Net income per share attributable to CBRE Group, Inc.	\$ 2.22	\$ 3.77	\$ 3.10
Weighted average shares outstanding for diluted income per share	338,392,210	340,522,871	343,122,741

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Dollars in thousands)

	Year Ended December 31,		
	2020	2019	2018
Net income	\$ 755,868	\$ 1,291,450	\$ 1,065,948
Other comprehensive income (loss):			
Foreign currency translation gain (loss)	124,260	(14,092)	(161,384)
Adoption of Accounting Standards Update 2016-01, net of \$2,141 income tax benefit for the year ended December 31, 2018	—	—	(3,964)
Amounts reclassified from accumulated other comprehensive loss to interest expense, net of \$156, \$471 and \$876 income tax expense for the years ended December 31, 2020, 2019 and 2018, respectively	426	1,320	2,439
Unrealized gains on interest rate swaps, net of \$254 income tax expense for the year ended December 31, 2018	—	—	708
Unrealized holding gains (losses) on available for sale debt securities, net of \$382 and \$559 income tax expense and \$349 income tax benefit for the years ended December 31, 2020, 2019 and 2018, respectively	1,436	2,101	(971)
Pension liability adjustments, net of \$1,663, \$194 and \$269 income tax expense for the years ended December 31, 2020, 2019 and 2018, respectively	7,343	944	1,315
Legal entity restructuring, net of \$17,694 income tax expense for the year ended December 31, 2019	—	63,149	—
Other, net of \$3,068 income tax expense and \$3,795 and \$3,550 income tax benefit for the years ended December 31, 2020, 2019 and 2018, respectively	16,772	(14,946)	(5,070)
Total other comprehensive income (loss)	150,237	38,476	(166,927)
Comprehensive income	906,105	1,329,926	899,021
Less: Comprehensive income attributable to non-controlling interests	4,094	9,048	1,657
Comprehensive income attributable to CBRE Group, Inc.	\$ 902,011	\$ 1,320,878	\$ 897,364

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	Year Ended December 31,		
	2020	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	\$ 755,868	\$ 1,291,450	\$ 1,065,948
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	501,728	439,224	451,988
Amortization and write-off of financing costs on extinguished debt	82,705	8,662	35,175
Gains related to mortgage servicing rights, premiums on loan sales and sales of other assets	(297,980)	(246,690)	(229,376)
Asset impairments	88,676	89,787	—
Gain associated with remeasuring our investment in a joint venture entity to fair value at the date we acquired the remaining interest	—	—	(100,420)
Net realized and unrealized (gains) losses, primarily from investments	(17,394)	(28,907)	7,400
Provision for doubtful accounts	44,366	20,373	19,760
Net compensation expense for equity awards	60,391	127,738	128,171
Equity income from unconsolidated subsidiaries	(126,161)	(160,925)	(324,664)
Distribution of earnings from unconsolidated subsidiaries	155,975	199,011	336,925
Proceeds from sale of mortgage loans	20,937,521	19,805,060	20,230,676
Origination of mortgage loans	(21,268,114)	(19,389,979)	(20,591,602)
Increase (decrease) in warehouse lines of credit	406,789	(351,586)	417,995
Tenant concessions received	48,030	21,249	38,400
Purchase of equity securities	(11,113)	(83,001)	(99,789)
Proceeds from sale of equity securities	13,741	46,949	75,120
(Increase) decrease in real estate under development	(105,619)	31,420	(4,586)
Decrease (increase) in receivables, prepaid expenses and other assets (including contract and lease assets)	371,009	(821,134)	(773,361)
Increase in accounts payable and accrued expenses and other liabilities (including contract and lease liabilities)	105,491	306,677	273,782
(Decrease) increase in compensation and employee benefits payable and accrued bonus and profit sharing	(100,142)	244,895	270,371
Decrease (increase) in net income taxes receivable/payable	173,648	(274,436)	(47,074)
Other operating activities, net	11,364	(52,457)	(49,590)
Net cash provided by operating activities	1,830,779	1,223,380	1,131,249
CASH FLOWS FROM INVESTING ACTIVITIES:			
Capital expenditures	(266,575)	(293,514)	(227,803)
Acquisition of businesses, including net assets acquired, intangibles and goodwill, net of cash acquired	(27,848)	(355,926)	(322,573)
Contributions to unconsolidated subsidiaries	(146,409)	(105,947)	(62,802)
Distributions from unconsolidated subsidiaries	88,731	33,289	61,709
Other investing activities, net	10,516	1,074	(9,215)
Net cash used in investing activities	(341,585)	(721,024)	(560,684)

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	Year Ended December 31,		
	2020	2019	2018
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from senior term loans	—	300,000	1,002,745
Repayment of senior term loans	—	(300,000)	(450,000)
Proceeds from revolving credit facility	835,671	3,609,000	3,258,000
Repayment of revolving credit facility	(835,671)	(3,609,000)	(3,258,000)
Repayment of 5.25% senior notes (including premium)	(499,652)	—	—
Repayment of 5.00% senior notes (including premium)	—	—	(820,000)
Repayment of debt assumed in acquisition of Telford Homes	—	(110,687)	—
Repayment of debt assumed in acquisition of FacilitySource	—	—	(26,295)
Establishment of trust account for special purpose acquisition company	(402,500)	—	—
Sale of non-controlling interest - special purpose acquisition company	393,661	—	—
Proceeds from notes payable on real estate	90,552	6,694	7,599
Repayments of notes payable on real estate	(24,704)	—	(19,058)
Repurchase of common stock	(50,028)	(145,137)	(161,034)
Acquisition of businesses (cash paid for acquisitions more than three months after purchase date)	(44,700)	(42,147)	(18,660)
Units repurchased for payment of taxes on equity awards	(43,835)	(18,426)	(29,386)
Non-controlling interest contributions	2,173	46,612	25,355
Non-controlling interest distributions	(4,330)	(3,957)	(13,413)
Other financing activities, net	(41,893)	(4,901)	(4,453)
Net cash used in financing activities	(625,256)	(271,949)	(506,600)
Effect of currency exchange rate changes on cash and cash equivalents and restricted cash	81,564	(606)	(24,840)
NET INCREASE IN CASH AND CASH EQUIVALENTS AND RESTRICTED CASH	945,502	229,801	39,125
CASH AND CASH EQUIVALENTS AND RESTRICTED CASH, AT BEGINNING OF YEAR	1,093,745	863,944	824,819
CASH AND CASH EQUIVALENTS AND RESTRICTED CASH, AT END OF YEAR	\$ 2,039,247	\$ 1,093,745	\$ 863,944
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid during the year for:			
Interest	\$ 67,463	\$ 86,666	\$ 104,165
Income tax payments, net	\$ 51,681	\$ 365,065	\$ 375,849

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF EQUITY
(Dollars in thousands, except share data)

CBRE Group, Inc. Stockholders								
	Shares	Class A common stock	Additional paid-in capital	Accumulated earnings	Accumulated other comprehensive loss		Non- controlling interests	Total
					Minimum pension liability	Foreign currency translation and other		
Balance at December 31, 2017	339,459,138	\$ 3,395	\$ 1,220,508	\$ 3,443,007	\$ (152,969)	\$ (399,445)	\$ 60,118	\$ 4,174,614
Net income	—	—	—	1,063,219	—	—	2,729	1,065,948
Adoption of Accounting Standards Update 2016-01, net of tax	—	—	—	3,964	—	(3,964)	—	—
Pension liability adjustments, net of tax	—	—	—	—	1,315	—	—	1,315
Restricted stock awards vesting	1,424,462	14	(14)	—	—	—	—	—
Compensation expense for equity awards	—	—	128,171	—	—	—	—	128,171
Reclassification of stock incentive plan award from an equity award to a liability award	—	—	(9,074)	—	—	—	—	(9,074)
Units repurchased for payment of taxes on equity awards	—	—	(29,386)	—	—	—	—	(29,386)
Repurchase of common stock	(3,980,656)	(40)	(160,994)	—	—	—	—	(161,034)
Foreign currency translation loss	—	—	—	—	—	(160,312)	(1,072)	(161,384)
Amounts reclassified from accumulated other comprehensive loss to interest expense, net of tax	—	—	—	—	—	2,439	—	2,439
Unrealized gains on interest rate swaps, net of tax	—	—	—	—	—	708	—	708
Unrealized holding (losses) gains on available for sale debt securities, net of tax	—	—	—	—	—	(971)	—	(971)
Contributions from non-controlling interests	—	—	—	—	—	—	25,355	25,355
Distributions to non-controlling interests	—	—	—	—	—	—	(13,413)	(13,413)
Other	9,839	—	(198)	(5,506)	3,747	(8,817)	(2,612)	(13,386)
Balance at December 31, 2018	336,912,783	3,369	1,149,013	4,504,684	(147,907)	(570,362)	71,105	5,009,902
Net income	—	—	—	1,282,357	—	—	9,093	1,291,450
Pension liability adjustments, net of tax	—	—	—	—	944	—	—	944
Restricted stock awards vesting	920,407	9	(9)	—	—	—	—	—
Compensation expense for equity awards	—	—	127,738	—	—	—	—	127,738
Units repurchased for payment of taxes on equity awards	—	—	(18,426)	—	—	—	—	(18,426)

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
CONSOLIDATED STATEMENTS OF EQUITY
(Dollars in thousands, except share data)

CBRE Group, Inc. Stockholders								
	Shares	Class A common stock	Additional paid-in capital	Accumulated earnings	Accumulated other comprehensive loss		Non- controlling interests	Total
					Minimum pension liability	Foreign currency translation and other		
Repurchase of common stock	(3,080,907)	(31)	(145,106)	—	—	—	—	(145,137)
Foreign currency translation loss	—	—	—	—	—	(14,047)	(45)	(14,092)
Amounts reclassified from accumulated other comprehensive loss to interest expense, net of tax	—	—	—	—	—	1,320	—	1,320
Unrealized holding (losses) gains on available for sale debt securities, net of tax	—	—	—	—	—	2,101	—	2,101
Contributions from non-controlling interests	—	—	—	—	—	—	46,612	46,612
Distributions to non-controlling interests	—	—	—	—	—	—	(3,957)	(3,957)
Deconsolidation of investments	—	—	—	—	—	—	(76,349)	(76,349)
Legal entity restructuring, net	—	—	—	—	—	63,149	—	63,149
Other	—	1	2,734	6,108	—	(14,946)	(6,040)	(12,143)
Balance at December 31, 2019	334,752,283	3,348	1,115,944	5,793,149	(146,963)	(532,785)	40,419	6,273,112
Net income	—	—	—	751,989	—	—	3,879	755,868
Pension liability adjustments, net of tax	—	—	—	—	7,343	—	—	7,343
Restricted stock awards vesting	1,859,146	19	(19)	—	—	—	—	—
Compensation expense for equity awards	—	—	60,391	—	—	—	—	60,391
Units repurchased for payment of taxes on equity awards	—	—	(43,835)	—	—	—	—	(43,835)
Repurchase of common stock	(1,050,084)	(11)	(50,017)	—	—	—	—	(50,028)
Foreign currency translation gain	—	—	—	—	—	124,045	215	124,260
Amounts reclassified from accumulated other comprehensive loss to interest expense, net of tax	—	—	—	—	—	426	—	426
Unrealized holding (losses) gains on available for sale debt securities, net of tax	—	—	—	—	—	1,436	—	1,436
Contributions from non-controlling interests	—	—	—	—	—	—	2,173	2,173
Distributions to non-controlling interests	—	—	—	—	—	—	(4,330)	(4,330)
Other	—	—	(7,825)	(15,081)	—	16,772	(595)	(6,729)
Balance at December 31, 2020	335,561,345	\$ 3,356	\$ 1,074,639	\$ 6,530,057	\$ (139,620)	\$ (390,106)	\$ 41,761	\$ 7,120,087

The accompanying notes are an integral part of these consolidated financial statements.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Operations

CBRE Group, Inc., a Delaware corporation (which may be referred to in these financial statements as “the company,” “we,” “us” and “our”), was incorporated on February 20, 2001. We are the world’s largest commercial real estate services and investment firm, based on 2020 revenue, with leading global market positions in our leasing, property sales, occupier outsourcing and valuation businesses.

Our business is focused on providing services to real estate investors and occupiers. For investors, we provide capital markets (property sales, mortgage origination, sales and servicing), property leasing, investment management, property management, valuation and development services, among others. For occupiers, we provide facilities management, project management, transaction (both property sales and leasing) and consulting services, among others. We generate revenue from both management fees (large multi-year portfolio and per-project contracts) and commissions on transactions. As of December 31, 2020, the company has more than 100,000 employees (excluding affiliates) serving clients in more than 100 countries providing services under the following brand names: “CBRE” (real estate advisory and outsourcing services); “CBRE Global Investors” (investment management); “Trammell Crow Company” (U.S. development); “Telford Homes” (U.K. development) and “Hana” (flexible-space solutions). In 2020, CBRE sponsored a special purpose acquisition company (SPAC), CBRE Acquisition Holdings, Inc. (CBRE Acquisition Holdings), which has the sole purpose of acquiring a privately held company with significant growth potential and to create value by supporting the company in the public markets. The company that it acquires will operate in an industry that will benefit from the experience, expertise and operating skills of CBRE. CBRE Acquisition Holdings trades on the New York Stock Exchange under the symbols “CBAH,” “CBAH.U.” and “CBAH.W.”

Considerations Related to the Covid-19 Pandemic

From 2010 to early 2020, commercial real estate markets had generally been characterized by increased demand for space, falling vacancies, higher rents and strong capital flows, leading to solid property sales and leasing activity. This healthy backdrop changed abruptly in the first quarter of 2020 with the emergence of the novel coronavirus (Covid-19) and resultant sharp contraction of economic activity across much of the world. There has been a significant impact on commercial real estate markets, as many property owners and occupiers have put transactions on hold and withdrawn existing mandates, sharply reducing sales and leasing volumes. We expect to see the highly challenging operating environment continue, as Covid-19 caseloads remain elevated across our major markets, business travel and face-to-face business dealings are limited and the overwhelming majority of workers remain out of their offices. The recovery of real estate markets around the world remain uncertain as of the date of this report.

The effects of Covid-19 adversely impacted our financial position, results of operations, and cash flows for fiscal year 2020. The consolidated financial statements and related notes presented herein reflect our current estimates and assumptions that affect the reported amounts of assets and liabilities and related disclosures as of the date of the consolidated financial statements and reported amounts of sales and expenses during the reporting periods presented. See Note 7 (Fair Value Measurements), Note 9 (Goodwill and Other Intangible Assets) and Note 13 (Commitments and Contingencies) for further discussion of Covid-19 considerations.

2. Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements include our accounts and those of our consolidated subsidiaries, which are comprised of variable interest entities in which we are the primary beneficiary and voting interest entities, in which we determined we have a controlling financial interest, under the “Consolidations” Topic of the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) (Topic 810). The permanent and redeemable equity attributable to non-controlling interests in subsidiaries is shown separately in the accompanying consolidated balance sheets. All significant intercompany accounts and transactions have been eliminated in consolidation.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Variable Interest Entities (VIEs)

We determine whether an entity is a VIE and, if so, whether it should be consolidated by utilizing judgments and estimates that are inherently subjective. Our determination of whether an entity in which we hold a direct or indirect variable interest is a VIE is based on several factors, including whether the entity's total equity investment at risk upon inception is sufficient to finance the entity's activities without additional subordinated financial support. We make judgments regarding the sufficiency of the equity at risk based first on a qualitative analysis, and then a quantitative analysis, if necessary.

We analyze any investments in VIEs to determine if we are the primary beneficiary. In evaluating whether we are the primary beneficiary, we evaluate our direct and indirect economic interests in the entity. A reporting entity is determined to be the primary beneficiary if it holds a controlling financial interest in the VIE. Determining which reporting entity, if any, has a controlling financial interest in a VIE is primarily a qualitative approach focused on identifying which reporting entity has both: (i) the power to direct the activities of a VIE that most significantly impact such entity's economic performance; and (ii) the obligation to absorb losses or the right to receive benefits from such entity that could potentially be significant to such entity. Performance of that analysis requires the exercise of judgment.

We consider a variety of factors in identifying the entity that holds the power to direct matters that most significantly impact the VIE's economic performance including, but not limited to, the ability to direct financing, leasing, construction and other operating decisions and activities. In addition, we consider the rights of other investors to participate in those decisions, to replace the manager and to sell or liquidate the entity. We determine whether we are the primary beneficiary of a VIE at the time we become involved with a variable interest entity and reconsider that conclusion continually.

We consolidate any VIE of which we are the primary beneficiary and disclose significant VIEs of which we are not the primary beneficiary, if any, as well as disclose our maximum exposure to loss related to VIEs that are not consolidated (see Note 6).

Voting Interest Entities (VOEs)

For VOEs, we consolidate the entity if we have a controlling financial interest. We have a controlling financial interest in a VOE if: (i) for legal entities other than limited partnerships, we own a majority voting interest in the VOE or, for limited partnerships and similar entities, we own a majority of the entity's kick-out rights through voting limited partnership interests; and (ii) non-controlling shareholders or partners do not hold substantive participating rights and no other conditions exist that would indicate that we do not control the entity.

Marketable Securities and Other Investments

Debt securities are classified as held to maturity when we have the positive intent and ability to hold the securities to maturity. Marketable debt securities not classified as held to maturity are classified as available for sale. Available for sale debt securities are carried at their fair value and any difference between cost and fair value is recorded as an unrealized gain or loss, net of income taxes, and is reported as accumulated other comprehensive income (loss) in the consolidated statements of equity. Premiums and discounts are recognized in interest using the effective interest method. Realized gains and losses and declines in value resulting from credit losses on available for sale debt securities have not been significant. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available for sale are included in interest income.

Our investments in unconsolidated subsidiaries in which we have the ability to exercise significant influence over operating and financial policies, but do not control, or entities which are VIEs in which we are not the primary beneficiary are accounted for under the equity method in accordance with the "Instruments - Equity Method and Joint Ventures" topic of the FASB ASC (Topic 323). We eliminate transactions with such equity method subsidiaries to the extent of our ownership in such subsidiaries. Accordingly, our share of the earnings from these equity-method basis companies is included in consolidated net income. We have elected to account for certain eligible investments at fair value in accordance with the "Financial Instruments" topic of the FASB ASC (Topic 825).

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

For a portion of our investments in unconsolidated subsidiaries reported at fair value, we estimate fair value using the net asset value (NAV) per share (or its equivalent) our investees provide. These investments are considered investment companies, or are the equivalent of investment companies, as they carry all investments at fair value, with unrealized gains and losses resulting from changes in fair value reflected in earnings. Accordingly, we effectively carry our investments at an amount that is equivalent to our proportionate share of the net assets of each investment that would be allocated to us if each investment was liquidated at the net asset value as of the measurement date.

All equity investments that do not result in consolidation and are not accounted for under the equity method are measured at fair value with changes therein reflected in net income. Equity instruments that do not have readily determinable fair values and do not qualify for using the net asset value per share practical expedient in the “*Fair Value Measurements*” topic of the FASB ASC (Topic 820) are measured at cost, less any impairment.

Impairment Evaluation

Impairment losses on investments, other than available for sale debt securities and investments otherwise measured at fair value, are recognized upon evidence of other-than-temporary losses of value. When testing for impairment on investments that are not actively traded on a public market, we generally use a discounted cash flow approach to estimate the fair value of our investments and/or look to comparable activities in the marketplace. Management’s judgment is required in developing the assumptions for the discounted cash flow approach. These assumptions include net asset values, internal rates of return, discount and capitalization rates, interest rates and financing terms, rental rates, timing of leasing activity, estimates of lease terms and related concessions, etc. When determining if impairment is other-than-temporary, we also look to the length of time and the extent to which fair value has been less than cost as well as the financial condition and near-term prospects of each investment. Based on our review, we did not record any significant other-than-temporary impairment losses during the years ended December 31, 2020, 2019 and 2018.

Use of Estimates

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (GAAP), which require management to make estimates and assumptions about future events, including the impact Covid-19 may have on our business. These estimates and the underlying assumptions affect the amounts of assets and liabilities reported and reported amounts of revenue and expenses. Such estimates include the value of goodwill, intangibles and other long-lived assets, real estate assets, accounts receivable, contract assets, operating lease assets, investments in unconsolidated subsidiaries and assumptions used in the calculation of income taxes, retirement and other post-employment benefits, among others. These estimates and assumptions are based on our best judgment. We evaluate our estimates and assumptions on an ongoing basis using historical experience and other factors, including consideration of the current economic environment, and adjust such estimates and assumptions when facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates. Changes in estimates resulting from continuing changes in the economic environment will be reflected in the financial statements in future periods.

Cash and Cash Equivalents

Cash and cash equivalents generally consist of cash and highly liquid investments with an original maturity of three months or less. Included in the accompanying consolidated balance sheets as of December 31, 2020 and 2019 is cash and cash equivalents of \$102.9 million and \$70.5 million, respectively, from consolidated funds and other entities, which are not available for general corporate use. We also manage certain cash and cash equivalents as an agent for our investment and property and facilities management clients. These amounts are not included in the accompanying consolidated balance sheets (see *Fiduciary Funds* discussion below).

Restricted Cash

Included in the accompanying consolidated balance sheets as of December 31, 2020 and 2019 is restricted cash of \$143.1 million and \$122.0 million, respectively. The balances primarily include restricted cash set aside to cover funding obligations as required by contracts executed by us in the ordinary course of business.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Fiduciary Funds

The accompanying consolidated balance sheets do not include the net assets of escrow, agency and fiduciary funds, which are held by us on behalf of clients and which amounted to \$8.1 billion and \$6.1 billion at December 31, 2020 and 2019, respectively.

Concentration of Credit Risk

Financial instruments that potentially subject us to credit risk consist principally of trade receivables and interest-bearing investments. Users of real estate services account for a substantial portion of trade receivables and collateral is generally not required. The risk associated with this concentration is limited due to the large number of users and their geographic dispersion.

We place substantially all of our interest-bearing investments with several major financial institutions to limit the amount of credit exposure with any one financial institution.

Property and Equipment

Property and equipment, which includes leasehold improvements, is stated at cost, net of accumulated depreciation and impairment. Depreciation and amortization of property and equipment is computed primarily using the straight-line method over estimated useful lives ranging up to 10 years. Leasehold improvements are amortized over the term of their associated leases, excluding options to renew, since such leases generally do not carry prohibitive penalties for non-renewal. We capitalize expenditures that significantly increase the life of our assets and expense the costs of maintenance and repairs.

We review property and equipment for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If this review indicates that such assets are considered to be impaired, the impairment is recognized in the period the changes occur and represents the amount by which the carrying value exceeds the fair value of the asset.

Certain costs related to the development or purchase of internal-use software are capitalized. Internal-use software costs that are incurred in the preliminary project stage are expensed as incurred. Significant direct consulting costs and certain payroll and related costs, which are incurred during the development stage of a project are generally capitalized and amortized over a three-year period (except for enterprise software development platforms, which range from three to seven years) when placed into production.

Real Estate***Classification and Impairment Evaluation***

We classify real estate in accordance with the criteria of the “*Property, Plant and Equipment*” Topic of the FASB ASC (Topic 360) as follows: (i) real estate held for sale, which includes completed assets or land for sale in its present condition that meet all of Topic 360’s “held for sale” criteria; (ii) real estate under development (current), which includes real estate that we are in the process of developing that is expected to be completed and disposed of within one year of the balance sheet date; (iii) real estate under development (non-current), which includes real estate that we are in the process of developing that is expected to be completed and disposed of more than one year from the balance sheet date; or (iv) real estate held for investment, which consists of land on which development activities have not yet commenced and completed assets or land held for disposition that do not meet the “held for sale” criteria. Any asset reclassified from real estate held for sale to real estate under development (current or non-current) or real estate held for investment is recorded individually at the lower of its fair value at the date of the reclassification or its carrying amount before it was classified as “held for sale,” adjusted (in the case of real estate held for investment) for any depreciation that would have been recognized had the asset been continuously classified as real estate held for investment.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Real estate held for sale is recorded at the lower of cost or fair value less cost to sell. If an asset's fair value less cost to sell, based on discounted future cash flows, management estimates or market comparisons, is less than its carrying amount, an allowance is recorded against the asset. Real estate under development and real estate held for investment are carried at cost less depreciation and impairment, as applicable. Buildings and improvements included in real estate held for investment are depreciated using the straight-line method over estimated useful lives, generally up to 39 years. Tenant improvements included in real estate held for investment are amortized using the straight-line method over the shorter of their estimated useful lives or terms of the respective leases. Land improvements included in real estate held for investment are depreciated over their estimated useful lives, up to 15 years.

Real estate under development and real estate held for investment are evaluated for impairment and losses are recorded when undiscounted cash flows estimated to be generated by an asset are less than the asset's carrying amount. The amount of the impairment loss, if any, is calculated as the excess of the asset's carrying value over its fair value, which is determined using a discounted cash flow analysis, management estimates or market comparisons.

A summary of our real estate assets is as follows (dollars in thousands):

	December 31,	
	2020	2019
Real estate under development, current (included in other current assets)	\$ 55,072	\$ 14,757
Real estate and other assets held for sale (included in other current assets)	3,710	5,066
Real estate under development	277,630	185,508
Real estate held for investment (included in other assets, net)	3,795	8,101
Total real estate	<u>\$ 340,207</u>	<u>\$ 213,432</u>

Cost Capitalization and Allocation

When acquiring, developing and constructing real estate assets, we capitalize recoverable costs. Capitalization begins when the activities related to development have begun and ceases when activities are substantially complete and the asset is available for occupancy. Recoverable costs capitalized include pursuit costs, or pre-acquisition/pre-construction costs, taxes and insurance, interest, development and construction costs and costs of incidental operations. We do not capitalize any internal costs when acquiring, developing and constructing real estate assets. We expense transaction costs for acquisitions that qualify as a business in accordance with the "Business Combinations" Topic of the FASB ASC (Topic 805). Pursuit costs capitalized in connection with a potential development project that we have determined not to pursue are written off in the period that determination is made.

At times, we purchase bulk land that we intend to sell or develop in phases. The land basis allocated to each phase is based on the relative estimated fair value of the phases before construction. We allocate construction costs incurred relating to more than one phase between the various phases; if the costs cannot be specifically attributed to a certain phase or the improvements benefit more than one phase, we allocate the costs between the phases based on their relative estimated sales values, where practicable, or other value methods as appropriate under the circumstances. Relative allocations of the costs are revised as the sales value estimates are revised.

When acquiring real estate with existing buildings, we allocate the purchase price between land, land improvements, building and intangibles related to in-place leases, if any, based on their relative fair values. The fair values of acquired land and buildings are determined based on an estimated discounted future cash flow model with lease-up assumptions as if the building was vacant upon acquisition. The fair value of in-place leases includes the value of lease intangibles for above or below-market rents and tenant origination costs, determined on a lease by lease basis. The capitalized values for both lease intangibles and tenant origination costs are amortized over the term of the underlying leases. Amortization related to lease intangibles is recorded as either an increase to or a reduction of rental income and amortization for tenant origination costs is recorded to amortization expense.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Disposition of Real Estate

We account for gains and losses on the sale of real estate and other nonfinancial assets or in substance nonfinancial assets to noncustomers that are not a output of our ordinary activities and are not a business in accordance with Topic 610-20, “*Other Income – Gains and Losses from the Derecognition of Nonfinancial Assets*.” Where we do not have a controlling financial interest in the entity that holds the transferred assets after the transaction, we derecognize the assets or in substance nonfinancial assets and recognize a gain or loss when control of the underlying assets transfer to the counterparty.

We may also dispose of real estate through the transfer of a long-term leasehold representing a major part of the remaining economic life of the property. We account for these transfers as sales-type leases in accordance with the “*Leases*” Topic of the FASB ASC (Topic 842) by derecognizing the carrying amount of the underlying asset, recognizing any net investment in the lease and recognizing selling profit or loss in net income.

Goodwill and Other Intangible Assets

Our acquisitions require the application of purchase accounting, which results in tangible and identifiable intangible assets and liabilities of the acquired entity being recorded at fair value. The difference between the purchase price and the fair value of net assets acquired is recorded as goodwill. The majority of our goodwill balance has resulted from our acquisition of CBRE Services, Inc. (CBRE Services) in 2001 (the 2001 Acquisition), our acquisition of Insignia Financial Group, Inc. (Insignia) in 2003 (the Insignia Acquisition), our acquisition of the Trammell Crow Company in 2006 (the Trammell Crow Company Acquisition), our acquisition of substantially all of the ING Group N.V. (ING) Real Estate Investment Management (REIM) operations in Europe and Asia, as well as substantially all of Clarion Real Estate Securities (CRES) in 2011 (collectively referred to as the REIM Acquisitions), our acquisition of Norland Managed Services Ltd (Norland) in 2013 (the Norland Acquisition), our acquisition of Johnson Controls, Inc. (JCI)’s Global Workplace Solutions (JCI-GWS) business in 2015, our acquisition of FacilitySource Holdings, LLC (FacilitySource) in 2018 and our acquisition of Telford Homes Plc (Telford) on October 1, 2019. Other intangible assets that have indefinite estimated useful lives that are not being amortized include certain management contracts identified in the REIM Acquisitions, a trademark, which was separately identified as a result of the 2001 Acquisition, as well as a trade name separately identified as a result of the REIM Acquisitions. The remaining other intangible assets primarily include customer relationships, mortgage servicing rights and trade names/trademarks, which are all being amortized over estimated useful lives ranging up to 20 years.

We are required to test goodwill and other intangible assets deemed to have indefinite useful lives for impairment at least annually, or more often if circumstances or events indicate a change in the impairment status, in accordance with FASB ASC Topic 350, “*Intangibles – Goodwill and Other*.” ASC paragraphs 350-20-35-3 through 35-3B permit, but do not require an entity to perform a qualitative assessment with respect to any of its reporting units to determine whether a quantitative impairment test is needed. Entities are permitted to assess based on qualitative factors whether it is more likely than not that a reporting unit’s fair value is less than its carrying amount before applying the quantitative goodwill impairment test. If it is more likely than not that the fair value of a reporting unit is less than its carrying amount, the entity conducts the quantitative goodwill impairment test. If not, the entity does not need to apply the quantitative test. The qualitative test is elective and an entity can go directly to the quantitative test rather than making a more-likely-than-not assessment based on an evaluation of qualitative factors. When performing a quantitative test, we use a discounted cash flow approach to estimate the fair value of our reporting units. Management’s judgment is required in developing the assumptions for the discounted cash flow model. These assumptions include revenue growth rates, profit margin percentages, discount rates, etc.

Leases

We are the lessee in contracts for our office space tenancies, for leased vehicles and for our indirect wholly-owned subsidiary CBRE Hana, LLC (Hana). We monitor our service arrangements to evaluate whether they meet the definition of a lease.

Effective January 1, 2019, we adopted the guidance in *Leases (Topic 842)* using the optional transitional method associated with no adjustment to comparative financial statements presented for prior periods. We elected certain practical expedients, including the package of transition practical expedients and the practical expedient to forego separating lease and

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

non-lease components in our lease contracts. As a result of the adoption of Topic 842, the consolidated balance sheet as of January 1, 2019 included \$1.2 billion of additional lease liabilities, along with corresponding right-of-use assets of \$1.0 billion, reflecting adjustments for items such as prepaid and deferred rent, unamortized initial direct costs, and unamortized lease incentive balances. The adoption of the leasing guidance did not have a material impact on our consolidated statement of operations.

The present value of lease payments, which are either fixed payments, in-substance fixed payments, or variable payments tied to an index or rate are recognized on the consolidated balance sheet with corresponding lease liabilities and right-of-use assets upon the commencement of the lease. These lease costs are expensed over the respective lease term in accordance with the classification of the lease (i.e., operating versus finance classification). Variable lease payments not tied to an index or rate are expensed as incurred and are not subject to capitalization.

The base terms for our lease arrangements typically do not extend beyond 10 years. We commonly have renewal options in our leases, but most of these options do not create a significant economic incentive for us to extend the lease term. Therefore, payments during periods covered by these renewal options are typically not included in our lease liabilities and right-of-use assets. Specific to our vehicle leases, early termination options are common and economic penalties associated with early termination of these contracts are typically significant enough to make it reasonably certain that we will not exercise such options. Therefore, payments during periods covered by these early termination options in vehicle leases are typically included in our lease liabilities and right-of-use assets. As an accounting policy election, our short-term leases with an initial term of 12 months or less are not recognized as lease liabilities and right-of-use assets in the consolidated balance sheets. The rent expense associated with short term leases is recognized on a straight-line basis over the lease term and was not significant.

Most of our office space leases include variable payments based on our share of actual common area maintenance and operating costs of the leased property. Many of our vehicle leases include variable payments based on actual service and fuel costs. For both office space and vehicle leases, we have elected the practical expedient to not separate lease components from non-lease components. Therefore, these costs are classified as variable lease payments.

Lease payments are typically discounted at our incremental borrowing rate because the interest rate implicit in the lease cannot be readily determined in the absence of key inputs which are typically not reported by our lessors. Because we do not generally borrow on a collateralized basis, judgement was used to estimate the secured borrowing rate associated with our leases based on relevant market data and our inputs applied to accepted valuation methodologies. The incremental borrowing rate calculated for each lease also reflects the lease term, currency, and geography specific to each lease.

Deferred Financing Costs

Costs incurred in connection with financing activities are generally deferred and amortized over the terms of the related debt agreements ranging up to ten years. Debt issuance costs related to a recognized debt liability are presented in the accompanying consolidated balance sheets as a direct deduction from the carrying amount of that debt liability. Amortization of these costs is charged to interest expense in the accompanying consolidated statements of operations. Accounting Standards Update (ASU) 2015-15, “*Interest—Imputation of Interest (Subtopic 835-30): Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements*” permits classifying debt issuance costs associated with a line of credit arrangement as an asset, regardless of whether there are any outstanding borrowings on the arrangement. Total deferred financing costs, net of accumulated amortization, related to our revolving line of credit have been included in other assets in the accompanying consolidated balance sheets and were \$13.0 million and \$17.0 million as of December 31, 2020 and 2019, respectively.

During 2020, we redeemed in full our \$425.0 million aggregate outstanding principal amount of 5.25% senior notes. In connection with this early redemption, we incurred costs, including a \$73.6 million premium paid and the write-off of \$2.0 million of unamortized premium and debt issuance costs, both of which were included in write-off of financing costs on extinguished debt in the accompanying consolidated statements of operations.

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During 2019, we entered into an additional incremental assumption agreement with respect to our credit agreement which: (i) extended the maturity of the U.S. dollar tranche A term loans, (ii) extended the termination date of the revolving credit commitments available and (iii) made certain changes to the interest rates and fees applicable to such tranche A term loans and revolving credit commitments. During the year ended December 31, 2019, we incurred approximately \$5.8 million of financing costs, of which \$2.6 million were included in write-off of financing costs on extinguished debt in the accompanying consolidated statements of operations.

During 2018, we redeemed in full our \$800.0 million aggregate outstanding principal amount of 5.00% senior notes. In connection with this early redemption, we incurred costs, including a \$20.0 million premium paid and the write-off of \$8.0 million of unamortized deferred financing costs, both of which were included in write-off of financing costs on extinguished debt in the accompanying consolidated statements of operations. Additionally, as referenced above during 2019, we entered into an incremental term loan assumption agreement with respect to our credit agreement in connection with which we incurred approximately \$1.6 million of financing costs.

See Note 11 for additional information on activities associated with our debt.

Revenue Recognition

We account for revenue with customers in accordance with FASB ASC Topic, “*Revenue from Contracts with Customers*” (Topic 606). Topic 606 also includes Subtopic 340-40, “*Other Assets and Deferred Costs – Contracts with Customers*,” which requires deferral of incremental costs to obtain and fulfill a contract with a customer. We adopted the new revenue recognition guidance on January 1, 2018, using the full retrospective method. Revenue is recognized when or as control of the promised services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those services.

The following is a description of principal activities – separated by reportable segments – from which we generate revenue. For more detailed information about our reportable segments, see Notes 18 and 19.

Advisory Services

Our Advisory Services segment provides a comprehensive range of services globally, including property leasing, property sales, mortgage services, property management, project management services and valuation services.

Property Leasing and Property Sales

We provide strategic advice and execution for owners, investors, and occupiers of real estate in connection with the leasing of office, industrial and retail space. We also offer clients fully integrated property sales services under the CBRE Capital Markets brand. We are compensated for our services in the form of a commission and, in some instances may earn various forms of variable incentive consideration. Our commission is paid upon the occurrence of certain contractual event(s) which may be contingent. For example, a portion of our leasing commission may be paid upon signing of the lease by the tenant, with the remaining paid upon occurrence of another future contingent event (e.g. payment of first month’s rent or tenant move-in). For leases, we typically satisfy our performance obligation at a point in time when control is transferred; generally, at the time of the first contractual event where there is a present right to payment. We look to history, experience with a customer, and deal specific considerations as part of the most likely outcome estimation approach to support our judgement that the second contingency (if applicable) will be met. Therefore, we typically accelerate the recognition of the revenue associated with the second contingent event. For sales, our commission is typically paid at the closing of the sale, which represents transfer of control for services to the customer.

In addition to our commission, we may recognize other forms of variable consideration which can include, but are not limited to, commissions subject to concession or claw back and volume based discounts or rebates. We assess variable consideration on a contract by contract basis, and when appropriate, recognize revenue based on our assessment of the outcome (using the most likely outcome approach or weighted probability) and historical results, if comparable and representative. We recognize variable consideration if it is deemed probable that there will not be significant reversal in the future.

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Mortgage Originations and Loan Sales

We offer clients commercial mortgage and structured financing services. Fees from services within our mortgage brokerage business that are in the scope of Topic 606 include fees earned for the brokering of commercial mortgage loans primarily through relationships established with investment banking firms, national and regional banks, credit companies, insurance companies and pension funds. We are compensated for our brokerage services via a fee paid upon successful placement of a commercial mortgage borrower with a lender who will provide financing. The fee earned is contingent upon the funding of the loan, which represents the transfer of control for services to the customer. Therefore, we typically satisfy our performance obligation at the point in time of the funding of the loan.

We also earn fees from the origination and sale of commercial mortgage loans for which the company retains the servicing rights. These fees are governed by the “*Fair Value Measurements and Disclosures*” topic (Topic 820) and “*Transfers and Servicing*” topic (Topic 860) of the FASB ASC. Upon origination of a mortgage loan held for sale, the fair value of the mortgage servicing rights (MSR) to be retained is included in the forecasted proceeds from the anticipated loan sale and results in a net gain (which is reflected in revenue). Upon sale, we record a servicing asset or liability based on the fair value of the retained MSR associated with the transferred loan. Subsequent to the initial recording, MSRs are amortized and carried at the lower of amortized cost or fair value in other intangible assets in the accompanying consolidated balance sheets. They are amortized in proportion to and over the estimated period that the servicing income is expected to be received.

Property Management and Project Management Services

We provide property management services on a contractual basis for owners of and investors in office, industrial and retail properties. These services include construction management, marketing, building engineering, accounting and financial services. We are compensated for our services through a monthly management fee earned based on either a specified percentage of the monthly rental income, rental receipts generated from the property under management or a fixed fee. We are also often reimbursed for our administrative and payroll costs directly attributable to the properties under management. Property management services represent a series of distinct daily services rendered over time. Consistent with the transfer of control for distinct, daily services to the customer, revenue is recognized at the end of each period for the fees associated with the services performed. The amount of revenue recognized is presented gross for any services provided by our employees, as we control them. We generally do not control third-party services delivered to property management clients. As such, we generally report revenues net of third-party reimbursements.

Project management services are often provided on a portfolio wide or programmatic basis. Revenues from project management services generally include fixed management fees, variable fees, and incentive fees if certain agreed-upon performance targets are met. Revenues from project management may also include reimbursement of payroll and related costs for personnel providing the services and subcontracted vendor costs. Project management services represent a series of distinct daily services rendered over time. Consistent with the transfer of control for distinct, daily services to the customer, revenue is typically recognized at the end of each period for the fees associated with the services performed.

The amount of revenue recognized is presented gross for any services provided by our employees, as we control them. This is evidenced by our obligation for their performance and our ability to direct and redirect their work, as well as negotiate the value of such services. The amount of revenue recognized related to certain project management arrangements is presented gross (with offsetting expense recorded in cost of revenue) for reimbursements of costs of third-party services because we control those services that are delivered to the client. In the instances where we do not control third-party services delivered to the client, we report revenues net of the third-party reimbursements.

In addition to our management fee, we receive various types of variable consideration which can include, but is not limited to; key performance indicator bonuses or penalties which may be linked to subcontractor performance, gross maximum price, glidepaths, savings guarantees, shared savings, or fixed fee structures. We assess variable consideration on a contract by contract basis, and when appropriate, recognize revenue based on our assessment of the outcome (using the most likely outcome approach or weighted probability) and historical results, if comparable and representative. Using management assessment, historical results and statistics, we recognize revenue if it is deemed probable there will not be significant reversal in the future.

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Valuation Services

We provide valuation services that include market-value appraisals, litigation support, discounted cash flow analyses, feasibility studies as well as consulting services such as property condition reports, hotel advisory and environmental consulting. We are compensated for valuation services in the form of a fee, which is payable on the occurrence of certain events (e.g., a portion on the delivery of a draft report with the remaining on the delivery of the final report). For consulting services, we may be paid based on the occurrence of time or event-based milestones (such as the delivery of draft reports). We typically satisfy our performance obligation for valuation services as services are rendered over time.

Global Workplace Solutions

Our Global Workplace Solutions segment provides a broad suite of integrated, contractually-based outsourcing services globally for occupiers of real estate, including facilities management, project management and transaction services (leasing and sales).

Facilities Management and Project Management Services

Facilities management involves the day-to-day management of client-occupied space and includes headquarter buildings, regional offices, administrative offices, data centers and other critical facilities, manufacturing and laboratory facilities, distribution facilities and retail space. Contracts for facilities management services are often structured so we are reimbursed for client-dedicated personnel costs and subcontracted vendor costs as well as associated overhead expenses plus a monthly fee, and, in some cases, annual incentives tied to agreed-upon performance targets, with any penalties typically capped. In addition, we have contracts for facilities management services based on fixed fees or guaranteed maximum prices. Fixed fee contracts are typically structured where an agreed upon scope of work is delivered for a fixed price while guaranteed maximum price contracts are structured with an agreed upon scope of work that will be provided to the client for a not to exceed price. Facilities management services represent a series of distinct daily services rendered over time. Consistent with the transfer of control for distinct, daily services to the customer, revenue is typically recognized at the end of each period for the fees associated with the services performed.

Project management services are often provided on a portfolio wide or programmatic basis. Revenues from project management services generally include fixed management fees, variable fees, and incentive fees if certain agreed-upon performance targets are met. Revenues from project management may also include reimbursement of payroll and related costs for personnel providing the services and subcontracted vendor costs. Project management services represent a series of distinct daily services rendered over time. Consistent with the transfer of control for distinct, daily services to the customer, revenue is typically recognized at the end of each period for the fees associated with the services performed.

The amount of revenue recognized is presented gross for any services provided by our employees, as we control them. This is evidenced by our obligation for their performance and our ability to direct and redirect their work, as well as negotiate the value of such services. The amount of revenue recognized related to the majority of facilities management contracts and certain project management arrangements is presented gross (with offsetting expense recorded in cost of revenue) for reimbursements of costs of third-party services because we control those services that are delivered to the client. In the instances when we do not control third-party services delivered to the client, we report revenues net of the third-party reimbursements.

In addition to our management fee, we receive various types of variable consideration which can include, but is not limited to; key performance indicator bonuses or penalties which may be linked to subcontractor performance, gross maximum price, glidepaths, savings guarantees, shared savings, or fixed fee structures. We assess variable consideration on a contract by contract basis, and when appropriate, recognize revenue based on our assessment of the outcome (using the most likely outcome approach or weighted probability) and historical results, if comparable and representative. Using management assessment and historical results and statistics, we recognize revenue if it is deemed probable there will not be significant reversal in the future.

CBRE GROUP, INC.
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Transaction Services

We provide strategic advice and execution for occupiers of real estate in connection with the leasing, sale or acquisition of office, industrial and retail space. Within the Global Workplace Solutions business, transaction services are performed for account-based clients, often as a key part of an integrated suite of commercial real estate services (with leasing being the most meaningful revenue stream included in our Global Workplace Solutions revenue). Similar to the transaction services (leasing sale or acquisition of space) we perform in our Advisory Services segment, we are compensated for our services in the form of a commission whereby a portion of our leasing commission may be paid upon signing of the lease by the client, with the remaining paid upon occurrence of another future contingent event. We typically satisfy our performance obligation at a point in time when control is transferred; generally, at the time of the first contractual event where there is a present right to payment. We look to history, experience with a customer, and deal specific considerations as part of the most likely outcome estimation approach to support our judgement that the second contingency (if applicable) will be met. Therefore, we typically accelerate the recognition of the revenue associated with the second contingent event.

Real Estate Investments

Our Real Estate Investments segment is comprised of investment management services provided globally; development services in the U.S. and United Kingdom (U.K.) and a service designed to help property occupiers and owners meet the growing demand for flexible office space solutions on a global basis.

Investment Management Services

Our investment management services are provided to pension funds, insurance companies, sovereign wealth funds, foundations, endowments and other institutional investors seeking to generate returns and diversification through investment in real assets. We sponsor investment programs that span the risk/return spectrum in: North America, Europe, Asia and Australia. We are typically compensated in the form of a base management fee, disposition fees, acquisition fees and incentive fees in the form of performance fees or carried interest based on fund type (open or closed ended, respectively). For the base management fee, we typically satisfy the performance obligation as service is rendered over time pursuant to the series guidance. Consistent with the transfer of control for distinct, daily services to the customer, revenue is recognized at the end of each period for the fees associated with the services performed. For acquisition and disposition services, we typically satisfy the performance obligation at a point in time (at acquisition or upon disposition). For contracts with contingent fees, including performance fees, incentive fees and carried interest, we assess variable consideration on a contract by contract basis, and when appropriate, recognize revenue based on our assessment of the outcome (using the most likely outcome approach or weighted probability) and historical results, if comparable and representative. Revenue associated with performance fees and carried interest are typically constrained due to volatility in the real estate market, a broad range of possible outcomes, and other factors in the market that are outside of our control.

Development Services

Our development services consist of real estate development and investment activities in the U.S. to users of and investors in commercial real estate, as well as for our own account. In addition, with our recent acquisition of Telford Homes, we also develop residential-led, mixed-use sites in locations across London.

We pursue opportunistic, risk-mitigated development and investment in commercial real estate across a wide spectrum of property types, including: industrial, office and retail properties; healthcare facilities of all types (medical office buildings, hospitals and ambulatory surgery centers); and residential/mixed-use projects. We pursue development and investment activity on behalf of our clients on a fee basis with no, or limited, ownership interest in a property, in partnership with our clients through co-investment – either on an individual project basis or through programs with certain strategic capital partners or for our own account with 100% ownership. Development services represent a series of distinct daily services rendered over time. Consistent with the transfer of control for distinct, daily services to the customer, revenue is recognized at the end of each period for the fees associated with the services performed. Fees are typically payable monthly over the service term or upon contractual defined events, like project milestones. In addition to development fee revenue, we receive various types of variable

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

consideration which can include, but is not limited to, contingent lease-up bonuses, cost saving incentives, profit sharing on sales and at-risk fees. We assess variable consideration on a contract by contract basis, and when appropriate, recognize revenue based on our assessment of the outcome (using the most likely outcome approach or weighted probability) and historical results, if comparable and representative. We accelerate revenue if it is deemed probable there will not be significant reversal in the future. Sales of real estate to customers which are considered an output of ordinary activities are recognized as revenue when or as control of the assets are transferred to the customer.

Flexible-Space Solutions

Flexible-space solutions operations are conducted through our indirect wholly-owned subsidiary, Hana. Hana develops and operates integrated, scalable, flexible workspaces, which contain office suites, conference rooms and event space and communal co-working space. Hana helps institutional property owners meet the rapidly growing demand from real estate occupiers for flexible office space solutions. Member services represent a series of distinct daily services rendered over time. Revenue is recognized at the end of each period for the fees associated with the services performed.

Accounts Receivable and Allowance for Doubtful Accounts

We record accounts receivable for our unconditional rights to consideration arising from our performance under contracts with customers. The carrying value of such receivables, net of the allowance for doubtful accounts, represents their estimated net realizable value. We estimate our allowance for doubtful accounts for specific accounts receivable balances based on historical collection trends, the age of outstanding accounts receivables and existing economic conditions associated with the receivables. Past-due accounts receivable balances are written off when our internal collection efforts have been unsuccessful. As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component when we expect, at contract inception, that the period between our transfer of a promised service to a customer and when the customer pays for that service will be one year or less. We do not typically include extended payment terms in our contracts with customers.

Remaining Performance Obligations

Remaining performance obligations represent the aggregate transaction prices for contracts where our performance obligations have not yet been satisfied. As of December 31, 2020, the aggregate amount of transaction price allocated to remaining performance obligations in our property leasing business was not significant. We apply the practical expedient related to remaining performance obligations that are part of a contract that has an original expected duration of one year or less and the practical expedient related to variable consideration from remaining performance obligations pursuant to the series guidance. All of our remaining performance obligations apply to one of these practical expedients.

Contract Assets and Contract Liabilities

Contract assets represent assets for revenue that has been recognized in advance of billing the customer and for which the right to bill is contingent upon something other than the passage of time. This is common for contingent portions of commissions in brokerage, development and construction revenue in development services and incentive fees present in various businesses. Billing requirements vary by contract but are generally structured around fixed monthly fees, reimbursement of employee and other third-party costs, and the achievement or completion of certain contingent events.

When we receive consideration, or such consideration is unconditionally due, from a customer prior to transferring services to the customer under the terms of the services contract, we record deferred revenue, which represents a contract liability. We recognize the contract liability as revenue once we have transferred control of service to the customer and all revenue recognition criteria are met.

Contract assets and contract liabilities are determined for each contract on a net basis. For contract assets, we classify the short-term portion as a separate line item within current assets and the long-term portion within other assets, long-term in the accompanying consolidated balance sheets. For contract liabilities, we classify the short-term portion as a separate line item within current liabilities and the long-term portion within other liabilities, long-term in the accompanying consolidated balance sheets.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Contract Costs

Contract costs primarily consist of upfront costs incurred to obtain or to fulfill a contract. These costs are typically found within our Global Workplace Solutions segment. Such costs relate to transition costs to fulfill contracts prior to services being rendered and are included within other intangible assets in the accompanying consolidated balance sheets. Capitalized transition costs are amortized based on the transfer of services to which the assets relate which can vary on a contract by contract basis, and are included in cost of revenue in the accompanying consolidated statement of operations. For contract costs that are recognized as assets, we periodically review for impairment.

Applying the contract cost practical expedient, we recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less.

Business Promotion and Advertising Costs

The costs of business promotion and advertising are expensed as incurred. Business promotion and advertising costs of \$57.2 million, \$76.1 million and \$74.8 million were included in operating, administrative and other expenses for the years ended December 31, 2020, 2019 and 2018, respectively.

Foreign Currencies

The financial statements of subsidiaries located outside the U.S. are generally measured using the local currency as the functional currency. The assets and liabilities of these subsidiaries are translated at the rates of exchange at the balance sheet date, and income and expenses are translated at the average monthly rate. The resulting translation adjustments are included in the accumulated other comprehensive loss component of equity. Gains and losses resulting from foreign currency transactions are included in the results of operations.

Comprehensive Income

Comprehensive income consists of net income and other comprehensive (loss) income. In the accompanying consolidated balance sheets, accumulated other comprehensive loss primarily consists of foreign currency translation adjustments, fees associated with the termination of interest rate swaps, unrealized gains (losses) on interest rate swaps, unrealized holding (losses) gains on available for sale debt securities and pension liability adjustments. Foreign currency translation adjustments exclude any income tax effect given that earnings of non-U.S. subsidiaries are deemed to be reinvested for an indefinite period of time (see Note 15).

Warehouse Receivables

Our wholly-owned subsidiary CBRE Capital Markets, Inc. (CBRE Capital Markets) is a Federal Home Loan Mortgage Corporation (Freddie Mac) approved Multifamily Program Plus Seller/Servicer and an approved Federal National Mortgage Association (Fannie Mae) Aggregation and Negotiated Transaction Seller/Servicer. In addition, CBRE Capital Markets' wholly-owned subsidiary CBRE Multifamily Capital, Inc. (CBRE MCI) is an approved Fannie Mae Delegated Underwriting and Servicing (DUS) Seller/Servicer and CBRE Capital Markets' wholly-owned subsidiary CBRE HMF, Inc. (CBRE HMF) is a U.S. Department of Housing and Urban Development (HUD) approved Non-Supervised Federal Housing Authority (FHA) Title II Mortgagee, an approved Multifamily Accelerated Processing (MAP) lender and an approved Government National Mortgage Association (Ginnie Mae) issuer of mortgage-backed securities (MBS). Under these arrangements, before loans are originated through proceeds from warehouse lines of credit, we obtain either a contractual loan purchase commitment from either Freddie Mac or Fannie Mae or a confirmed forward trade commitment for the issuance and purchase of a Fannie Mae or Ginnie Mae MBS that will be secured by the loans. The warehouse lines of credit are generally repaid within a one-month period when Freddie Mac or Fannie Mae buys the loans or upon settlement of the Fannie Mae or Ginnie Mae MBS, while we retain the servicing rights. Loans are funded at the prevailing market rates. We elect the fair value option for all warehouse receivables. At December 31, 2020 and 2019, all of the warehouse receivables included in the accompanying consolidated balance sheets were either under commitment to be purchased by Freddie Mac or had confirmed forward trade commitments for the issuance and purchase of Fannie Mae or Ginnie Mae mortgage-backed securities that will be secured by the underlying loans.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Mortgage Servicing Rights (MSRs)

In connection with the origination and sale of mortgage loans with servicing rights retained, we record servicing assets or liabilities based on the fair value of the mortgage servicing rights on the date the loans are sold. Our MSRs are initially recorded at fair value. Subsequent to the initial recording, MSRs are amortized and carried at the lower of amortized cost or fair value in other intangible assets in the accompanying consolidated balance sheets. They are amortized in proportion to and over the estimated period that net servicing income is expected to be received based on projections and timing of estimated future net cash flows.

Our initial recording of MSRs at their fair value resulted in net gains, as the fair value of servicing contracts that result in MSR assets exceeded the fair value of servicing contracts that result in MSR liabilities. The net assets and net gains are presented in the accompanying consolidated financial statements. The amount of MSRs recognized during the years ended December 31, 2020 and 2019 was as follows (dollars in thousands):

	Year Ended December 31,	
	2020	2019
Beginning balance, mortgage servicing rights	\$ 483,492	\$ 424,470
Mortgage servicing rights recognized	207,827	182,443
Mortgage servicing rights sold	(122)	—
Amortization expense	(134,266)	(123,008)
Other	—	(413)
Ending balance, mortgage servicing rights	<u>\$ 556,931</u>	<u>\$ 483,492</u>

MSRs do not actively trade in an open market with readily available observable prices; therefore, fair value is determined based on certain assumptions and judgments, including the estimation of the present value of future cash flows realized from servicing the underlying mortgage loans. Management's assumptions include the benefits of servicing (servicing fee income and interest on escrow deposits), inflation, the cost of servicing, prepayment rates, delinquencies, discount rates and the estimated life of servicing cash flows. The assumptions used are subject to change based on management's judgments and estimates of changes in future cash flows and interest rates, among other things. The key assumptions used during the years ended December 31, 2020, 2019 and 2018 in measuring fair value were as follows:

	Year Ended December 31,		
	2020	2019	2018
Discount rate	11.73 %	10.12 %	10.00 %
Conditional prepayment rate	9.80 %	10.34 %	8.89 %

The estimated fair value of our MSRs was \$650.6 million and \$579.8 million as of December 31, 2020 and 2019, respectively. Impairment is evaluated through a comparison of the carrying amount and fair value of the MSRs, and recognized with the establishment of a valuation allowance. We did not incur any impairment charges related to our MSRs during the years ended December 31, 2020, 2019 or 2018. No valuation allowance was created previously and we did not record a valuation allowance for MSRs in 2020 or 2019.

Included in revenue in the accompanying consolidated statements of operations are contractually specified servicing fees from loans serviced for others of \$212.9 million, \$191.8 million and \$167.5 million for the years ended December 31, 2020, 2019 and 2018, respectively, and includes prepayment fees/late fees/ancillary income earned from loans serviced for others of \$11.0 million, \$14.9 million and \$15.9 million for the years ended December 31, 2020, 2019 and 2018, respectively.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Accounting for Broker Draws

As part of our recruitment efforts relative to new U.S. brokers, we offer a transitional broker draw arrangement. Our broker draw arrangements generally last until such time as a broker's pipeline of business is sufficient to allow him or her to earn sustainable commissions. This program is intended to provide the broker with a minimal amount of cash flow to allow adequate time for his or her training as well as time for him or her to develop business relationships. Similar to traditional salaries, the broker draws are paid irrespective of the actual revenues generated by the broker. Often these broker draws represent the only form of compensation received by the broker. Furthermore, it is not our general policy to pursue collection of unearned broker draws paid under this arrangement. As a result, we have concluded that broker draws are economically equivalent to salaries paid and accordingly charge them to compensation expense as incurred. The broker is also entitled to earn a commission on completed revenue transactions. This amount is calculated as the commission that would have been payable under our full commission program, less any amounts previously paid to the broker in the form of a draw.

Stock-Based Compensation

We account for all employee awards under the fair value recognition provisions of the “*Compensation – Stock Compensation*” Topic of the FASB ASC (Topic 718). Topic 718 requires the measurement of compensation cost at the grant date, based upon the estimated fair value of the award, and requires amortization of the related expense over the employee's requisite service period. We do not estimate forfeitures, but instead recognize forfeitures when they occur. See Note 14 for additional information on our stock-based compensation plans.

Income Per Share

Basic income per share attributable to CBRE Group, Inc. is computed by dividing net income attributable to CBRE Group, Inc. stockholders by the weighted average number of common shares outstanding during each period. The computation of diluted income per share attributable to CBRE Group, Inc. generally further assumes the dilutive effect of potential common shares, which include stock options and certain contingently issuable shares. Contingently issuable shares consist of non-vested stock awards.

Income Taxes

Income taxes are accounted for under the asset and liability method in accordance with the “*Accounting for Income Taxes*” Topic of the FASB ASC (Topic 740). Deferred tax assets and liabilities are determined based on temporary differences between the financial reporting and tax basis of assets and liabilities and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured by applying enacted tax rates and laws and are released in the years in which the temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are provided against deferred tax assets when it is more likely than not that some portion or all of the deferred tax asset will not be realized.

We utilize a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the available evidence indicates there is more than a 50% likelihood that the position will be sustained upon examination, including resolution of related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement.

The Tax Cuts and Jobs Act (the Tax Act) includes provisions for Global Intangible Low-Taxed Income (GILTI) wherein taxes on foreign earnings are imposed for more than a deemed return on tangible assets of foreign corporations. An accounting policy election allows to either: (i) account for GILTI as a component of tax expense in the period in which we are subject to the rules (the “period cost method”) or (ii) account for GILTI in our measurement of deferred taxes (the “deferred method”). During 2018, as a result of completing our analysis of the Tax Act, we made an accounting policy election to account for GILTI using the period cost method.

See Note 15 for additional information on income taxes.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Self-Insurance

Our wholly-owned captive insurance company, which is subject to applicable insurance rules and regulations, insures our exposure related to workers' compensation insurance, general liability insurance and automotive insurance for our U.S. operations risk on a primary basis and we purchase excess coverage from unrelated insurance carriers. The captive insurance company also insures primary risk relating to professional indemnity claims globally. Given the nature of these types of claims, it may take several years for resolution and determination of the cost of these claims. We are required to estimate the cost of these claims in our financial statements.

The estimates that we utilize to record our potential losses on claims are inherently subjective, and actual claims could differ from amounts recorded, which could result in increased or decreased expense in future periods. As of December 31, 2020 and 2019, our reserves for claims under these insurance programs were \$140.5 million and \$125.8 million, respectively, of which \$2.8 million and \$1.8 million, respectively, represented our estimated current liabilities.

Special Purpose Acquisition Company

CBRE Acquisition Holdings is a consolidated VIE that is included in the accompanying consolidated balance sheet under the following captions:

Investments Held in Trust - Special Purpose Acquisition Company

As part of the initial public offering of CBRE Acquisition Holdings, \$402.5 million has been deposited in an interest-bearing U.S. based trust account (Trust Account). The funds in the Trust Account will be invested only in specified U.S. government treasury bills with a maturity of 180 days or less or in money market funds meeting certain conditions under Rule 2a-7 under the Investment Company Act that invest only in direct U.S. government treasury obligations (collectively "permitted investments").

These funds do not qualify as either cash or restricted cash and will remain in the Trust Account except for the withdrawal of interest earned on the funds that may be released to CBRE Acquisition Holdings to pay taxes.

Non-controlling Interest Subject to Possible Redemption - Special Purpose Acquisition Company

The company accounts for the non-controlling interest in CBRE Acquisition Holdings as subject to possible redemption in accordance with the guidance in FASB ASC Topic 480 "*Distinguishing Liabilities from Equity*." CBRE Acquisition Holdings' common stock features certain redemption rights that are considered to be outside of the company's control and subject to occurrence of uncertain future events. Accordingly, this non-controlling interest subject to possible redemption is presented at redemption value as temporary equity, outside of the stockholders' equity section in the accompanying consolidated financial statements as of December 31, 2020.

CBRE will recognize changes in redemption value immediately as they occur – *i.e.* adjust the carrying amount of the instrument to its current redemption amount at each reporting date. For the year ended December 31, 2020, there was no material change in the redemption value of the redeemable non-controlling interest.

Presentation on our Consolidated Statements of Cash Flows

We consider both the funds raised through the sale of the non-controlling interest and the placement of such funds in the Trust Account to be financing activities on our consolidated statements of cash flows as the substance of the transaction as a whole is to raise financing for a future potential business combination, and any proceeds from the Trust Account are restricted for such purposes.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Reclassifications

Certain reclassifications have been made to the 2019 consolidated financial statements to conform with the 2020 presentation.

3. New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

The FASB previously issued five ASUs related to financial instruments—credit losses. The ASUs issued were: (1) in June 2016, ASU 2016-13, *“Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments,”* (2) in November 2018, ASU 2018-19, *“Codification Improvements to Topic 326, Financial Instruments—Credit Losses,”* (3) in April 2019, ASU 2019-04, *“Codification Improvements to Topic 326, Financial Instruments—Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments,”* (4) in May 2019, ASU 2019-05, *“Financial Instruments—Credit Losses (Topic 326): Targeted Transition Relief,”* and (5) in November 2019, ASU 2019-11, *“Codification Improvements to Topic 326, Financial Instruments—Credit Losses.”* Additionally, in February and March 2020, the FASB issued ASU 2020-02, *“Financial Instruments—Credit Losses (Topic 326)”* and *“Leases (Topic 842): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 119 and Update to SEC Section on Effective Date Related to ASU 2016-02, Leases (Topic 842)”* and ASU 2020-03, *“Codification Improvements to Financial Instruments,”* respectively, which include amendments to Topic 326.

ASU 2016-13 is intended to improve financial reporting by requiring timelier recording of credit losses on loans and other financial instruments held by financial institutions and other organizations. ASU 2018-19 clarifies that receivables arising from operating leases are not within the scope of the credit losses standard, but rather, should be accounted for in accordance with the leasing standard. ASU 2019-04 clarifies and improves areas of guidance related to the recently issued standards on financial instruments—credit losses, derivatives and hedging, and financial instruments. ASU 2019-05 provides entities that have certain instruments within the scope of Subtopic 326-20, *“Financial Instruments—Credit Losses—Measured at Amortized Cost,”* with an option to irrevocably elect the fair value option in Subtopic 825-10, *“Financial Instruments—Overall.”* ASU 2019-11 clarifies guidance around how to report expected recoveries and reinforces existing guidance that prohibits organizations from recording negative allowances for available-for-sale debt securities, among other narrow scope and technical improvements. ASU 2020-02 adds an SEC paragraph pursuant to the issuance of SEC Staff Accounting Bulletin No. 119 on loan losses to Topic 326 and also updates the SEC section of the codification for the change in the effective date of Topic 842. ASU 2020-03 makes narrow-scope improvements to various aspects of the financial instrument guidance as part of the FASB’s ongoing codification improvement project aimed at clarifying specific areas of accounting guidance to help avoid unintended application. We adopted ASU 2016-13, ASU 2018-19 (as it relates to financial instruments—credit losses), ASU 2019-05, ASU 2019-11, ASU 2020-02 and ASU 2020-03 in the first quarter of 2020 and the adoption did not have a material impact on our consolidated financial statements and related disclosures.

In November 2018, the FASB issued ASU 2018-18, *“Collaborative Arrangements (Topic 808): Clarifying the Interaction Between Topic 808 and Topic 606.”* This ASU provides guidance on how to assess whether certain transactions between collaborative arrangement participants should be accounted for within the revenue recognition standard and provides more comparability in the presentation of revenue for certain transactions between collaborative arrangement participants. This ASU is effective for fiscal years beginning after December 15, 2019, and interim periods within those years, with early adoption permitted. We adopted ASU 2018-18 in the first quarter of 2020 and the adoption did not have a material impact on our consolidated financial statements and related disclosures.

In August 2018, the FASB issued ASU 2018-14, *“Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans.”* This ASU makes minor changes to the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. This ASU is effective for fiscal years ending after December 15, 2020, with early adoption permitted. ASU 2018-14 only revises disclosure requirements. We adopted ASU 2018-14 in the fourth quarter of 2020 and the adoption did not have a material impact on our consolidated financial statements and related disclosures.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Recent Accounting Pronouncements Pending Adoption

In December 2019, the FASB issued ASU 2019-12, *“Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes.”* This ASU removes specific exceptions to the general principles in Topic 740 and improves and simplifies financial statement preparers’ application of income tax-related guidance. This ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within those years, with early adoption permitted. We are evaluating the effect that ASU 2019-12 will have on our consolidated financial statements and related disclosures, but do not expect it to have a material impact.

In January 2020, the FASB issued ASU 2020-01, *“Investments—Equity Securities (Topic 321), Investments—Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815).”* This ASU, among other things, clarifies that a company should consider observable transactions that require a company to either apply or discontinue the equity method of accounting under Topic 323 and clarifies that, when determining the accounting for certain forward contracts and purchased options a company should not consider, whether upon settlement or exercise, if the underlying securities would be accounted for under the equity method or fair value option. This ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within those years, with early adoption permitted. We are evaluating the effect that ASU 2020-01 will have on our consolidated financial statements and related disclosures, but do not expect it to have a material impact.

In March 2020, the FASB issued ASU 2020-04, *“Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting.”* This ASU provides temporary optional guidance to ease the potential burden in accounting for reference rate reform. The new guidance provides optional expedients and exceptions for applying generally accepted accounting principles to contract modifications and hedging relationships, subject to meeting certain criteria, that reference LIBOR or another reference rate expected to be discontinued. This ASU is effective for a limited time for all entities through December 31, 2022. We are evaluating the effect that ASU 2020-04 will have on our consolidated financial statements and related disclosures.

In October 2020, the FASB issued ASU 2020-08, *“Codification Improvements to Subtopic 310-20, Receivables — Nonrefundable Fees and Other Costs.”* This ASU states that an entity should reevaluate whether a callable debt security is within the scope of ASC 310-20-35-33 for each reporting period. The ASU is not expected to have a significant effect on current practice or create a large administrative cost for most entities. The amendments stated in this ASU are intended to make ASC 310-20 easier to understand and apply. This ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within those years. Early application is not permitted. We are evaluating the effect that ASU 2020-08 will have on our consolidated financial statements and related disclosures, but do not expect it to have a material impact.

In October 2020, the FASB issued ASU 2020-09, *“Debt (Topic 470): Amendments to SEC Paragraphs Pursuant to SEC Release No. 33-10762.”* This ASU aligns the SEC paragraphs in the codification with the new SEC rules issued in March 2020 relating to changes to the disclosure requirements for certain debt securities. Certain glossary terms were superseded, and amendments were made to debt and other topics as a result of this update. On March 2, 2020, the SEC issued Release No. 33-10762, which made significant changes to its disclosure requirements relating to certain debt securities. The new rules impact disclosures related to registered securities that are guaranteed and those that are collateralized by the securities of an affiliate. The final rules became effective on January 4, 2021. Voluntary compliance with the final amendments in advance of January 4, 2021 is permitted. We are evaluating the effect that ASU 2020-09 will have on our consolidated financial statements and related disclosures, but do not expect it to have a material impact.

In October 2020, the FASB issued ASU 2020-10, *“Codification Improvements.”* This ASU is intended to conform, clarify, simplify, and/or provide technical corrections to a wide variety of codification topics, including moving certain presentation and disclosure guidance to the appropriate codification section. This ASU is effective for fiscal years beginning after December 15, 2020, and interim periods within those years. Early application of the amendments is permitted for and varies based on the entity. The amendments should be applied retrospectively and at the beginning of the period that includes the adoption date. We are evaluating the effect that ASU 2020-10 will have on our consolidated financial statements and related disclosures, but do not expect it to have a material impact.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

4. Telford Acquisition

On October 1, 2019, we acquired Telford Homes Plc (Telford) to expand our real estate development business outside of the U.S. (Telford acquisition). A leading developer of multifamily residential properties in the London area, Telford is reported in our Real Estate Investments segment. Telford shareholders received £3.50 per share in cash, valuing Telford at £267.1 million, or \$328.5 million as of the acquisition date. The Telford Acquisition was funded with borrowings under our revolving credit facility.

The following represents the summary of the excess purchase price over the fair value of net assets acquired (dollars in thousands):

Purchase price	\$ 328,502
Less: Final fair value of net assets acquired (see table below)	297,669
Excess purchase price over fair value of net assets acquired	<u>\$ 30,833</u>

The excess purchase price over the fair value of net assets acquired has been recorded to goodwill. No significant changes were made during the year ended December 31, 2020 to the preliminary purchase accounting recorded during 2019. The goodwill arising from the Telford Acquisition consists largely of the synergies and economies of scale expected from combining the operations acquired from Telford with ours. The goodwill recorded in connection with the Telford Acquisition that is deductible for tax purposes was not significant. The following table summarizes the final fair values assigned to the identified assets acquired and liabilities assumed (dollars in thousands):

Assets Acquired:	
Cash and cash equivalents	\$ 7,896
Receivables	6,993
Contract assets, current	31,850
Prepaid expenses	2,704
Property and equipment	2,637
Other intangible assets	26,749
Operating lease assets	6,488
Investments in unconsolidated subsidiaries	79,667
Non-current contract assets	8,015
Real estate under development	208,402
Deferred tax assets, net	2,857
Other assets (current and non-current)	99,429
Total assets acquired	<u>483,687</u>
Liabilities Assumed:	
Accounts payable and accrued expenses	47,552
Compensation and employee benefits payable	1,580
Accrued bonus	3,274
Operating lease liabilities	941
Contract liabilities, current	1,949
Income taxes payable	1,813
Line of credit	110,687
Non-current operating lease liabilities	5,547
Other liabilities (current and non-current)	12,675
Total liabilities assumed	<u>186,018</u>
Fair Value of Net Assets Acquired	<u><u>\$ 297,669</u></u>

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In connection with the Telford Acquisition, below is a summary of the value allocated to the trademark acquired (dollars in thousands):

Asset Class	Amortization Period	Amount Assigned at Acquisition Date	December 31, 2019	
			Accumulated Amortization and Foreign Currency Translation	Net Carrying Value
Trademark	20 Years	\$ 26,749	\$ 1,725	\$ 28,474

The accompanying consolidated statement of operations for the year ended December 31, 2019 includes revenue, operating income and operational net income of \$97.5 million, \$1.0 million and \$1.4 million, respectively, attributable to the Telford Acquisition. This does not include direct transaction and integration costs of \$15.0 million and amortization expense of \$0.4 million related to the trademark acquired, all of which were incurred during the year ended December 31, 2019 in connection with the Telford Acquisition.

Unaudited pro forma results, assuming the Telford Acquisition had occurred as of January 1, 2018 for purposes of the pro forma disclosures for the years ended December 31, 2019 and 2018 are presented below. They include certain adjustments for increased amortization expense related to the trademark acquired (approximately \$1.0 million and \$1.5 million in 2019 and 2018, respectively) as well as increased interest expense (approximately \$4.1 million in 2018) associated with borrowings under our revolving credit facility used to fund the acquisition.

Pro forma adjustments also include the removal of \$15.0 million of direct costs incurred by us during the year ended December 31, 2019 as well as the tax impact of all pro forma adjustments for all periods presented. These unaudited pro forma results have been prepared for comparative purposes only and do not purport to be indicative of what operating results would have been had the Telford Acquisition occurred on January 1, 2018 and may not be indicative of future operating results (dollars in thousands, except share data):

	Year Ended December 31,	
	2019	2018
Revenue	\$ 24,158,427	\$ 21,803,506
Operating income	1,294,480	1,157,051
Net income attributable to CBRE Group, Inc.	1,321,097	1,121,469
<i>Basic income per share:</i>		
Net income per share attributable to CBRE Group, Inc.	\$ 3.93	\$ 3.31
Weighted average shares outstanding for basic income per share	335,795,654	339,321,056
<i>Diluted income per share:</i>		
Net income per share attributable to CBRE Group, Inc.	\$ 3.88	\$ 3.27
Weighted average shares outstanding for diluted income per share	340,522,871	343,122,741

5. Warehouse Receivables & Warehouse Lines of Credit

A rollforward of our warehouse receivables is as follows (dollars in thousands):

Beginning balance at December 31, 2019	\$ 993,058
Origination of mortgage loans	21,268,114
Gains (premiums on loan sales)	75,227
Proceeds from sale of mortgage loans:	
Sale of mortgage loans	(20,862,294)
Cash collections of premiums on loan sales	(75,227)
Proceeds from sale of mortgage loans	(20,937,521)
Net increase in mortgage servicing rights included in warehouse receivables	12,292
Ending balance at December 31, 2020	\$ 1,411,170

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table is a summary of our warehouse lines of credit in place as of December 31, 2020 and 2019 (dollars in thousands):

Lender	Current Maturity	Pricing	December 31, 2020		December 31, 2019	
			Maximum Facility Size	Carrying Value	Maximum Facility Size	Carrying Value
JP Morgan Chase Bank, N.A. (JP Morgan) ⁽¹⁾	10/18/2021	daily floating rate LIBOR plus 1.60%	\$ 1,585,000	\$ 561,726	\$ 985,000	\$ 267,075
JP Morgan ⁽²⁾	10/18/2021	daily floating rate LIBOR plus 2.75%	15,000	—	15,000	—
Capital One, N.A. (Capital One) ⁽³⁾			—	—	200,000	39,538
Fannie Mae Multifamily As Soon As Pooled Plus Agreement and Multifamily As Soon As Pooled Sale Agreement (ASAP) Program ⁽⁴⁾	Cancelable anytime	daily one-month LIBOR plus 1.45%, with a LIBOR floor of 0.25%	450,000	132,692	450,000	360,784
TD Bank, N.A. (TD Bank) ⁽⁵⁾	6/30/2021	2-Business Day Prior LIBOR plus 1.15%	800,000	401,849	800,000	92,266
Bank of America, N.A. (BoFA) ⁽⁶⁾	5/26/2021	⁽⁷⁾	350,000	175,862	350,000	189,465
BoFA ⁽⁸⁾			—	—	250,000	17,457
MUFG Union Bank, N.A. (Union Bank) ⁽⁹⁾	6/28/2021	daily floating rate LIBOR plus 1.50%, with a LIBOR floor of 0.25%	300,000	111,835	350,000	10,590
			<u>\$ 3,500,000</u>	<u>\$ 1,383,964</u>	<u>\$ 3,400,000</u>	<u>\$ 977,175</u>

⁽¹⁾ Effective October 19, 2020, this facility was amended and the maximum facility size was temporarily increased to \$1,585.0 million, and reverted back to \$985.0 million on January 18, 2021. The interest rate increased to daily floating rate LIBOR plus 1.60% and the revised maturity date is October 18, 2021. Effective December 1, 2020, the maximum facility was temporarily increased to \$2,085.0 million, which reverted back to \$1,585.0 million on December 31, 2020.

⁽²⁾ Effective October 19, 2020, the maturity date was extended to October 18, 2021.

⁽³⁾ This facility expired on July 27, 2020 and was not renewed.

⁽⁴⁾ Effective September 25, 2020, the spread was increased by 10 bps and the LIBOR floor was reduced to 0.25%.

⁽⁵⁾ Effective July 1, 2020, this facility was amended and provides for a maximum aggregate principal amount of \$400.0 million, in addition to an uncommitted \$400.0 million temporary line of credit, with an unchanged interest rate and revised maturity date of June 30, 2021. Effective September 21, 2020, CBRE utilized the additional \$400.0 million as a temporary increase, which expired on December 31, 2020.

⁽⁶⁾ On June 10, 2020, this facility was amended with a revised maturity date of May 26, 2021. The total commitment amount of \$350.0 million includes a separate sublimit borrowing in the amount of \$100.0 million, which can be utilized for specific purposes as defined within the agreement. As of December 31, 2020, the sublimit borrowing has not been utilized.

⁽⁷⁾ Effective July 24, 2020, the interest rate on this facility was as follows: (i) daily floating rate LIBOR plus 1.40%, with a LIBOR floor of 0.25%, on the general facility and (ii) daily floating rate LIBOR plus 1.75% on the separate sublimit borrowing.

⁽⁸⁾ This facility expired on May 27, 2020 and was not renewed.

⁽⁹⁾ On June 28, 2019, we added a new warehouse facility for \$200.0 million that contains an accordion feature which allowed for temporary increases not to exceed an additional \$150.0 million. If utilized, the additional borrowings must be in predefined multiples and are not to occur more than three times within twelve consecutive months. On June 26, 2020, the maturity was extended to July 28, 2020 and on July 28, 2020 the maturity date was extended to August 27, 2020. Effective August 4, 2020, this facility was amended with a revised interest rate of daily floating rate LIBOR plus 1.50%, with a floor of 0.25%, and a maturity date of June 28, 2021. Additionally, this amendment decreased the accordion feature from \$150.0 million to \$100.0 million, with no changes to the predefined borrowing multiples. On September 22, 2020, the temporary increase of \$100.0 million was utilized and expired on January 20, 2021.

During the year ended December 31, 2020, we had a maximum of \$3.5 billion of warehouse lines of credit principal outstanding.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

6. Variable Interest Entities

We hold variable interests in certain VIEs in our Real Estate Investments segment which are not consolidated as it was determined that we are not the primary beneficiary. Our involvement with these entities is in the form of equity co-investments and fee arrangements.

As of December 31, 2020 and 2019, our maximum exposure to loss related to the VIEs that are not consolidated was as follows (dollars in thousands):

	December 31,	
	2020	2019
Investments in unconsolidated subsidiaries	\$ 66,947	\$ 30,484
Other current assets	4,219	4,307
Co-investment commitments	47,957	29,696
Maximum exposure to loss	<u>\$ 119,123</u>	<u>\$ 64,487</u>

7. Fair Value Measurements

Topic 820 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Topic 820 also establishes a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair value are as follows:

- Level 1 – Quoted prices in active markets for identical assets or liabilities.
- Level 2 – Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.
- Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

The following tables present the fair value of assets measured at fair value on a recurring basis as of December 31, 2020 and 2019 (dollars in thousands):

	December 31, 2020			
	Fair Value Measured and Recorded Using			
	Level 1	Level 2	Level 3	Total
Assets				
Available for sale securities:				
Debt securities:				
U.S. treasury securities	\$ 7,270	\$ —	\$ —	\$ 7,270
Debt securities issued by U.S. federal agencies	—	10,216	—	10,216
Corporate debt securities	—	51,244	—	51,244
Asset-backed securities	—	3,801	—	3,801
Collateralized mortgage obligations	—	1,369	—	1,369
Total available for sale debt securities	7,270	66,630	—	73,900
Equity securities	43,334	—	—	43,334
Investments in unconsolidated subsidiaries	—	—	50,000	50,000
Warehouse receivables	—	1,411,170	—	1,411,170
Total assets at fair value	\$ 50,604	\$ 1,477,800	\$ 50,000	\$ 1,578,404

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

	December 31, 2019			
	Fair Value Measured and Recorded Using			
	Level 1	Level 2	Level 3	Total
Assets				
Available for sale securities:				
Debt securities:				
U.S. treasury securities	\$ 6,998	\$ —	\$ —	\$ 6,998
Debt securities issued by U.S. federal agencies	—	10,639	—	10,639
Corporate debt securities	—	29,098	—	29,098
Asset-backed securities	—	5,152	—	5,152
Collateralized mortgage obligations	—	2,222	—	2,222
Total available for sale debt securities	6,998	47,111	—	54,109
Equity securities	51,399	—	—	51,399
Warehouse receivables	—	993,058	—	993,058
Total assets at fair value	\$ 58,397	\$ 1,040,169	\$ —	\$ 1,098,566

Fair value measurements for our available for sale debt securities are obtained from independent pricing services which utilize observable market data that may include quoted market prices, dealer quotes, market spreads, cash flows, the U.S. treasury yield curve, trading levels, market consensus prepayment speeds, credit information and the instrument's terms and conditions.

The equity securities are generally valued at the last reported sales price on the day of valuation or, if no sales occurred on the valuation date, at the mean of the bid and ask prices on such date.

We classify one investment as level 3 in the fair value hierarchy which represents an investment in a non-public entity where we elected the fair value option. The carrying value is deemed to approximate the fair value of this investment due to the proximity of the investment date to the balance sheet date as well as investee-level performance updates. As of December 31, 2020 and 2019, investments in unconsolidated subsidiaries at fair value using NAV were \$66.3 million and \$124.3 million, respectively. These investments fall under practical expedient rules that do not require them to be included in the fair value hierarchy and as a result have been excluded from the tables above.

The fair values of the warehouse receivables are primarily calculated based on already locked in purchase prices. At December 31, 2020 and 2019, all of the warehouse receivables included in the accompanying consolidated balance sheets were either under commitment to be purchased by Freddie Mac or had confirmed forward trade commitments for the issuance and purchase of Fannie Mae or Ginnie Mae mortgage backed securities that will be secured by the underlying loans (See Notes 2 and 5). These assets are classified as Level 2 in the fair value hierarchy as a substantial majority of inputs are readily observable.

The following non-recurring fair value measurements were recorded for the year ended December 31, 2020 (dollars in thousands):

	Net Carrying Value as of December 31, 2020	Fair Value Measured and Recorded Using			Total Impairment Charges for the Year Ended December 31, 2020
		Level 1	Level 2	Level 3	
Property and equipment	\$ 12,870	\$ —	\$ 12,870	\$ —	\$ 29,168
Goodwill	443,305	—	—	443,305	25,000
Other intangible assets	12,562	—	—	12,562	34,508
Total	\$ 468,737	\$ —	\$ 12,870	\$ 455,867	\$ 88,676

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

During the year ended December 31, 2020, we recorded \$50.2 million of non-cash asset impairment charges in our Global Workplace Solutions segment; a non-cash goodwill impairment charge of \$25.0 million and certain non-cash asset impairment charges of \$13.5 million in our Real Estate Investments segment. Primarily as a result of the recent global economic disruption and uncertainty due to Covid-19, we deemed there to be triggering events during 2020 that required testing of goodwill and certain assets for impairment. Based on these events, we recorded the aforementioned non-cash impairment charges, which were primarily driven by lower anticipated cash flows in certain businesses directly resulting from a downturn in forecasts as well as increased forecast risk due to Covid-19 and changes in our business going forward.

The following non-recurring fair value measurements were recorded for the year ended December 31, 2019 (dollars in thousands):

	Net Carrying Value as of December 31, 2019	Fair Value Measured and Recorded Using			Total Impairment Charges for the Year Ended December 31, 2019
		Level 1	Level 2	Level 3	
Other intangible assets	\$ 14,753	\$ —	\$ —	\$ 14,753	\$ 89,787

During the year ended December 31, 2019, we recorded an intangible asset impairment of \$89.8 million in our Real Estate Investments segment. This non-cash write-off resulted from a review of the anticipated cash flows and the decrease in assets under management in our public securities business driven in part by continued industry-wide shift in investor preference for passive investment programs.

All of the above-mentioned asset impairment charges were included within the line item “Asset impairments” in the accompanying consolidated statements of operations. The fair value measurements employed for our impairment evaluations were based on a discounted cash flow approach. Inputs used in these evaluations included risk-free rates of return, estimated risk premiums, terminal growth rates, working capital assumptions, income tax rates as well as other economic variables.

During the year ended December 31, 2018, we recorded a gain of \$100.4 million associated with remeasuring our 50% investment in a previously unconsolidated subsidiary in New England to fair value as of the date we acquired the remaining 50% controlling interest. Fair value of this investment in our unconsolidated subsidiary as of the acquisition date was \$110.1 million based upon the purchase price paid for the remaining 50% interest acquired, excluding the estimated control premium paid, which falls under Level 3 of the fair value hierarchy. Such gain was reflected in other income in our Advisory Services segment in the accompanying consolidated statements of operations for the year ended December 31, 2018.

FASB ASC Topic 825, “Financial Instruments,” requires disclosure of fair value information about financial instruments, whether or not recognized in the accompanying consolidated balance sheets. Our financial instruments are as follows:

- *Cash and Cash Equivalents and Restricted Cash* – These balances include cash and cash equivalents as well as restricted cash with maturities of less than three months. The carrying amount approximates fair value due to the short-term maturities of these instruments.
- *Receivables, less Allowance for Doubtful Accounts* – Due to their short-term nature, fair value approximates carrying value.
- *Warehouse Receivables* – These balances are carried at fair value. The primary source of value is either a contractual purchase commitment from Freddie Mac or a confirmed forward trade commitment for the issuance and purchase of a Fannie Mae or Ginnie Mae MBS (see Notes 2 and 5).
- *Investments in Unconsolidated Subsidiaries* – A portion of these investments are carried at fair value. At December 31, 2020, we did not classify any investments in unconsolidated subsidiaries as Level 1 in the fair value hierarchy. For investments in unconsolidated subsidiaries that are carried at fair value, we estimate the fair value of each investment using the NAV per share (or its equivalent).

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- *Available for Sale Debt Securities* – These investments are carried at their fair value.
- *Equity Securities* – These investments are carried at their fair value.
- *Investments Held in Trust - special purpose acquisition company* – Funds received as part of the initial public offering of CBRE Acquisition Holdings have been deposited in an interest-bearing U.S. based trust account. The funds will be invested only in specified U.S. government treasury bills with a maturity of 180 days or less or in money market funds. The carrying amount approximates fair value due to the short-term maturities of these instruments. (See Note 2).
- *Short-Term Borrowings* – The majority of this balance represents outstanding amounts under our warehouse lines of credit of our wholly-owned subsidiary, CBRE Capital Markets and our revolving credit facility. Due to the short-term nature and variable interest rates of these instruments, fair value approximates carrying value (see Notes 5 and 11).
- *Senior Term Loans* – Based upon information from third-party banks (which falls within Level 2 of the fair value hierarchy), the estimated fair value of our senior term loans was approximately \$772.2 million and \$745.5 million at December 31, 2020 and 2019, respectively. Their actual carrying value, net of unamortized debt issuance costs, totaled \$785.7 million and \$744.6 million at December 31, 2020 and 2019, respectively (see Note 11).
- *Senior Notes* – Based on dealers' quotes (which falls within Level 2 of the fair value hierarchy), the estimated fair value of our 4.875% senior notes was \$702.5 million and \$670.7 million at December 31, 2020 and 2019, respectively. The actual carrying value of our 4.875% senior notes, net of unamortized debt issuance costs and unamortized discount, totaled \$594.5 million and \$593.6 million at December 31, 2020 and 2019, respectively. On December 28, 2020, we redeemed the \$425.0 million aggregate outstanding principal amount of our 5.25% senior notes in full (See Note 11). At December 31, 2019, the estimated fair value and actual carrying value (net of unamortized debt issuance costs as well as unamortized premium) of our 5.25% senior notes was \$478.3 million and \$423.0 million, respectively.
- *Notes Payable on Real Estate* – As of December 31, 2020 and 2019, the carrying value of our notes payable on real estate, net of unamortized debt issuance costs, was \$79.6 million and \$13.1 million, respectively. These notes payable were not recourse to CBRE Group, Inc., except for being recourse to the single-purpose entities that held the real estate assets and were the primary obligors on the notes payable. These borrowings have either fixed interest rates or floating interest rates at spreads added to a market index. Although it is possible that certain portions of our notes payable on real estate may have fair values that differ from their carrying values, based on the terms of such loans as compared to current market conditions, or other factors specific to the borrower entity, we do not believe that the fair value of our notes payable is significantly different than their carrying value.

8. Property and Equipment

Property and equipment consists of the following (dollars in thousands):

	Useful Lives	December 31,	
		2020	2019
Computer hardware and software	2-10 years	\$ 974,490	\$ 931,891
Leasehold improvements	1-15 years	554,252	510,917
Furniture and equipment	1-10 years	243,880	334,625
Construction in progress	N/A	117,274	129,671
Total cost		1,889,896	1,907,104
Less: Accumulated depreciation and amortization		1,074,887	1,070,898
Property and equipment, net		<u>\$ 815,009</u>	<u>\$ 836,206</u>

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Depreciation and amortization expense associated with property and equipment was \$268.3 million, \$207.8 million and \$192.8 million for the years ended December 31, 2020, 2019 and 2018, respectively. During the year ended December 31, 2020, we recorded \$29.2 million in asset impairment charges related to property and equipment (see Note 7).

Construction in progress includes capitalizable costs incurred during the development stage of computer software and leasehold improvements that have not yet been placed in service.

9. Goodwill and Other Intangible Assets

On August 17, 2018, we announced a new organizational structure that became effective on January 1, 2019. Under the new structure, we organize our operations around, and publicly report our financial results on, three global business segments: (1) Advisory Services; (2) Global Workplace Solutions and (3) Real Estate Investments (see Note 19). In connection with this change, we reassessed our reporting units as of January 1, 2019. As a result, we have reassigned the goodwill balance to reflect our new segment structure using a relative fair value allocation approach. Under this approach, the fair value of each impacted reporting unit was determined using a combination of the income approach and the market approach and was compared to the goodwill of the impacted regional segments immediately prior to the reorganization to arrive at the reassigned goodwill balance.

We are required to test goodwill for impairment at least annually, or more often if circumstances or events indicate there may be a change in the impairment status, in accordance with Topic 350. We considered the change to our reportable segments and the resulting change in our identified reporting units to be a triggering event that required testing of our goodwill for impairment as of January 1, 2019. We elected to perform a quantitative test using a discounted cash flow approach to estimate the fair value of our reporting units. Management's judgment is required in developing the assumptions for the discounted cash flow model. These assumptions include revenue growth rates, profit margin percentages, discount rates, etc. When we performed our goodwill impairment review as of January 1, 2019, we determined that no impairment existed as the estimated fair value of each of our reporting units was in excess of their carrying value.

During the first quarter of 2020, as a result of the Covid-19 pandemic, we assessed at a reporting unit level whether any triggering events had occurred during the period that would require us to perform a quantitative impairment analysis of goodwill. As a result of this evaluation, we determined that there was a triggering event in our global investment management reporting unit (which falls within our Real Estate Investments segment) that required a quantitative test to be performed. In connection with this quantitative evaluation, we determined that this reporting unit's goodwill was impaired and recorded a \$25.0 million non-cash impairment charge during the first quarter.

Our annual assessment of goodwill and other intangible assets deemed to have indefinite lives has historically been completed as of the beginning of the fourth quarter of each year. We performed the 2020, 2019 and 2018 annual assessments as of October 1. During 2020, as part of our annual assessment, we identified a change in our reporting units due to an internal reorganization in our GWS segment. When we performed our required annual goodwill impairment review as of October 1, 2020, 2019 and 2018, we determined that no impairment existed as the estimated fair value of our reporting units was in excess of their carrying value.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table summarizes the changes in the carrying amount of goodwill for the years ended December 31, 2020 and 2019 (dollars in thousands):

	Advisory Services	Global Workplace Solutions	Real Estate Investments	Total
Balance as of December 31, 2018				
Goodwill	\$ 3,269,954	\$ 875,570	\$ 575,291	4,720,815
Accumulated impairment losses	(761,448)	(175,473)	(131,585)	(1,068,506)
	2,508,506	700,097	443,706	3,652,309
Purchase accounting entries related to acquisitions	29,544	7,657	42,176	79,377
Foreign exchange movement	2,720	16,279	2,808	21,807
Balance as of December 31, 2019				
Goodwill	3,302,218	899,506	620,275	4,821,999
Accumulated impairment losses	(761,448)	(175,473)	(131,585)	(1,068,506)
	2,540,770	724,033	488,690	3,753,493
Purchase accounting entries related to acquisitions	16,463	9,702	(7,984)	18,181
Impairment	—	—	(25,000)	(25,000)
Foreign exchange movement	30,107	28,589	16,239	74,935
Balance as of December 31, 2020				
Goodwill	3,348,788	937,797	628,530	4,915,115
Accumulated impairment losses	(761,448)	(175,473)	(156,585)	(1,093,506)
	<u>\$ 2,587,340</u>	<u>\$ 762,324</u>	<u>\$ 471,945</u>	<u>\$ 3,821,609</u>

During 2020, we completed six in-fill acquisitions: leading local facilities management firms in Spain and Italy, a U.S. firm that helps companies reduce telecommunications costs, a technology focused project management firm based in Florida, a firm specializing in performing real estate valuations in South Korea, and a facilities management and technical maintenance firm in Australia.

During 2019, in addition to the Telford Acquisition (see Note 4), we completed eight in-fill acquisitions: a leading advanced analytics software company based in the U.K., a commercial and residential real estate appraisal firm in Florida, our former affiliate in Omaha, a project management firm in Australia, a valuation and consulting business in Switzerland, a leading project management firm in Israel, a full-service real estate firm in San Antonio with a focus on retail, office, medical office and land, and a debt-focused real estate investment management business in the U.K.

On June 12, 2018, we acquired FacilitySource through a stock purchase and merger agreement with its stockholders, including FacilitySource Holdings, LLC, WP X Finance, LP and Warburg Pincus X Partners, LP (FacilitySource Acquisition). FacilitySource, which is reported in our Global Workplace Solutions segment, was acquired to help us build a tech-enabled supply chain capability for the occupier outsourcing industry, which would drive meaningfully differentiated outcomes for leading occupiers of real estate. The final net purchase price was approximately \$266.5 million paid in cash, with \$263.0 million paid in 2018 and \$3.5 million paid in 2019. We financed the transaction with cash on hand and borrowings under our revolving credit facility. The purchase accounting related to the FacilitySource Acquisition has been finalized (with no changes made in 2019 to the preliminary purchase accounting recorded in 2018). The excess purchase price over the estimated fair value of net assets acquired has been recorded to goodwill. The goodwill arising from the FacilitySource Acquisition consisted largely of the synergies and economies of scale expected from combining the operations acquired from FacilitySource with ours. The goodwill recorded in connection with the FacilitySource Acquisition that is deductible for tax purposes was not significant.

During 2018, we completed six in-fill acquisitions, the largest of which was the purchase of the remaining 50% equity interest in our longstanding New England joint venture. We also acquired a retail leasing and property management firm in Australia, two firms in Israel (our former affiliate and a majority interest in a local facilities management provider), a commercial real estate services provider in San Antonio, and a provider of real estate and facilities consulting services to healthcare companies across the U.S.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Other intangible assets totaled \$1,367.9 million, net of accumulated amortization of \$1,556.5 million as of December 31, 2020, and \$1,379.5 million, net of accumulated amortization of \$1,358.5 million, as of December 31, 2019 and are comprised of the following (dollars in thousands):

	December 31,			
	2020		2019	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Unamortizable intangible assets:				
Management contracts	\$ 67,422		\$ 62,338	
Trademarks	56,800		56,800	
Trade name	—		6,000	
	<u>124,222</u>		<u>125,138</u>	
Amortizable intangible assets:				
Customer relationships	880,104	\$ (603,866)	857,772	\$ (519,162)
Mortgage servicing rights	927,525	(370,634)	803,419	(319,927)
Trademarks/Trade names	354,060	(111,595)	345,834	(92,730)
Management contracts	152,312	(145,612)	142,767	(138,891)
Covenant not to compete	73,750	(73,750)	73,750	(73,750)
Other	412,477	(251,080)	389,394	(214,068)
	<u>2,800,228</u>	<u>(1,556,537)</u>	<u>2,612,936</u>	<u>(1,358,528)</u>
Total intangible assets	<u>\$ 2,924,450</u>	<u>\$ (1,556,537)</u>	<u>\$ 2,738,074</u>	<u>\$ (1,358,528)</u>

Unamortizable intangible assets include management contracts identified as a result of the REIM Acquisitions relating to relationships with open-end funds, a trademark separately identified as a result of the 2001 Acquisition and a trade name separately identified in connection with the REIM Acquisitions.

Customer relationships relate to existing relationships acquired through acquisitions mainly in our Global Workplace Solutions segment that are being amortized over useful lives of up to 20 years.

Mortgage servicing rights represent the carrying value of servicing assets in the U.S. in our Advisory Services segment. The mortgage servicing rights are being amortized over the estimated period that net servicing income is expected to be received, which is typically up to 10 years. See Mortgage Servicing Rights discussion within Note 2 for additional information.

In connection with the Telford Acquisition, a trademark of approximately \$26.7 million was separately identified and is being amortized over 20 years (see Note 4). Trademarks of approximately \$280 million were separately identified in connection with the GWS Acquisition and are being amortized over 20 years.

Management contracts consist primarily of asset management contracts relating to relationships with closed-end funds and separate accounts in the U.S., Europe and Asia that were separately identified as a result of the REIM Acquisitions. These management contracts are being amortized over useful lives of up to 13 years.

Other amortizable intangible assets mainly represent transition costs, which primarily get amortized to cost of revenue over the life of the associated contract.

During the year ended December 31, 2020, we recorded non-cash impairment charges of \$28.5 million in our Global Workplace Solutions segment related to amortizable trade name and customer relationships. In addition, we recorded non-cash impairment charges of \$6.0 million in our Real Estate Investments segment (see Note 7).

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

During the year ended December 31, 2019, we recorded an intangible asset impairment of \$89.8 million in our Real Estate Investments segment. This non-cash write-off related to intangibles acquired in the REIM Acquisitions, including unamortizable management contracts relating to relationships with open-end funds and the Clarion Partners trade name in the U.S., as well as amortizable management contracts relating to relationships with closed-end funds and separate accounts in the U.S.

Amortization expense related to intangible assets was \$227.1 million, \$225.7 million and \$258.7 million for the years ended December 31, 2020, 2019 and 2018, respectively. The estimated annual amortization expense for each of the years ending December 31, 2021 through December 31, 2025 and thereafter approximates \$202.4 million, \$180.1 million, \$156.2 million, \$134.2 million and \$115.6 million, respectively.

10. Investments in Unconsolidated Subsidiaries

Investments in unconsolidated subsidiaries are accounted for under the equity method of accounting. Our investment ownership percentages in equity method investments vary, generally ranging up to 50.0%.

Combined condensed financial information for the entities accounted for using the equity method is as follows (dollars in thousands):

	December 31,		
	2020	2019	
Combined Condensed Balance Sheets Information:			
Current assets	\$ 6,508,718	\$ 5,407,082	
Non-current assets	24,343,229	20,414,598	
Total assets	\$ 30,851,947	\$ 25,821,680	
Current liabilities	\$ 3,164,135	\$ 2,241,930	
Non-current liabilities	6,696,352	5,857,413	
Total liabilities	\$ 9,860,487	\$ 8,099,343	
Non-controlling interests	\$ 460,904	\$ 461,018	
	Year Ended December 31,		
	2020	2019	2018
Combined Condensed Statements of Operations Information:			
Revenue	\$ 2,036,818	\$ 1,545,424	\$ 1,524,685
Operating income	587,689	549,111	906,889
Net income	483,224	419,966	679,712

Our Real Estate Investments segment invests our own capital in certain real estate investments with clients. We provided investment management, property management, brokerage and other professional services in connection with these real estate investments and earned revenues from these unconsolidated subsidiaries of \$145.9 million, \$97.0 million and \$134.3 million during the years ended December 31, 2020, 2019 and 2018, respectively.

During the fourth quarter 2020, the company made a \$50.0 million non-controlling investment in Industrious National Management Company LLC (“Industrious”). See Subsequent Event (Note 22).

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

11. Long-Term Debt and Short-Term Borrowings

Total long-term debt and short-term borrowings consist of the following (dollars in thousands):

	December 31,	
	2020	2019
Long-Term Debt		
Senior term loans, with interest ranging from 0.75% to 1.15%, due quarterly through 2024	\$ 788,759	\$ 748,531
4.875% senior notes due in 2026, net of unamortized discount	597,470	597,052
5.25% senior notes, redeemed in December 2020	—	425,952
Other	1,514	1,861
Total long-term debt	1,387,743	1,773,396
Less: current maturities of long-term debt	1,514	1,814
Less: unamortized debt issuance costs	6,027	10,337
Total long-term debt, net of current maturities	\$ 1,380,202	\$ 1,761,245
Short-Term Borrowings		
Warehouse lines of credit, with interest ranging from 1.65% to 2.89%, due in 2021	\$ 1,383,964	\$ 977,175
Other	5,330	4,534
Total short-term borrowings	\$ 1,389,294	\$ 981,709

Future annual aggregate maturities of total consolidated gross debt (excluding unamortized discount, premium and debt issuance costs) at December 31, 2020 are as follows (dollars in thousands): 2021—\$1,390,808; 2022—\$0; 2023—\$488,759; 2024—\$300,000; 2025—\$0 and \$600,000 thereafter.

Long-Term Debt

We maintain credit facilities with third-party lenders, which we use for a variety of purposes. On March 4, 2019, CBRE Services, Inc. (CBRE Services) entered into an incremental assumption agreement with respect to its credit agreement, dated October 31, 2017 (such agreement, as amended by a December 20, 2018 incremental loan assumption agreement and such March 4, 2019 incremental assumption agreement, collectively, the 2019 Credit Agreement), which (i) extended the maturity of the U.S. dollar tranche A term loans under such credit agreement, (ii) extended the termination date of the revolving credit commitments available under such credit agreement and (iii) made certain changes to the interest rates and fees applicable to such tranche A term loans and revolving credit commitments under such credit agreement. The proceeds from the new tranche A term loan facility under the 2019 Credit Agreement were used to repay the \$300.0 million of tranche A term loans outstanding under the credit agreement in effect prior to the entry into the 2019 incremental assumption agreement.

The 2019 Credit Agreement is a senior unsecured credit facility that is jointly and severally guaranteed by us and certain of our subsidiaries. As of December 31, 2020, the 2019 Credit Agreement provided for the following: (1) a \$2.8 billion incremental revolving credit facility, which includes the capacity to obtain letters of credit and swingline loans and terminates on March 4, 2024; (2) a \$300.0 million incremental tranche A term loan facility maturing on March 4, 2024, requiring quarterly principal payments unless our leverage ratio (as defined in the 2019 Credit Agreement) is less than or equal to 2.50 to 1.00 on the last day of the fiscal quarter immediately preceding any such payment date and (3) a €400.0 million term loan facility due and payable in full at maturity on December 20, 2023.

As of December 31, 2020, borrowings under the tranche A term loan facility under the 2019 Credit Agreement bear interest, based at our option, on either (1) the applicable fixed rate plus 0.875% to 1.25% or (2) the daily rate plus 0.0% to 0.25%, in each case as determined by reference to our Credit Rating (as defined in the 2019 Credit Agreement) and borrowings under the euro term loan facility under the 2019 Credit Agreement bear interest at a minimum rate of 0.75% plus EURIBOR.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

We had \$297.9 million of tranche A term loan borrowings outstanding under the 2019 Credit Agreement (at an interest rate of 1.15%), net of unamortized debt issuance costs, included in the accompanying consolidated balance sheet at December 31, 2020. In addition, as of December 31, 2020, we had \$487.7 million of euro term loan borrowings outstanding under the 2019 Credit Agreement (at an interest rate of 0.75%), net of unamortized debt issuance costs, included in the accompanying consolidated balance sheet.

In March 2011, we entered into five interest rate swap agreements, all with effective dates in October 2011, and immediately designated them as cash flow hedges in accordance with FASB ASC Topic 815, “*Derivatives and Hedging*.” The purpose of these interest rate swap agreements was to attempt to hedge potential changes to our cash flows due to the variable interest nature of our senior term loan facilities. The total notional amount of these interest rate swap agreements was \$400.0 million, \$200.0 million of which expired in October 2017 and \$200 million of which expired in September 2019. The ineffective portion of the change in fair value of the derivatives was recognized directly in earnings. There was no significant hedge ineffectiveness for the years ended December 31, 2019 and 2018. The effective portion of changes in the fair value of derivatives designated and qualifying as cash flow hedges was recorded in accumulated other comprehensive loss on the consolidated balance sheets and was subsequently reclassified into earnings in the period that the hedged forecasted transaction affected earnings. We reclassified \$1.2 million and \$2.7 million for the years ended December 31, 2019 and 2018, respectively, from accumulated other comprehensive loss to interest expense. In addition, we recorded a net loss of \$0.1 million and a net gain of \$1.0 million for the years ended December 31, 2019 and 2018, respectively, to other comprehensive loss in relation to such interest rate swap agreements.

On August 13, 2015, CBRE Services issued \$600.0 million in aggregate principal amount of 4.875% senior notes due March 1, 2026 at a price equal to 99.24% of their face value. The 4.875% senior notes are unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 4.875% senior notes are jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guarantees our 2019 Credit Agreement. Interest accrues at a rate of 4.875% per year and is payable semi-annually in arrears on March 1 and September 1, with the first interest payment made on March 1, 2016. The 4.875% senior notes are redeemable at our option, in whole or in part, prior to December 1, 2025 at a redemption price equal to the greater of (1) 100% of the principal amount of the 4.875% senior notes to be redeemed and (2) the sum of the present values of the remaining scheduled payments of principal and interest thereon to December 1, 2025 (not including any portions of payments of interest accrued as of the date of redemption) discounted to the date of redemption on a semi-annual basis at the Adjusted Treasury Rate (as defined in the indenture governing these notes). In addition, at any time on or after December 1, 2025, the 4.875% senior notes may be redeemed by us, in whole or in part, at a redemption price equal to 100% of the principal amount, plus accrued and unpaid interest, if any, to (but excluding) the date of redemption. If a change of control triggering event (as defined in the indenture governing these notes) occurs, we are obligated to make an offer to purchase the then outstanding 4.875% senior notes at a redemption price of 101% of the principal amount, plus accrued and unpaid interest, if any, to the date of purchase. The amount of the 4.875% senior notes, net of unamortized discount and unamortized debt issuance costs, included in the accompanying consolidated balance sheets was \$594.5 million and \$593.6 million at December 31, 2020 and 2019, respectively.

On September 26, 2014, CBRE Services issued \$300.0 million in aggregate principal amount of 5.25% senior notes due March 15, 2025. On December 12, 2014, CBRE Services issued an additional \$125.0 million in aggregate principal amount of 5.25% senior notes due March 15, 2025 at a price equal to 101.5% of their face value, plus interest deemed to have accrued from September 26, 2014. The 5.25% senior notes were unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 5.25% senior notes were jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guaranteed our 2019 Credit Agreement. Interest accrued at a rate of 5.25% per year and was payable semi-annually in arrears on March 15 and September 15. We redeemed these notes in full on December 28, 2020 and incurred charges of \$75.6 million, including a premium of \$73.6 million and the write-off of \$2.0 million of unamortized premium and debt issuance costs. We funded this redemption using cash on hand. The amount of the 5.25% senior notes, net of unamortized premium and unamortized debt issuance costs, included in the accompanying consolidated balance sheet was \$423.0 million at December 31, 2019.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

On March 14, 2013, CBRE Services issued \$800.0 million in aggregate principal amount of 5.00% senior notes due March 15, 2023. The 5.00% senior notes were unsecured obligations of CBRE Services, senior to all of its current and future subordinated indebtedness, but effectively subordinated to all of its current and future secured indebtedness. The 5.00% senior notes were jointly and severally guaranteed on a senior basis by us and each domestic subsidiary of CBRE Services that guaranteed our 2017 Credit Agreement. Interest accrued at a rate of 5.00% per year and was payable semi-annually in arrears on March 15 and September 15. The 5.00% senior notes were redeemable at our option, in whole or in part, on March 15, 2018 at a redemption price of 102.5% of the principal amount on that date. We redeemed these notes in full on March 15, 2018 and incurred charges of \$28.0 million, including a premium of \$20.0 million and the write-off of \$8.0 million of unamortized deferred financing costs. We funded this redemption with \$550.0 million of borrowings from our tranche A term loan facility and \$270.0 million of borrowings from our revolving credit facility under our 2017 Credit Agreement.

The indenture governing our 4.875% senior notes contains restrictive covenants that, among other things, limit our ability to create or permit liens on assets securing indebtedness, enter into sale/leaseback transactions and enter into consolidations or mergers. In addition, our 2019 Credit Agreement also requires us to maintain a minimum coverage ratio of consolidated EBITDA (as defined in the 2019 Credit Agreement) to consolidated interest expense of 2.00x and a maximum leverage ratio of total debt less available cash to consolidated EBITDA (as defined in the 2019 Credit Agreement) of 4.25x (and in the case of the first four full fiscal quarters following consummation of a qualified acquisition (as defined in the 2019 Credit Agreement), 4.75x) as of the end of each fiscal quarter. On this basis, our coverage ratio of consolidated EBITDA to consolidated interest expense was 26.22x for the year ended December 31, 2020, and our leverage ratio of total debt less available cash to consolidated EBITDA was (0.17x) as of December 31, 2020.

Short-Term Borrowings

We had short-term borrowings of \$1.4 billion and \$981.7 million as of December 31, 2020 and 2019, respectively, with related weighted average interest rates of 1.7% and 3.1%, respectively, which are included in the accompanying consolidated balance sheets.

Revolving Credit Facility

The revolving credit facility under the 2019 Credit Agreement allows for borrowings outside of the U.S., with a \$200.0 million sub-facility available to CBRE Services, one of our Canadian subsidiaries, one of our Australian subsidiaries and one of our New Zealand subsidiaries and a \$300.0 million sub-facility available to CBRE Services and one of our U.K. subsidiaries. Borrowings under the revolving credit facility bear interest at varying rates, based at our option, on either (1) the applicable fixed rate plus 0.680% to 1.075% or (2) the daily rate plus 0.0% to 0.075%, in each case as determined by reference to our Credit Rating (as defined in the 2019 Credit Agreement). The 2019 Credit Agreement requires us to pay a fee based on the total amount of the revolving credit facility commitment (whether used or unused). As of December 31, 2020, no amount was outstanding under the revolving credit facility other than letters of credit totaling \$2.0 million. These letters of credit, which reduce the amount we may borrow under the revolving credit facility, were primarily issued in the ordinary course of business.

Warehouse Lines of Credit

CBRE Capital Markets has warehouse lines of credit with third-party lenders for the purpose of funding mortgage loans that will be resold, and a funding arrangement with Fannie Mae for the purpose of selling a percentage of certain closed multifamily loans to Fannie Mae. These warehouse lines are recourse only to CBRE Capital Markets and are secured by our related warehouse receivables. See Note 5 for additional information.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

12. Leases

Supplemental balance sheet information related to our leases is as follows (dollars in thousands):

Category	Classification	December 31,	
		2020	2019
Assets			
Operating	Operating lease assets	\$ 1,020,352	\$ 997,966
Finance	Other assets, net	117,805	94,141
Total leased assets		\$ 1,138,157	\$ 1,092,107
Liabilities			
Current:			
Operating	Operating lease liabilities	\$ 208,526	\$ 168,663
Finance	Other current liabilities	39,298	34,966
Non-current:			
Operating	Non-current operating lease liabilities	1,116,795	1,057,758
Finance	Other liabilities	78,881	60,001
Total lease liabilities		\$ 1,443,500	\$ 1,321,388

Components of lease cost are as follows (dollars in thousands):

Component	Classification	Year Ended December 31,	
		2020	2019
Operating lease cost	Operating, administrative and other	\$ 204,415	\$ 189,106
Finance lease cost:			
Amortization of right-of-use assets	(1)	38,568	31,081
Interest on lease liabilities	Interest expense	1,847	1,317
Variable lease cost	(2)	74,332	74,476
Sublease income	Revenue	(2,643)	(3,734)
Total lease cost		<u>\$ 316,519</u>	<u>\$ 292,246</u>

(1) Amortization costs of \$32.7 million and \$25.5 million from vehicle finance leases utilized in client outsourcing arrangements are included in the “Cost of revenue” line item in the accompanying consolidated statements of operations for the years ended December 31, 2020 and 2019, respectively. Amortization costs of \$5.9 million and \$5.6 million from all other finance leases are included in the “Depreciation and amortization” line item in the accompanying consolidated statements of operations for the years ended December 31, 2020 and 2019, respectively.

(2) Variable lease costs of \$17.1 million and \$17.5 million from leases in client outsourcing arrangements are included in the “Cost of revenue” line item in the accompanying consolidated statements of operations for the years ended December 31, 2020 and 2019, respectively. Variable lease costs of \$55.6 million and \$57.0 million from all other leases are included in the “Operating, administrative, and other” line item in the accompanying consolidated statements of operations for the years ended December 31, 2020 and 2019, respectively.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Weighted average remaining lease term and discount rate for our operating and finance leases are as follows:

	December 31,	
	2020	2019
Weighted-average remaining lease term:		
Operating leases	8 years	9 years
Finance leases ⁽¹⁾	71 years	3 years
Weighted-average discount rate:		
Operating leases	3.1%	3.4%
Finance leases ⁽¹⁾	5.0%	2.3%

⁽¹⁾ Finance leases as of December 31, 2020 included a 99 year lease on a real estate under development. If excluded, the weighted-average remaining lease term and weighted-average discount rate would be 3 years and 2.1%, respectively.

Maturities of lease liabilities by fiscal year as of December 31, 2020 are as follows (dollars in thousands):

	Operating Leases	Finance Leases
2021	\$ 214,887	\$ 64,363
2022	214,895	50,225
2023	196,987	36,852
2024	177,466	19,150
2025	161,362	4,552
Thereafter	551,661	364,101
Total remaining lease payments at December 31, 2020	1,517,258	539,243
Less: Interest	191,937	421,065
Present value of lease liabilities at December 31, 2020	<u>\$ 1,325,321</u>	<u>\$ 118,178</u>

Supplemental cash flow information and non-cash activity related to our operating and finance leases are as follows (dollars in thousands):

	Year Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 170,317	\$ 167,652
Operating cash flows from finance leases	2,077	1,559
Financing cash flows from finance leases ⁽¹⁾	40,304	31,006
Right-of-use assets obtained in exchange for new operating lease liabilities	177,384	168,972
Right-of-use assets obtained in exchange for new finance lease liabilities	61,218	63,041
Other non-cash (decrease) increase in operating lease right-of-use assets ⁽²⁾	(17,621)	47,851
Other non-cash decreases in finance lease right-of-use assets ⁽²⁾	(1,233)	(1,826)

⁽¹⁾ Financing cash flows from finance leases were included in “Accounts payable and accrued expenses and other liabilities (including contract and lease liabilities)” within operating cash flows for 2019 due to immateriality. Given the increase in the outflow, it is included in “Other financing activities, net” within financing cash flows for 2020 in the accompanying consolidated statements of cash flows.

⁽²⁾ The non-cash activity in the right-of-use assets resulted from lease modifications and remeasurements.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

13. Commitments and Contingencies

We are a party to a number of pending or threatened lawsuits arising out of, or incident to, our ordinary course of business. We believe that any losses in excess of the amounts accrued therefore as liabilities on our consolidated financial statements are unlikely to be significant, but litigation is inherently uncertain and there is the potential for a material adverse effect on our consolidated financial statements if one or more matters are resolved in a particular period in an amount materially in excess of what we anticipated.

In January 2008, CBRE MCI, a wholly-owned subsidiary of CBRE Capital Markets, entered into an agreement with Fannie Mae under Fannie Mae's DUS Program to provide financing for multifamily housing with five or more units. Under the DUS Program, CBRE MCI originates, underwrites, closes and services loans without prior approval by Fannie Mae, and typically, is subject to sharing up to one-third of any losses on loans originated under the DUS Program. CBRE MCI has funded loans subject to such loss sharing arrangements with unpaid principal balances of \$32.7 billion at December 31, 2020. CBRE MCI, under its agreement with Fannie Mae, must post cash reserves or other acceptable collateral under formulas established by Fannie Mae to provide for sufficient capital in the event losses occur. As of December 31, 2020 and 2019, CBRE MCI had a \$95.0 million and a \$72.0 million, respectively, letter of credit under this reserve arrangement, and had recorded a liability of approximately \$57.1 million and \$37.0 million, respectively, for its loan loss guarantee obligation under such arrangement. Fannie Mae's recourse under the DUS Program is limited to the assets of CBRE MCI, which assets totaled approximately \$1.1 billion (including \$694.4 million of warehouse receivables, a substantial majority of which are pledged against warehouse lines of credit and are therefore not available to Fannie Mae) at December 31, 2020.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) was enacted in the U.S. in response to the Covid-19 pandemic. The CARES Act, among other things, permits borrowers with government-backed mortgages from Government Sponsored Enterprises who are experiencing a financial hardship to obtain forbearance of their loans. For Fannie Mae loans that we service, CBRE MCI is obligated to advance (for a forbearance period up to 90 consecutive days and potentially longer) scheduled principal and interest payments to Fannie Mae, regardless of whether the borrowers actually make the payments. These advances are reimbursable by Fannie Mae after 120 days. As of December 31, 2020, total advances for principal and interest were \$7.0 million, of which \$5.3 million have already been reimbursed.

CBRE Capital Markets participates in Freddie Mac's Multifamily Small Balance Loan (SBL) Program. Under the SBL program, CBRE Capital Markets has certain repurchase and loss reimbursement obligations. We could potentially be obligated to repurchase any SBL loan originated by CBRE Capital Markets that remains in default for 120 days following the forbearance period, if the default occurred during the first 12 months after origination and such loan had not been earlier securitized. In addition, CBRE Capital Markets may be responsible for a loss not to exceed 10% of the original principal amount of any SBL loan that is not securitized and goes into default after the 12-month repurchase period. CBRE Capital Markets must post a cash reserve or other acceptable collateral to provide for sufficient capital in the event the obligations are triggered. As of both December 31, 2020 and 2019, CBRE Capital Markets had posted a \$5.0 million letter of credit under this reserve arrangement.

We had outstanding letters of credit totaling \$154.5 million as of December 31, 2020, excluding letters of credit for which we have outstanding liabilities already accrued on our consolidated balance sheet related to our subsidiaries' outstanding reserves for claims under certain insurance programs as well as letters of credit related to operating leases. The CBRE Capital Markets letters of credit totaling \$100.0 million as of December 31, 2020 referred to in the preceding paragraphs represented the majority of the \$154.5 million outstanding letters of credit as of such date. The remaining letters of credit are primarily executed by us in the ordinary course of business and expire at the end of each of the respective agreements.

We had guarantees totaling \$42.1 million as of December 31, 2020, excluding guarantees related to pension liabilities, consolidated indebtedness and other obligations for which we have outstanding liabilities already accrued on our consolidated balance sheet, and excluding guarantees related to operating leases. The \$42.1 million primarily represents guarantees executed by us in the ordinary course of business, including various guarantees of management and vendor contracts in our operations overseas, which expire at the end of each of the respective agreements.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In addition, as of December 31, 2020, we had issued numerous non-recourse carveout, completion and budget guarantees relating to development projects for the benefit of third parties. These guarantees are commonplace in our industry and are made by us in the ordinary course of our Real Estate Investments business. Non-recourse carveout guarantees generally require that our project-entity borrower not commit specified improper acts, with us potentially liable for all or a portion of such entity's indebtedness or other damages suffered by the lender if those acts occur. Completion and budget guarantees generally require us to complete construction of the relevant project within a specified timeframe and/or within a specified budget, with us potentially being liable for costs to complete in excess of such timeframe or budget. While there can be no assurance, we do not expect to incur any material losses under these guarantees.

An important part of the strategy for our Real Estate Investments business involves investing our capital in certain real estate investments with our clients. These co-investments generally total up to 2.0% of the equity in a particular fund. As of December 31, 2020, we had aggregate commitments of \$76.5 million to fund these future co-investments. Additionally, an important part of our Real Estate Investments business strategy is to invest in unconsolidated real estate subsidiaries as a principal (in most cases co-investing with our clients). As of December 31, 2020, we had committed to fund \$34.8 million of additional capital to these unconsolidated subsidiaries.

14. Employee Benefit Plans

Stock Incentive Plans

2012 Equity Incentive Plan and 2017 Equity Incentive Plan

Our 2012 Equity Incentive Plan (the 2012 Plan) and 2017 Equity Incentive Plan (the 2017 Plan) were adopted by our board of directors and approved by our stockholders on May 8, 2012 and May 19, 2017, respectively. Both the 2012 Plan and 2017 Plan authorized the grant of stock-based awards to our employees, directors and independent contractors. Our 2012 Plan was terminated in May 2017 in connection with the adoption of our 2017 Plan. Our 2017 Plan was terminated in May 2019 in connection with the adoption of our 2019 Equity Incentive Plan (the 2019 Plan), which is described below. At termination of the 2012 Plan, no unissued shares from the 2012 Plan were allocated to the 2017 Plan for potential future issuance. At termination of the 2017 Plan, no unissued shares from the 2017 Plan were allocated to the 2019 Plan for potential future issuance. Since our 2012 Plan and 2017 Plan have been terminated, no new awards may be granted under them. As of December 31, 2020, assuming the maximum number of shares under our performance-based awards will later be issued, 310,023 outstanding restricted stock unit (RSU) awards to acquire shares of our Class A common stock granted under the 2012 Plan remain outstanding according to their terms, and we will continue to issue shares to the extent required under the terms of such outstanding awards. Shares underlying awards that expire, terminate or lapse under the 2012 Plan will not become available for grant under the 2017 Plan or the 2019 Plan. As of December 31, 2020, 4,677,453 outstanding RSU awards to acquire shares of our Class A common stock granted under the 2017 Plan remain outstanding according to their terms, and we will continue to issue shares to the extent required under the terms of such outstanding awards (noting that any shares granted above target will get deducted from the 2019 Plan reserve as noted below). Shares underlying awards outstanding under the 2017 Plan at termination that are subsequently canceled, forfeited or terminated without issuance to the holder thereof will be available for grant under the 2019 Plan.

2019 Equity Incentive Plan

Our 2019 Plan was adopted by our board of directors on March 1, 2019 and approved by our stockholders on May 17, 2019. The 2019 Plan authorizes the grant of stock-based awards to employees, directors and independent contractors. Unless terminated earlier, the 2019 Plan will terminate on March 1, 2029. A total of 9,900,000 shares of our Class A common stock are reserved for issuance under the 2019 Plan, less 189,499 shares granted under the 2017 Plan between March 1, 2019, the date our board of directors approved the plan, and May 17, 2019, the date our stockholders approved the 2019 Plan. Additionally, as mentioned above, shares underlying awards outstanding under the 2017 Plan at termination that are subsequently canceled, forfeited or terminated without issuance to the holder thereof will be available for reissuance under the 2019 Plan. As of December 31, 2020, 575,506 shares were cancelled and 215,900 shares were withheld for payment of taxes under the 2017 Plan and added to the authorized pool for the 2019 Plan, bringing the total authorized amount under the 2019 Plan to 10,501,907 shares of our Class A common stock.

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Shares underlying expired, canceled, forfeited or terminated awards under the 2019 Plan (other than awards granted in substitution of an award previously granted), plus those utilized to pay tax withholding obligations with respect to an award (other than an option or stock appreciation right) will be available for reissuance. Awards granted under the 2019 Plan are subject to a minimum vesting condition of one year. As of December 31, 2020, assuming the maximum number of shares under our performance-based awards will later be issued (which includes shares that could be issued over target related to performance awards issued and outstanding under the 2017 Plan), 6,265,195 shares remained available for future grants under this plan.

The number of shares issued or reserved pursuant to the 2012 Plan, 2017 Plan and 2019 Plan are subject to adjustment on account of a stock split of our outstanding shares, stock dividend, dividend payable in a form other than shares in an amount that has a material effect on the price of the shares, consolidation, combination or reclassification of the shares, recapitalization, spin-off, or other similar occurrences.

Non-Vested Stock Awards

We have issued non-vested stock awards, including RSUs and restricted shares, in our Class A common stock to certain of our employees, independent contractors and members of our board of directors. The following is a summary of the awards granted during the years ended December 31, 2020, 2019 and 2018.

- During the year ended December 31, 2020, we granted RSUs that are performance vesting in nature, with 910,346 reflecting the maximum number of RSUs that may be issued if all of the performance targets are satisfied at their highest levels, and 1,150,761 RSUs that are time vesting in nature.
- During the year ended December 31, 2019, we granted RSUs that are performance vesting in nature, with 888,726 reflecting the maximum number of RSUs that may be issued if all of the performance targets are satisfied at their highest levels, and 1,493,788 RSUs that are time vesting in nature.
- During the year ended December 31, 2018, we granted RSUs that are performance vesting in nature, with 1,014,269 reflecting the maximum number of RSUs that may be issued if all of the performance targets are satisfied at their highest levels, and 1,332,085 RSUs that are time vesting in nature.

Our annual performance-vesting awards generally vest in full three years from the grant date, based on our achievement against various adjusted income per share performance targets. Our time-vesting awards generally vest 25% per year over four years from the grant date.

We made a special grant of RSUs under our 2017 Plan (Special RSU grant) to certain of our employees, with 3,288,618 reflecting the maximum number of RSUs that may be issued if all of the performance targets are satisfied at their highest levels, and 939,605 RSUs that are time vesting in nature. During 2019 and 2018, we made grants under this Special RSU grant program to certain of our employees, with 195,907 reflecting the maximum number of RSUs that may be issued if all of the performance targets are satisfied at their highest levels, and 55,973 RSUs that are time vesting in nature. No such grants were made during 2020. As a condition to this Special RSU grant, each participant has agreed to execute a Restrictive Covenants Agreement. Each Special RSU grant consisted of:

- (i) Time Vesting RSUs with respect to 33.3% of the total number of target RSUs subject to the grant.
- (ii) Total Shareholder Return (TSR) Performance RSUs with respect to 33.3% of the total number of target RSUs subject to the grant. The actual number of TSR Performance RSUs that will vest is determined by measuring our cumulative TSR against the cumulative TSR of each of the other companies comprising the S&P 500 on the Grant Date (the Comparison Group) over a six year measurement period commencing on the Grant Date and ending on December 1, 2023. For purposes of measuring TSR, the initial value of our common stock was the average closing price of such common stock for the 60 trading days immediately preceding the Grant Date and the final value of our common stock will be the average closing price of such common stock for the 60 trading days immediately preceding December 1, 2023.

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(iii) EPS Performance RSUs with respect to 33.3% of the total number of target RSUs subject to the grant. The actual number of EPS Performance RSUs that will vest is determined by measuring our cumulative adjusted income per share growth against the cumulative EPS growth, as reported under GAAP (GAAP EPS), of each of the other members of the Comparison Group over a six year measurement period commencing on January 1, 2018 and ending on December 31, 2023.

The Time Vesting and TSR Performance RSUs subject to the Special RSU grants vest on December 1, 2023, while the EPS Performance RSUs subject to the Special RSU grants vest on December 31, 2023.

We estimated the fair value of the TSR Performance RSUs referred to above on the date of the grant using a Monte Carlo simulation with the following assumptions:

	Year Ended December 31,	
	2019	2018
Volatility of common stock	25.96 %	25.02 %
Expected dividend yield	0.00 %	0.00 %
Risk-free interest rate	2.12 %	2.73 %

A summary of the status of our non-vested stock awards is presented in the table below:

	Shares/Units	Weighted Average Market Value Per Share
Balance at December 31, 2017	7,677,102	\$ 37.76
Granted	2,023,266	45.70
Performance award achievement adjustments	282,953	38.09
Vested	(2,177,800)	34.78
Forfeited	(623,161)	40.85
Balance at December 31, 2018	7,182,360	41.04
Granted	2,000,977	50.07
Performance award achievement adjustments	166,007	37.36
Vested	(1,323,351)	37.43
Forfeited	(316,294)	42.09
Balance at December 31, 2019	7,709,699	43.89
Granted	1,605,934	56.45
Performance award achievement adjustments	560,563	39.89
Vested	(2,780,377)	39.81
Forfeited	(412,407)	48.27
Balance at December 31, 2020	6,683,412	47.99

Total compensation expense related to non-vested stock awards was \$60.4 million, \$127.7 million and \$128.2 million for the years ended December 31, 2020, 2019 and 2018, respectively. At December 31, 2020, total unrecognized estimated compensation cost related to non-vested stock awards was approximately \$121.1 million, which is expected to be recognized over a weighted average period of approximately 2.6 years.

Bonuses

We have bonus programs covering select employees, including senior management. Awards are based on the position and performance of the employee and the achievement of pre-established financial, operating and strategic objectives. The amounts charged to expense for bonuses were \$557.6 million, \$554.6 million and \$595.2 million for the years ended December 31, 2020, 2019 and 2018, respectively.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

401(k) Plan

Our CBRE 401(k) Plan (401(k) Plan) is a defined contribution savings plan that allows participant deferrals under Section 401(k) of the Internal Revenue Code (IRC). Most of our U.S. employees, other than qualified real estate agents having the status of independent contractors under section 3508 of the IRC of 1986, as amended, and non-plan electing union employees, are eligible to participate in the plan. The 401(k) Plan provides for participant contributions as well as a company match. A participant is allowed to contribute to the 401(k) Plan from 1% to 75% of his or her compensation, subject to limits imposed by applicable law. Effective January 1, 2007, all participants hired post January 1, 2007 vest in company match contributions 20% per year for each plan year they are employed. All participants hired before January 1, 2007 are immediately vested in company match contributions. For 2020, 2019, 2018, we contributed a 67% match on the first 6% of annual compensation for participants with an annual base salary of less than \$100,000 and we contributed a 50% match on the first 6% of annual compensation for participants with an annual base salary of \$100,000 or more (up to \$150,000 of compensation). In connection with the 401(k) Plan, we charged to expense \$83.5 million, \$59.9 million and \$46.3 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Participants are entitled to invest up to 25% of their 401(k) account balance in shares of our common stock. As of December 31, 2020, approximately 1.2 million shares of our common stock were held as investments by participants in our 401(k) Plan.

Pension Plans

We have two major non-U.S. contributory defined benefit pension plans, both based in the U.K. Our subsidiaries maintain these plans to provide retirement benefits to existing and former employees participating in these plans. With respect to these plans, our historical policy has been to contribute annually to the plans, an amount to fund pension liabilities as actuarially determined and as required by applicable laws and regulations. Our contributions to these plans are invested by the plan trustee and, if these investments do not perform well in the future, we may be required to provide additional contributions to cover any pension underfunding. Effective July 1, 2007, we reached agreements with the active members of these plans to freeze future pension plan benefits. In return, the active members became eligible to enroll in a defined contribution plan. For these plans, as of December 31, 2020 and 2019, the fair values of pension plan assets were \$378.9 million and \$331.4 million, and the fair values of projected benefit obligations were \$470.1 million and \$439.4 million, respectively. As a result, these plans were underfunded by approximately \$91.2 million and \$108.0 million at December 31, 2020 and 2019.

As of December 31, 2020, inclusive of individually immaterial plans not shown in the above table, for plans where total projected benefit obligations exceed plan assets, projected benefit obligations and the fair value of plan assets are \$558.4 million and \$403.5 million, respectively.

As of December 31, 2019, inclusive of individually immaterial plans not shown in the above table, for plans where total projected benefit obligations exceed plan assets, projected benefit obligations and the fair value of plan assets are \$509.4 million and \$351.8 million, respectively.

For plans where the accumulated benefit obligation exceeds plan assets, such obligations are the same as the projected benefit obligations.

Items not yet recognized as a component of net periodic pension cost (benefit) for the major plans were \$165.9 million and \$191.6 million at December 31, 2020 and 2019, respectively, and were included in accumulated other comprehensive loss in the accompanying consolidated balance sheets. During 2020 there were losses on plan obligations of \$27.7 million. These are primarily as a result of changes in assumptions resulting in a loss of \$37.1 million, partially offset by \$9.5 million in net gains due to plan experience. Net periodic pension (benefit) cost was not material for the years ended December 31, 2020, 2019 and 2018.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following table provides amounts recognized related to our defined benefit pension plans within the following captions on our consolidated balance sheets (dollars in thousands):

	December 31,	
	2020	2019
Other assets, net	\$ 58,410	\$ 25,469
Other current liabilities	19,432	12,144
Other liabilities	135,440	145,432

The following table presents estimated future benefit payments over the next ten years, as of December 31, 2020. We will fund these obligations from the assets held by these plans. If the assets these plans hold are not sufficient to fund these payments, the company will fund the remaining obligations (dollars in thousands):

	2021	2022	2023	2024	2025	2026 - 2030
Estimated future benefit payments for defined benefit plans	\$ 38,941	\$ 35,804	\$ 37,877	\$ 39,655	\$ 40,888	\$ 216,678

15. Income Taxes

The components of income before provision for income taxes consisted of the following (dollars in thousands):

	Year Ended December 31,		
	2020	2019	2018
Domestic	\$ 470,181	\$ 839,899	\$ 807,590
Foreign	499,788	521,446	571,416
	<u>\$ 969,969</u>	<u>\$ 1,361,345</u>	<u>\$ 1,379,006</u>

Our tax provision (benefit) consisted of the following (dollars in thousands):

	Year Ended December 31,		
	2020	2019	2018
Federal:			
Current	\$ 18,951	\$ (51,980)	\$ 166,024
Deferred	61,034	(74,432)	(7,667)
	<u>79,985</u>	<u>(126,412)</u>	<u>158,357</u>
State:			
Current	33,291	52,403	43,320
Deferred	3,872	(5,760)	(3,692)
	<u>37,163</u>	<u>46,643</u>	<u>39,628</u>
Foreign:			
Current	88,994	163,833	149,194
Deferred	7,959	(14,169)	(34,121)
	<u>96,953</u>	<u>149,664</u>	<u>115,073</u>
	<u>\$ 214,101</u>	<u>\$ 69,895</u>	<u>\$ 313,058</u>

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The following is a reconciliation stated as a percentage of pre-tax income of the U.S. statutory federal income tax rate to our effective tax rate:

	Year Ended December 31,		
	2020	2019	2018
Federal statutory tax rate	21 %	21 %	21 %
Foreign rate differential	—	4	—
State taxes, net of federal benefit	3	3	3
Non-deductible expenses	1	1	2
Reserves for uncertain tax positions	—	1	—
Credits and exemptions	(2)	(4)	(2)
Outside basis differences recognized as a result of a legal entity restructuring	—	(20)	—
Tax Reform	—	—	1
Change in valuation allowance	—	—	(1)
Acquisition-related costs	—	—	(2)
Other	(1)	(1)	1
Effective tax rate	22 %	5 %	23 %

On March 18, 2020, the Families First Coronavirus Response Act (FFCR Act), and on March 27, 2020, the CARES Act were each enacted in response to the Covid-19 pandemic. The FFCR Act and the CARES Act contain numerous tax provisions, such as net operating loss carry-back periods, alternative minimum tax credit refunds, deferral of employer payroll taxes deferring payroll tax payments, establishing a credit for the retention of certain employees, relaxing limitations on the deductibility of interest, and updating the definition of qualified improvement property. This legislation currently has no material impact to income tax expense on the company's financial statements.

In the fourth quarter of 2019, we recognized a net tax benefit of approximately \$277.2 million attributable to outside basis differences recognized as a result of a legal entity restructuring. The recognition of the outside tax basis differences generated a capital loss that offset capital gains generated during 2019. A portion of the capital loss was carried back to tax years 2016, 2017 and 2018 to offset capital gains in those years. The remaining capital loss was carried forward to tax years 2020 and forward to be utilized to offset capital gains in these years. Based on our strong history of capital gains in the prior three years and the nature of our business we expect to generate sufficient capital gains in the remaining four year carry forward period and therefore concluded that it is more likely than not that we will realize the full tax benefit from the capital loss carried forward. Accordingly, we have not provided any valuation allowance against the deferred tax asset for the capital loss carried forward.

On December 22, 2017, the Tax Act was signed into law making significant changes to the IRC, including a decrease to the U.S. corporate tax rate from 35% to 21% and a one-time transition tax (i.e. toll charge, or the Transition Tax) on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. We recorded a provisional amount for our one-time Transition Tax liability of \$158.0 million for the year ended December 31, 2017, which represented our estimate of the U.S. federal and state tax impact of the Transition Tax, partially offset by a net income tax benefit of \$14.6 million related to the re-measurement of U.S. federal deferred tax assets and liabilities. Our provision for income taxes for 2018 included a net expense true-up of \$13.3 million associated with the Tax Act. As required, we paid the full state tax liability for the Transition Tax in 2018. We are paying the federal tax liability for the Transition Tax in annual interest-free installments over a period of eight years through 2025 as allowed by the Tax Act. As of December 31, 2020, the company had \$54.8 million remaining Transition Tax liability (including a 2019 true-up of the Transition Tax liability) payable in tax years 2023 and 2024.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Cumulative tax effects of temporary differences are shown below (dollars in thousands):

	December 31,	
	2020	2019
Asset (Liability)		
Tax losses and tax credits	\$ 334,303	\$ 330,839
Operating lease liabilities	358,066	320,261
Bonus and deferred compensation	295,690	280,747
Bad debt and other reserves	73,061	66,504
Pension obligation	18,026	24,022
Investments	17,506	5,236
Tax effect on revenue items related to Topic 606 adoption	(16,784)	(25,620)
Property and equipment	(88,595)	(54,370)
Unconsolidated affiliates and partnerships	(59,544)	(63,594)
Capitalized costs and intangibles	(313,099)	(277,246)
Operating lease assets	(366,671)	(314,433)
All other	6,181	(1,153)
Net deferred tax assets before valuation allowance	258,140	291,193
Valuation allowance	(291,096)	(251,922)
Net deferred tax (liabilities) assets	<u>\$ (32,956)</u>	<u>\$ 39,271</u>

In the first quarter of 2019 we adopted new lease accounting guidance (see Note 2). As a result of such adoption, as of December 31, 2019 we recorded deferred tax assets of \$320.3 million and deferred tax liabilities of \$314.4 million for book tax basis differences in the operating lease liabilities and operating lease assets, respectively. As of December 31, 2020, we had a U.S. federal capital loss carryforward, net of related reserves for uncertain tax positions, of approximately \$135.2 million, translating to a net deferred tax asset before valuation allowance of \$28.4 million, which will expire after 2024. As of December 31, 2020, we had U.S. federal NOLs, net of related reserves for uncertain tax positions, of approximately \$8.8 million, translating to a net deferred tax asset before valuation allowance of \$1.8 million, which will begin to expire in 2037. As of December 31, 2020, there were also deferred tax assets before valuation allowances of approximately \$300.2 million related to foreign NOLs. The foreign NOLs begin to expire in 2020, but the majority carry forward indefinitely. The utilization of NOLs may be subject to certain limitations under U.S. federal, state and foreign laws. We have recorded a full valuation allowance for deferred tax assets where we believe that it is more likely than not that the NOLs will not be fully utilized.

We determined that as of December 31, 2020, \$291.1 million of deferred tax assets do not satisfy the realization criteria set forth in Topic 740. Accordingly, a valuation allowance has been recorded for this amount. If released, the entire amount would result in a benefit to continuing operations. During the year ended December 31, 2020, our valuation allowance increased by approximately \$39.2 million. The change in the valuation allowance was driven by an increase in the valuation allowance associated with NOLs generated by our operations in Luxembourg. We believe it is more likely than not that future operations will generate sufficient taxable income to realize the benefit of the deferred tax assets recorded net of these valuation allowances.

Our foreign subsidiaries have accumulated \$3.0 billion of undistributed earnings for which we have not recorded a deferred tax liability. No additional income taxes have been provided for any remaining undistributed foreign earnings not subject to the Transition Tax, in connection with the enactment of the Tax Act, or any additional outside basis difference inherent in these entities, as these amounts continue to be indefinitely reinvested in foreign operations. While federal and state current income tax expense have been recognized as a result of the Tax Act, we have not provided any additional deferred taxes with respect to items such as foreign withholding taxes, state income tax or foreign exchange gain or loss that would be due when cash is actually repatriated to the U.S. because those foreign earnings are considered permanently reinvested in the business or may be remitted substantially free of any additional local taxes. The determination of the amount of the unrecognized deferred tax liability related to the undistributed earnings if eventually remitted is not practicable.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The total amount of gross unrecognized tax benefits was approximately \$168.5 million and \$141.2 million as of December 31, 2020 and 2019, respectively. The total amount of unrecognized tax benefits that would affect our effective tax rate, if recognized, is \$54.9 million (\$52.3 million, net of federal benefit received from state positions) and \$44.5 million (\$42.7 million, net of federal benefit received from state positions) as of December 31, 2020 and 2019, respectively.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (dollars in thousands):

	Year Ended December 31,	
	2020	2019
Beginning balance, unrecognized tax benefits	\$ (141,164)	\$ (94,962)
Gross increases - tax positions in prior period	(31,070)	(22,229)
Gross decreases - tax positions in prior period	1,530	17,390
Gross increases - current-period tax positions	(9,688)	(45,262)
Decreases relating to settlements	—	218
Reductions as a result of lapse of statute of limitations	11,791	3,680
Foreign exchange movement	85	1
Ending balance, unrecognized tax benefits	\$ (168,516)	\$ (141,164)

During the year ended December 31, 2020, we released \$11.8 million of gross unrecognized tax benefits primarily due to expiration of the statute of limitations related to the 2016 tax year. As a result, we recognized \$8.4 million of income tax benefits related to decreases in tax positions and \$3.4 million of income tax benefits related to interest and penalties. We believe the amount of gross unrecognized tax benefits that will be settled during the next twelve months due to filing amended returns and settling ongoing exams cannot be reasonably estimated but will not be significant.

Our continuing practice is to recognize potential accrued interest and/or penalties related to income tax matters within income tax expense. During the years ended December 31, 2020, 2019 and 2018, we accrued an additional \$0.4 million, \$0.3 million and \$0.6 million, respectively, in interest and penalties associated with uncertain tax positions. As of December 31, 2020 and 2019, we have recognized a liability for interest and penalties of \$1.6 million (\$1.3 million, net of related federal benefit received from interest expense) and \$3.8 million (\$3.1 million, net of related federal benefit received from interest expense), respectively.

We conduct business globally and, as a result, one or more of our subsidiaries files income tax returns in the U.S. federal jurisdiction and in multiple state, local and foreign tax jurisdictions. Our U.S. federal income tax returns for years 2016 through 2019 are currently under audit by the Internal Revenue Service. We are also under audit by various states and foreign tax jurisdictions including Canada, Korea, and the U.K. With limited exception, our significant foreign tax jurisdictions are no longer subject to audit by the various tax authorities for tax years prior to 2011.

16. Stockholders' Equity

Our board of directors is authorized, subject to any limitations imposed by law, without the approval of our stockholders, to issue a total of 25,000,000 shares of preferred stock, in one or more series, with each such series having rights and preferences including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, as our board of directors may determine. As of December 31, 2020 and 2019, no shares of preferred stock have been issued.

Our board of directors is authorized to issue up to 525,000,000 shares of Class A common stock, \$0.01 par value per share (common stock), of which 335,561,345 shares and 334,752,283 shares were issued and outstanding as of December 31, 2020 and 2019, respectively.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Stock Repurchase Program

In 2016, our board of directors authorized the company to repurchase up to an aggregate of \$250.0 million of our common stock over three years. During the year ended December 31, 2019, we spent \$45.1 million to repurchase 1,144,449 shares of our common stock at an average price of \$39.38 per share using cash on hand. During the year ended December 31, 2018, we spent \$161.0 million to repurchase 3,980,656 shares of our common stock at an average price of \$40.43 per share using cash on hand. This repurchase program terminated upon the effectiveness of the new program that took effect in March 2019.

In February 2019, our board of directors authorized a new program for the repurchase up to \$300.0 million of our common stock over three years, effective March 11, 2019. In both August and November 2019, our board of directors authorized an additional \$100.0 million under the new program, bringing the total authorized repurchase amount under the program to a total of \$500.0 million. During the year ended December 31, 2020, we spent \$50.0 million to repurchase 1,050,084 shares of our common stock at an average price of \$47.62 per share using cash on hand. During the year ended December 31, 2019, we spent \$100.0 million to repurchase 1,936,458 shares of our common stock at an average price of \$51.64 per share using cash on hand.

Our share repurchase program does not obligate us to acquire any specific number of shares. Under this program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Securities Exchange Act of 1934. Our stock repurchases have been funded with cash on hand and we intend to continue funding future repurchases with existing cash. We may utilize our stock repurchase program to continue offsetting the impact of our stock-based compensation program and on a more opportunistic basis if we believe our stock presents a compelling investment compared to other discretionary uses. The timing of any future repurchases and the actual amounts repurchased will depend on a variety of factors, including the market price of our common stock, general market and economic conditions and other factors. As of December 31, 2020, we had \$350.0 million of capacity remaining under our repurchase program.

17. Income Per Share Information

The calculations of basic and diluted income per share attributable to CBRE Group, Inc. stockholders are as follows (dollars in thousands, except share and per share data):

	Year Ended December 31,		
	2020	2019	2018
Basic Income Per Share			
Net income attributable to CBRE Group, Inc. stockholders	\$ 751,989	\$ 1,282,357	\$ 1,063,219
Weighted average shares outstanding for basic income per share	335,196,296	335,795,654	339,321,056
Basic income per share attributable to CBRE Group, Inc. stockholders	\$ 2.24	\$ 3.82	\$ 3.13
Diluted Income Per Share			
Net income attributable to CBRE Group, Inc. stockholders	\$ 751,989	\$ 1,282,357	\$ 1,063,219
Weighted average shares outstanding for basic income per share	335,196,296	335,795,654	339,321,056
Dilutive effect of contingently issuable shares	3,195,914	4,727,217	3,801,293
Dilutive effect of stock options	—	—	392
Weighted average shares outstanding for diluted income per share	338,392,210	340,522,871	343,122,741
Diluted income per share attributable to CBRE Group, Inc. stockholders	\$ 2.22	\$ 3.77	\$ 3.10

For the years ended December 31, 2020, 2019 and 2018, 567,589, 374,555 and 259,274, respectively, of contingently issuable shares were excluded from the computation of diluted income per share because their inclusion would have had an anti-dilutive effect.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

18. Revenue from Contracts with Customers

We account for revenue with customers in accordance with Topic 606. Revenue is recognized when or as control of the promised services is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to receive in exchange for those services.

Disaggregated Revenue

The following tables represent a disaggregation of revenue from contracts with customers by type of service and/or segment (dollars in thousands):

	Year Ended December 31, 2020			
	Advisory Services	Global Workplace Solutions	Real Estate Investments	Consolidated
Topic 606 Revenue:				
Global workplace solutions	\$ —	\$ 15,295,673	\$ —	\$ 15,295,673
Advisory leasing	2,404,273	—	—	2,404,273
Advisory sales	1,658,702	—	—	1,658,702
Property and advisory project management	2,204,263	—	—	2,204,263
Valuation	614,307	—	—	614,307
Commercial mortgage origination ⁽¹⁾	130,883	—	—	130,883
Loan servicing ⁽²⁾	45,692	—	—	45,692
Investment management	—	—	474,939	474,939
Development services	—	—	341,387	341,387
Topic 606 Revenue	7,058,120	15,295,673	816,326	23,170,119
Out of Scope of Topic 606 Revenue:				
Commercial mortgage origination	446,968	—	—	446,968
Loan servicing	193,904	—	—	193,904
Development services ⁽³⁾	—	—	15,204	15,204
Total Out of Scope of Topic 606 Revenue	640,872	—	15,204	656,076
Total revenue	\$ 7,698,992	\$ 15,295,673	\$ 831,530	\$ 23,826,195

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Year Ended December 31, 2019				
	Advisory Services	Global Workplace Solutions	Real Estate Investments	Consolidated
Topic 606 Revenue:				
Global workplace solutions	\$ —	\$ 14,164,001	\$ —	\$ 14,164,001
Advisory leasing	3,269,993	—	—	3,269,993
Advisory sales	2,130,979	—	—	2,130,979
Property and advisory project management	2,255,398	—	—	2,255,398
Valuation	630,399	—	—	630,399
Commercial mortgage origination ⁽¹⁾	154,227	—	—	154,227
Loan servicing ⁽²⁾	30,943	—	—	30,943
Investment management	—	—	424,882	424,882
Development services	—	—	213,264	213,264
Topic 606 Revenue	8,471,939	14,164,001	638,146	23,274,086
Out of Scope of Topic 606 Revenue:				
Commercial mortgage origination	421,736	—	—	421,736
Loan servicing	175,793	—	—	175,793
Development services ⁽³⁾	—	—	22,476	22,476
Total Out of Scope of Topic 606 Revenue	597,529	—	22,476	620,005
Total revenue	\$ 9,069,468	\$ 14,164,001	\$ 660,622	\$ 23,894,091

Year Ended December 31, 2018 ⁽⁴⁾				
	Advisory Services	Global Workplace Solutions	Real Estate Investments	Consolidated
Topic 606 Revenue:				
Global workplace solutions	\$ —	\$ 12,365,362	\$ —	\$ 12,365,362
Advisory leasing	3,080,117	—	—	3,080,117
Advisory sales	1,980,932	—	—	1,980,932
Property and advisory project management	2,057,433	—	—	2,057,433
Valuation	598,806	—	—	598,806
Commercial mortgage origination ⁽¹⁾	136,534	—	—	136,534
Loan servicing ⁽²⁾	24,192	—	—	24,192
Investment management	—	—	434,405	434,405
Development services	—	—	100,319	100,319
Topic 606 Revenue	7,878,014	12,365,362	534,724	20,778,100
Out of Scope of Topic 606 Revenue:				
Commercial mortgage origination	402,814	—	—	402,814
Loan servicing	159,174	—	—	159,174
Total Out of Scope of Topic 606 Revenue	561,988	—	—	561,988
Total revenue	\$ 8,440,002	\$ 12,365,362	\$ 534,724	\$ 21,340,088

⁽¹⁾ We earn fees for arranging financing for borrowers with third-party lender contacts. Such fees are in scope of Topic 606.

⁽²⁾ Loan servicing fees earned from servicing contracts for which we do not hold mortgage servicing rights are in scope of Topic 606.

⁽³⁾ Out of scope revenue for development services represents selling profit from transfers of sales-type leases in the scope of Topic 842.

⁽⁴⁾ Our new organizational structure became effective January 1, 2019. See Note 19 for additional information. Revenue classifications for 2018 have been restated to conform to the new structure.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Contract Assets and Liabilities

We had contract assets totaling \$471.8 million (\$318.2 million of which was current) and \$529.8 million (\$328.0 million of which was current) as of December 31, 2020 and 2019, respectively. During the year ended December 31, 2020, our contract assets decreased by \$58.0 million, primarily due to a decrease in contract assets in our advisory business.

We had contract liabilities totaling \$164.1 million (\$162.0 million of which was current) and \$115.0 million (\$108.7 million of which was current) as of December 31, 2020 and 2019, respectively. During the year ended December 31, 2020, we recognized revenue of \$80.0 million that was included in the contract liability balance at December 31, 2019.

Contract Costs

Within our Global Workplace Solutions segment, we incur transition costs to fulfill contracts prior to services being rendered. We capitalized \$64.2 million, \$69.3 million and \$45.7 million, respectively, of transition costs during the years ended December 31, 2020, 2019 and 2018. We recorded amortization of transition costs of \$46.9 million, \$32.3 million and \$23.4 million, respectively, during the years ended December 31, 2020, 2019 and 2018.

19. Segments

We organize our operations around, and publicly report our financial results on, three global business segments: (1) Advisory Services; (2) Global Workplace Solutions and (3) Real Estate Investments.

Summarized financial information by segment is as follows (dollars in thousands):

	Year Ended December 31,		
	2020	2019	2018
Revenue			
Advisory Services	\$ 7,698,992	\$ 9,069,468	\$ 8,440,002
Global Workspace Solutions	15,295,673	14,164,001	12,365,362
Real Estate Investments	831,530	660,622	534,724
Total revenue	<u>\$ 23,826,195</u>	<u>\$ 23,894,091</u>	<u>\$ 21,340,088</u>
Depreciation and Amortization			
Advisory Services	\$ 348,669	\$ 304,766	\$ 280,921
Global Workspace Solutions	125,692	120,975	147,222
Real Estate Investments	27,367	13,483	23,845
Total depreciation and amortization	<u>\$ 501,728</u>	<u>\$ 439,224</u>	<u>\$ 451,988</u>
Equity Income (Loss) from Unconsolidated Subsidiaries			
Advisory Services	\$ 2,245	\$ 6,894	\$ 16,017
Global Workspace Solutions	368	(1,423)	115
Real Estate Investments	123,548	155,454	308,532
Total equity income from unconsolidated subsidiaries	<u>\$ 126,161</u>	<u>\$ 160,925</u>	<u>\$ 324,664</u>
Adjusted EBITDA			
Advisory Services	\$ 1,143,889	\$ 1,465,792	\$ 1,303,251
Global Workspace Solutions	516,814	424,026	345,560
Real Estate Investments	231,682	173,965	256,357
Total Adjusted EBITDA	<u>\$ 1,892,385</u>	<u>\$ 2,063,783</u>	<u>\$ 1,905,168</u>

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Adjusted EBITDA is the measure reported to the chief operating decision maker (CODM) for purposes of making decisions about allocating resources to and assessing performance of each segment. EBITDA represents earnings before depreciation and amortization, asset impairments, interest expense, net of interest income, write-off of financing costs on extinguished debt, and provision for income taxes. Amounts shown for adjusted EBITDA further remove (from EBITDA) the impact of costs associated with transformation initiatives, costs associated with workforce optimization efforts, fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period, costs incurred related to legal entity restructuring, integration and other costs related to acquisitions, carried interest incentive compensation expense (reversal) to align with the timing of associated revenue, costs associated with our reorganization, including cost-savings initiatives, costs incurred in connection with litigation settlement, and a one-time gain associated with remeasuring an investment in an unconsolidated subsidiary to fair value as of the date the remaining controlling interest was acquired.

Adjusted EBITDA is calculated as follows (dollars in thousands):

	Year Ended December 31,		
	2020	2019	2018
Net income attributable to CBRE Group, Inc.	\$ 751,989	\$ 1,282,357	\$ 1,063,219
Add:			
Depreciation and amortization	501,728	439,224	451,988
Asset impairments	88,676	89,787	—
Interest expense, net of interest income	67,753	85,754	98,685
Write-off of financing costs on extinguished debt	75,592	2,608	27,982
Provision for income taxes	214,101	69,895	313,058
EBITDA	1,699,839	1,969,625	1,954,932
Adjustments:			
Costs associated with transformation initiatives ⁽¹⁾	155,148	—	—
Costs associated with workforce optimization efforts ⁽²⁾	37,594	—	—
Impact of fair value adjustments to real estate assets acquired in the Telford Acquisition (purchase accounting) that were sold in the period	11,598	9,301	—
Costs incurred related to legal entity restructuring	9,362	6,899	—
Integration and other costs related to acquisitions	1,756	15,292	9,124
Carried interest incentive compensation (reversal) expense to align with the timing of associated revenue	(22,912)	13,101	(5,261)
Costs associated with our reorganization, including cost-savings initiatives ⁽³⁾	—	49,565	37,925
Costs incurred in connection with litigation settlement	—	—	8,868
One-time gain associated with remeasuring an investment in an unconsolidated subsidiary to fair value as of the date the remaining controlling interest was acquired	—	—	(100,420)
Adjusted EBITDA	\$ 1,892,385	\$ 2,063,783	\$ 1,905,168

⁽¹⁾ During 2020, management began the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth. The majority of expenses incurred were cash in nature and primarily related to employee separation benefits, lease termination costs and professional fees. See Note 21 for further discussion.

⁽²⁾ Primarily represents costs incurred related to workforce optimization initiated and executed in the second quarter of 2020 as part of management's cost containment efforts in response to the Covid-19 pandemic. The charges are cash expenditures primarily for severance costs incurred related to this effort. Of the total costs, \$7.4 million was included within the "Cost of revenue" line item and \$30.2 million was included in the "Operating, administrative, and other" line item in the accompanying consolidated statements of operations for the year ended December 31, 2020.

⁽³⁾ Primarily represents severance costs related to headcount reductions in connection with our reorganization announced in the third quarter of 2018 that became effective January 1, 2019.

CBRE GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Our CODM is not provided with total asset information by segment and accordingly, does not measure or allocate total assets on a segment basis. As a result, we have not disclosed any asset information by segment.

Geographic Information

Revenue in the table below is allocated based upon the country in which services are performed (dollars in thousands):

	Year Ended December 31,		
	2020	2019	2018
Revenue			
United States	\$ 13,472,013	\$ 13,852,018	\$ 12,264,188
United Kingdom	3,083,810	2,972,704	2,586,890
All other countries	7,270,372	7,069,369	6,489,010
Total revenue	<u>\$ 23,826,195</u>	<u>\$ 23,894,091</u>	<u>\$ 21,340,088</u>

20. Related Party Transactions

The accompanying consolidated balance sheets include loans to related parties, primarily employees other than our executive officers, of \$424.2 million and \$416.7 million as of December 31, 2020 and 2019, respectively. The majority of these loans represent sign-on and retention bonuses issued or assumed in connection with acquisitions and prepaid commissions as well as prepaid retention and recruitment awards issued to employees. These loans are at varying principal amounts, bear interest at rates up to 3.25% per annum and mature on various dates through 2030.

21. Transformation Initiatives

During the third quarter of 2020, management embarked on the implementation of certain transformation initiatives to enable the company to reduce costs, streamline operations and support future growth.

As part of these initiatives, we incurred the following costs, primarily in cash, for the year ended December 31, 2020 (dollars in thousands):

	Advisory Services	Global Workplace Solutions	Real Estate Investments	Consolidated
Employee separation benefits	\$ 57,550	\$ 31,083	\$ 2,444	\$ 91,077
Lease termination costs	43,225	4,586	—	47,811
Professional fees and other	13,212	2,510	538	16,260
Subtotal	113,987	38,179	2,982	155,148
Depreciation expense	14,184	166	6,342	20,692
Total	<u>\$ 128,171</u>	<u>\$ 38,345</u>	<u>\$ 9,324</u>	<u>\$ 175,840</u>

Of the total charges incurred, net of depreciation expense, \$42.1 million was included within the “Cost of revenue” line item and \$113.0 million was included in the “Operating, administrative, and other” line item in the accompanying consolidated statement of operations for the year ended December 31, 2020.

22. Subsequent Event

As described in Note 10, the company made a \$50.0 million non-controlling investment in Industrious in the fourth quarter of 2020. On February 19, 2021, the company made an additional non-controlling investment in Industrious, for approximately \$150.0 million in the form of primary and secondary shares, as well as shares issued in anticipation of Industrious closing on the transfer of Hana in the second quarter of 2021. Following this transaction, CBRE holds a 35% interest in Industrious. In addition, CBRE has entered into a series of agreements to acquire additional shares, whereby the company will increase its interest in Industrious from 35% to 40%.

CBRE GROUP, INC.
QUARTERLY RESULTS OF OPERATIONS
(Unaudited)

	Three Months Ended			
	December 31, 2020	September 30, 2020	June 30, 2020	March 31, 2020
(Dollars in thousands, except share and per share data)				
Revenue	\$ 6,910,501	\$ 5,645,142	\$ 5,381,384	\$ 5,889,168
Operating income	443,896	211,408	94,165	220,290
Net income attributable to CBRE Group, Inc.	313,765	184,132	81,897	172,195
Basic income per share	\$ 0.94	\$ 0.55	\$ 0.24	\$ 0.51
Weighted average shares outstanding for basic income per share	335,397,942	335,287,245	335,126,126	334,969,826
Diluted income per share	\$ 0.93	\$ 0.55	\$ 0.24	\$ 0.51
Weighted average shares outstanding for diluted income per share	338,799,615	337,665,848	337,361,419	339,737,911

	Three Months Ended			
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019
(Dollars in thousands, except share and per share data)				
Revenue	\$ 7,119,407	\$ 5,925,101	\$ 5,714,073	\$ 5,135,510
Operating income	513,841	316,630	284,417	144,987
Net income attributable to CBRE Group, Inc.	637,618	256,599	223,731	164,409
Basic income per share	\$ 1.90	\$ 0.76	\$ 0.67	\$ 0.49
Weighted average shares outstanding for basic income per share	334,745,003	336,203,747	336,222,471	336,020,431
Diluted income per share	\$ 1.87	\$ 0.75	\$ 0.66	\$ 0.48
Weighted average shares outstanding for diluted income per share	340,333,005	341,100,182	340,508,931	340,158,399

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

None.

Item 9A. Controls and Procedures.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act). The Company's management, with participation of the CEO and CFO, under the oversight of our Board of Directors, evaluated the effectiveness of the Company's internal control over financial reporting as of December 31, 2020 using the framework in Internal Control - Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, management concluded that the Company's internal control over financial reporting was not effective as of December 31, 2020 due to the material weakness in internal control over financial reporting, described below.

A company's internal control over financial reporting includes those policies and procedures that:

- (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company;
- (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Based on our evaluation under the COSO framework, our management concluded that we did not maintain effective internal control over financial reporting as of December 31, 2020 due to the fact that material weaknesses existed in the company's internal control over financial reporting as further described below. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Our independent registered public accounting firm, KPMG LLP, who audited the consolidated financial statements included in this Annual Report on Form 10-K, has expressed an adverse report on the operating effectiveness of the company's internal control over financial reporting. KPMG LLP's report is included herein on page 57.

Material Weaknesses Identified Relating to Global Workplace Solutions Segment – Europe, Middle East & Africa Region (GWS EMEA)

Based on our evaluation under the COSO framework, our management concluded that we did not maintain effective internal control over financial reporting as of December 31, 2020 due to the fact that material weaknesses existed in GWS EMEA.

As of December 31, 2019 we determined that the severity of control failures isolated to GWS EMEA led management to conclude that the following material weaknesses existed in the internal control environment in GWS EMEA:

- GWS EMEA did not have sufficient resources in the local GWS EMEA territories with the appropriate reporting lines, roles and responsibilities, authority, training and skill sets to design and operate financial activities, including controls, in an appropriate and timely manner.
- GWS EMEA did not effectively assess and address the risks posed by changes in the business and the related effect on the GWS EMEA system of internal controls. In relation to this, specific to the rollout of GWS EMEA's primary financial system, GWS EMEA did not effectively operate general information technology controls related to financial data migrations, user access, system changes and financial data processing. Because of the deficiencies in general information technology controls, the business process controls (automated and manual) that are dependent on this system were also deemed ineffective because they could have been adversely impacted.
- GWS EMEA did not design or execute control activities that sufficiently mitigated the financial reporting risks related to GWS EMEA.
- GWS EMEA did not have an effective information and communication process to identify, capture and process relevant information necessary for financial accounting and reporting.
- The company did not monitor the presentation and effectiveness of components of internal control through evaluation and remediation in an appropriate manner within GWS EMEA and GWS EMEA was not sufficiently integrated with the corporate oversight function.

Consequently, there were control failures for GWS EMEA in the areas of revenue and receivables, balance sheet account reconciliations, journal entries and general information technology controls. During 2020, even though a material misstatement was not identified in the GWS EMEA financial statements, it was determined that there was a reasonable possibility that a material misstatement in the GWS EMEA financial statements would not have been prevented or detected on a timely basis.

The Company's Plan to Remediate the Material Weaknesses

The company, with the oversight from the Audit Committee of the Board of Directors, is committed to remediating the GWS EMEA material weaknesses in a timely manner. We are executing remediation plans intended to address the material weaknesses in our internal controls over financial reporting. We are engaged in various stages of remedial actions to address the material weaknesses described above. We are using both internal and external resources to assist in the following actions:

- Performing a comprehensive review of the GWS EMEA's finance and accounting operating model to establish and implement a target operating model under the recently developed Finance Innovation Office under the Chief Financial Officer, which will assess people and headcount, reporting lines, roles and responsibilities, training, technology and tools.
- Assessing key processes at material GWS EMEA locations to ensure that the processes, procedures and controls are adequately designed, are clearly documented, standardized and appropriately communicated to enhance control ownership throughout the GWS EMEA organization.
- Reviewing the GWS EMEA finance and accounting organization to ensure GWS EMEA compliance and Information Technology resources are under the CBRE Global SOX and Financial Reporting Systems governance programs led by the Chief Accounting Officer and that control preparers and reviewers align to an appropriate organizational structure to sustain the remedial actions, including those related to business process and general information technology controls.

- Evaluating and designing controls to address the completeness and accuracy of data used to support key estimations, accounting transactions and disclosures, primarily associated with spreadsheets and other key reports.
- Enhancing GWS EMEA's risk assessment and monitoring procedures by implementing new training activities, hiring additional capable resources, and enhancing our Risk and Fraud Risk assessment processes to ensure appropriate resources and controls are in place to mitigate risks as commensurate with the global risk assessment and that GWS EMEA's process is fully incorporated into the corporate oversight function.

Management has taken the following remediation actions related to the GWS EMEA material weaknesses during 2020:

- We performed a comprehensive review of the GWS EMEA finance and accounting organization and implemented a new operating model to establish accountability, reporting lines, and roles and responsibilities.
- We began hiring staff responsible for internal control over financial reporting in alignment with the new operating model.
- We began implementing an ongoing training program addressing internal control over financial reporting, including educating control owners concerning the requirements of each control.
- We are designing risk assessment procedures aligned with the global framework and corporate oversight to ensure internal control over financial reporting risks are evaluated in a timely and consistent manner.
- We developed documentation for underlying business processes and information technology general controls to promote control ownership and consistent operation of controls.
- We are designing standardized controls and procedures over completeness and accuracy of data used in performing controls, including information technology and financial reporting controls.

Our remediation efforts related to the material weaknesses are ongoing. The material weaknesses will not be considered remediated until the applicable controls have been fully designed, documented, implemented, and operate for a sufficient period of time for management to conclude, through testing, that these controls are operating effectively. While we intend to complete the remediation of the material weaknesses in 2021, given the inherent complexities and limitations caused by the ongoing Covid-19 pandemic, there can be no assurances that we will be able to successfully complete the remediation within the contemplated timeline.

Disclosure Controls and Procedures

Our Chief Executive Officer and Chief Financial Officer ("certifying officers") have conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of December 31, 2020. Our certifying officers concluded that, as a result of the material weaknesses in internal control over financial reporting as described above, our disclosure controls and procedures were not effective as of December 31, 2020.

Rule 13a-15 of the Securities and Exchange Act of 1934, as amended, requires that we conduct an evaluation of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report, and we have a disclosure policy in furtherance of the same. This evaluation is designed to ensure that all corporate disclosure is complete and accurate in all material respects. The evaluation is further designed to ensure that all information required to be disclosed in our SEC reports is accumulated and communicated to management to allow timely decisions regarding required disclosures and recorded, processed, summarized and reported within the time periods and in the manner specified in the SEC's rules and forms. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of

achieving the desired control objectives. Our Chief Executive Officer and Chief Financial Officer supervise and participate in this evaluation, and they are assisted by members of our Disclosure Committee. Our Disclosure Committee consists of our General Counsel, our Senior Vice President, Corporate Finance, our Chief Administrative Officer, our Chief Communication Officer, our Senior Vice President, Risk and Assurance, our Senior Officers of significant business lines and other select employees.

In light of the material weaknesses described above, management performed additional analysis and other procedures to ensure that our consolidated financial statements were prepared in accordance with U.S. generally accepted accounting principles (GAAP). Accordingly, management believes that the consolidated financial statements included in this Annual Report on Form 10-K fairly present, in all material respects, our financial position, results of operations and cash flows as of and for the periods presented, in accordance with GAAP.

Changes in Internal Control Over Financial Reporting

There have been no changes in our internal control over financial reporting during the fiscal quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Our remediation efforts related to the material weaknesses are ongoing.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information under the headings “Elect Directors,” “Corporate Governance,” “Executive Management” and “Stock Ownership” in the definitive proxy statement for our 2021 Annual Meeting of Stockholders is incorporated herein by reference.

We are filing the certifications by the Chief Executive Officer and Chief Financial Officer required under Section 302 of the Sarbanes-Oxley Act as exhibits to this Annual Report.

Item 11. Executive Compensation.

The information contained under the headings “Corporate Governance,” “Compensation Discussion and Analysis” and “Executive Compensation” in the definitive proxy statement for our 2021 Annual Meeting of Stockholders is incorporated herein by reference.

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

The information contained under the heading “Stock Ownership” in the definitive proxy statement for our 2021 Annual Meeting of Stockholders is incorporated herein by reference.

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

The information contained under the headings “Elect Directors,” “Corporate Governance” and “Related-Party Transactions” in the definitive proxy statement for our 2021 Annual Meeting of Stockholders is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information contained under the heading “Audit and Other Fees” in the definitive proxy statement for our 2021 Annual Meeting of Stockholders is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

1. *Financial Statements*

See [Index to Consolidated Financial Statements and Financial Statement Schedules](#) located on page 54 of this report.

2. *Financial Statement Schedules*

See [Schedule II](#) located on page 122 of this report.

3. *Exhibits*

See [Exhibit Index](#) located on page 123 of this report.

Item 16. Form 10-K Summary.

Not applicable.

CBRE GROUP, INC.
SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
(Dollars in thousands)

	Allowance for Doubtful Accounts
Balance, December 31, 2017	\$ 46,789
Additions: Charges to expense	19,760
Deductions: Write-offs, payments and other	<u>6,201</u>
Balance, December 31, 2018	60,348
Additions: Charges to expense	20,373
Deductions: Write-offs, payments and other	<u>7,996</u>
Balance, December 31, 2019	72,725
Additions: Charges to expense	47,240
Deductions: Write-offs, payments and other	<u>24,432</u>
Balance, December 31, 2020	<u><u>\$ 95,533</u></u>

EXHIBIT INDEX

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
2.1	Share Sale Agreement, dated November 12, 2013, by and among William Investments Limited, the individual vendors named therein, CBRE Holdings Limited, CBRE UK Acquisition Company Limited and CBRE Group, Inc.	8-K	001-32205	1.01	11/13/2013	
2.2	Stock and Asset Purchase Agreement, dated as of March 31, 2015, by and between Johnson Controls, Inc. and CBRE, Inc.	8-K	001-32205	2.1	04/03/2015	
3.1	Amended and Restated Certificate of Incorporation of CBRE Group, Inc.	8-K	001-32205	3.1	05/23/2018	
3.2	Amended and Restated By-Laws of CBRE Group, Inc.	8-K	001-32205	3.1	03/27/2020	
4.1	Form of Class A common stock certificate of CBRE Group, Inc.	10-Q	001-32205	4.1	08/09/2017	
4.2(a)	Indenture, dated as of March 14, 2013, among CBRE Group, Inc., CBRE Services, Inc., certain subsidiaries of CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee	10-Q	001-32205	4.4(a)	05/10/2013	
4.2(b)	Second Supplemental Indenture, dated as of September 26, 2014, between CBRE Services, Inc., CBRE Group, Inc., certain subsidiaries of CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee, for the 5.25% Senior Notes due 2025, including the Form of 5.25% Senior Notes due 2025	8-K	001-32205	4.1	09/26/2014	
4.2(c)	Third Supplemental Indenture, dated as of December 12, 2014, between CBRE Services, Inc., CBRE Group, Inc., certain subsidiaries of CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee, for the additional issuance of 5.25% Senior Notes due 2025	8-K	001-32205	4.1	12/12/2014	
4.2(d)	Fourth Supplemental Indenture, dated as of August 13, 2015, between CBRE Services, Inc., CBRE Group, Inc., certain subsidiaries of CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee, for the issuance of 4.875% Senior Notes due 2026, including the Form of 4.875% Senior Notes due 2026	8-K	001-32205	4.2	08/13/2015	
4.2(e)	Fifth Supplemental Indenture, dated as of September 25, 2015, between CBRE GWS LLC, CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee, relating to the 5.00% Senior Notes due 2023, the 5.25% Senior Notes due 2025 and the 4.875% Senior Notes due 2026	8-K	001-32205	4.1	09/25/2015	
4.2(f)	Sixth Supplemental Indenture, dated as of January 28, 2020, among CBRE Holdings, LLC, CBRE Services, Inc. and Wells Fargo Bank, National Association, as trustee, relating to the 5.25% Senior Notes due 2025 and the 4.875% Senior Notes due 2026	10-K	001-32205	4.2(g)	03/02/2020	
4.3	Description of Securities	10-K	001-32205	4.3	03/02/2020	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
10.1	Credit Agreement, dated as of October 31, 2017, among CBRE Group, Inc., CBRE Services, Inc., certain subsidiaries of CBRE Services, Inc., the lenders party thereto and Credit Suisse AG, Cayman Islands Branch, as administrative agent	8-K	001-32205	10.1	11/01/2017	
10.2	Borrowing Subsidiary Agreement, dated as of December 20, 2018, among CBRE Group, Inc., CBRE Services, Inc., CBRE Global Acquisition Company and Credit Suisse AG, Cayman Islands Branch, as administrative agent	10-K	001-32205	10.2	03/01/2019	
10.3	Incremental Term Loan Assumption Agreement, dated as of December 20, 2018, among CBRE Group, Inc., CBRE Services, Inc., certain subsidiaries of CBRE Services, Inc., the lenders party thereto and Credit Suisse AG, Cayman Islands Branch, as administrative agent	8-K	001-32205	10.1	12/21/2018	
10.4	Incremental Term Loan Assumption Agreement, dated as of March 4, 2019 among CBRE Group, Inc., CBRE Services, Inc., certain subsidiaries of CBRE Services, Inc., the lenders party thereto and Credit Suisse AG, Cayman Islands Branch, as administrative agent	8-K	001-32205	10.1	03/05/2019	
10.5	Guarantee Agreement, dated as of October 31, 2017, among CBRE Group, Inc., CBRE Services, Inc., the subsidiary guarantors party thereto and Credit Suisse AG, Cayman Islands Branch, as administrative agent	8-K	001-32205	10.2	11/01/2017	
10.6	Supplement No. 1, dated December 20, 2018, to the Guarantee Agreement, among CBRE Group, Inc., CBRE Services, Inc., the subsidiary guarantors party thereto and Credit Suisse AG, Cayman Islands Branch, as administrative agent	10-K	001-32205	10.5	03/01/2019	
10.7	CBRE Group, Inc. Executive Bonus Plan +	10-K	001-32205	10.7	03/02/2020	
10.8	Form of Indemnification Agreement for Directors and Officers +	8-K	001-32205	10.1	12/08/2009	
10.9	Form of Indemnification Agreement for Directors and Officers +	10-Q	001-32205	10.3	05/10/2016	
10.10	CBRE Group, Inc. 2012 Equity Incentive Plan +	S-8	333-181235	99.1	05/08/2012	
10.11	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2012 Equity Incentive Plan (Performance Vest) +	8-K	001-32205	10.1	08/20/2013	
10.12	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2012 Equity Incentive Plan (Time Vest) +	8-K	001-32205	10.2	08/20/2013	
10.13	CBRE Group, Inc. 2017 Equity Incentive Plan +	S-8	333-218113	99.1	05/19/2017	
10.14	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Time Vest) +	8-K	001-32205	10.2	03/05/2019	
10.15	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Performance Vest) +	8-K	001-32205	10.3	03/05/2019	
10.16	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Groch Time Vest) +	8-K	001-32205	10.4	03/05/2019	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
10.17	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Groch Performance Vest) +	8-K	001-32205	10.5	03/05/2019	
10.18	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Non-Employee Director) +	S-8	333-218113	99.4	05/19/2017	
10.19	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (Time Vesting RSU) +	10-K	001-32205	10.27	03/01/2018	
10.20	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (TSR Performance RSU) +	10-K	001-32205	10.28	03/01/2018	
10.21	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2017 Equity Incentive Plan (EPS Performance RSU) +	10-K	001-32205	10.29	03/01/2018	
10.22	CBRE Group, Inc. 2019 Equity Incentive Plan +	S-8 POS	333-231572	99.1	05/29/2019	
10.23	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2019 Equity Incentive Plan (Time Vest) +	10-K	001-32205	10.24	03/02/2020	
10.24	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2019 Equity Incentive Plan (Performance Vest) +	10-Q	001-32205	10.4	08/09/2019	
10.25	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2019 Equity Incentive Plan (Groch Time Vest) +	10-K	001-32205	10.26	03/02/2020	
10.26	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2019 Equity Incentive Plan (Groch Performance Vest) +	10-Q	001-32205	10.6	08/09/2019	
10.27	Form of Grant Notice and Restricted Stock Unit Agreement for the CBRE Group, Inc. 2019 Equity Incentive Plan (Non-Employee Director) +	10-Q	001-32205	10.7	08/09/2019	
10.28	CBRE Deferred Compensation Plan, effective January 1, 2019 +	10-K	001-32205	10.22	03/01/2019	
10.29	CBRE Adoption Agreement +	10-K	001-32205	10.23	03/01/2019	
10.30	CBRE Group, Inc. Amended and Restated Change in Control and Severance Plan for Senior Management, including form of Designation Letter +	10-Q	001-32205	10.1	10/29/2020	
10.31	Form of Restricted Covenants Agreement +	10-K	001-32205	10.33	03/01/2018	
10.32	Letter Agreement dated as of January 4, 2019 by and between CBRE, Inc. and James R. Groch +	10-Q	001-32205	10.1	05/10/2019	
10.33	Employment and Transition Agreement dated as of April 21, 2020 by and between CBRE, Inc. and James R. Groch +	10-Q	001-32205	10.1	05/07/2020	
10.34	Letter Agreement dated as of April 4, 2019 by and between CBRE, Inc. and Leah C. Stearns +	10-Q	001-32205	10.2	05/10/2019	

Exhibit No.	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	SEC File No.	Exhibit	Filing Date	
21	Subsidiaries of CBRE Group, Inc.					X
22.1	Subsidiary Guarantors of CBRE Group, Inc.'s Registered Debt					X
23.1	Consent of Independent Registered Public Accounting Firm					X
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to §302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934, as adopted pursuant to §302 of the Sarbanes-Oxley Act of 2002					X
32	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002					X
101.INS	Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)					X

+ Denotes a management contract or compensatory arrangement

SIGNATURES

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

CBRE GROUP, INC.

Registrant

Date: February 24, 2021

/s/ ROBERT E. SULENTIC

Robert E. Sulentic
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ BRANDON B. BOZE Brandon B. Boze	Chair of the Board	February 24, 2021
/s/ BETH F. COBERT Beth F. Cobert	Director	February 24, 2021
/s/ CURTIS F. FEENY Curtis F. Feeny	Director	February 24, 2021
/s/ REGINALD H. GILYARD Reginald H. Gilyard	Director	February 24, 2021
/s/ SHIRA D. GOODMAN Shira D. Goodman	Director	February 24, 2021
/s/ CHRISTOPHER T. JENNY Christopher T. Jenny	Director	February 24, 2021
/s/ GERARDO I. LOPEZ Gerardo I. Lopez	Director	February 24, 2021
/s/ OSCAR MUNOZ Oscar Munoz	Director	February 24, 2021
/s/ LEAH C. STEARNS Leah C. Stearns	Chief Financial Officer (Principal Financial and Accounting Officer)	February 24, 2021
/s/ ROBERT E. SULENTIC Robert E. Sulentic	Director and President and Chief Executive Officer (Principal Executive Officer)	February 24, 2021
/s/ LAURA D. TYSON Laura D. Tyson	Director	February 24, 2021
/s/ RAY WIRTA Ray Wirta	Director	February 24, 2021
/s/ SANJIV YAJNIK Sanjiv Yajnik	Director	February 24, 2021

SUBSIDIARIES OF CBRE GROUP, INC.

AT DECEMBER 31, 2020

The following is a list of subsidiaries of CBRE Group, Inc. (the “Company”) as of December 31, 2020, omitting subsidiaries which, considered in the aggregate as if they were a single subsidiary, would not constitute a significant subsidiary.

Name	State (or Country) of Incorporation
CBRE Services, Inc.	Delaware
CB/TCC, LLC	Delaware
CBRE, Inc.	Delaware
CBRE Holdings, LLC	Delaware
CBRE Partner, Inc.	Delaware
CBRE Capital Markets, Inc.	Texas
CB/TCC Global Holdings Limited	United Kingdom
CBRE Holdings Limited	United Kingdom
CBRE Limited	United Kingdom
CBRE Finance Europe LLP	United Kingdom
CBRE Global Holdings SARL	Luxembourg
CBRE Luxembourg Holdings SARL	Luxembourg
CBRE Global Acquisition Company SARL	Luxembourg
Relam Amsterdam Holdings	The Netherlands

**SUBSIDIARY GUARANTORS OF CBRE GROUP, INC.'S
REGISTERED DEBT**

AT DECEMBER 31, 2020

The following is a list of the subsidiaries of CBRE Group, Inc. (the “Company”) that were issuers, co-issuers or guarantors of securities registered under the Securities Act of 1933, as amended, for which the Company was an issuer, co-issuer or guarantor as of December 31, 2020. CBRE Services, Inc. is the issuer of the 4.875% senior notes (as defined in the Company’s Annual Report on Form 10-K for the year ended December 31, 2020), which is guaranteed by the Company on a joint and several basis. Each subsidiary listed below jointly and severally guarantees the 4.875% senior notes:

CBRE, Inc.
CBRE Global Investors, Inc.
CBRE Global Investors, LLC
CB/TCC Global Holdings Limited
CBRE Capital Markets of Texas, LP
CBRE Capital Markets, Inc.
CBRE Clarion CRA Holdings, Inc.
CBRE Clarion REI Holding, Inc.
CBRE Government Services, LLC
CBRE/LJM – Nevada, Inc.
CBRE Partner, Inc.
CBRE Technical Services, LLC
CB/TCC, LLC
Trammell Crow Company, LLC
CBRE GWS LLC
CBRE Business Lending, Inc.
CBRE Consulting, Inc.
CBRE/LJM Mortgage Company, L.L.C.
Insignia/ESG Capital Corporation
Trammell Crow Development & Investment, Inc.
CBRE Holdings, LLC

Consent of Independent Registered Public Accounting Firm

The Board of Directors
CBRE Group, Inc.:

We consent to the incorporation by reference in the registration statements (Nos. 333-116398, 333-181235, 333-218113 and 333-231572 on Form S-8 and No. 333-251514 on Form S-3) of CBRE Group, Inc. of our report dated February 24, 2021, with respect to the consolidated balance sheets of CBRE Group, Inc. and subsidiaries as of December 31, 2020 and 2019, and the related consolidated statements of operations, comprehensive income, cash flows, and equity for each of the years in the three-year period ended December 31, 2020, and the related notes and financial statement schedule II, and the effectiveness of internal control over financial reporting as of December 31, 2020, which report appears in the December 31, 2020 annual report on Form 10-K of CBRE Group, Inc.

Our report dated February 24, 2021, on the consolidated financial statements as of December 31, 2020, includes an explanatory paragraph related to CBRE Group, Inc. and subsidiaries' change in method of accounting for leases as of January 1, 2019 due to the adoption of the Accounting Standards Codification Topic 842, *Leases*.

Our report dated February 24, 2021, on the effectiveness of internal control over financial reporting as of December 31, 2020, expresses our opinion that CBRE Group, Inc. and subsidiaries did not maintain effective internal control over financial reporting as of December 31, 2020 because of the effect of material weaknesses on the achievement of the objectives of the control criteria and contains an explanatory paragraph that states the following material weaknesses have been identified:

- The Global Workspace Solutions segment in the Company's EMEA region (GWS EMEA) did not have sufficient resources in the local GWS EMEA territories with the appropriate reporting lines, roles and responsibilities, authority, training and skill sets to design and operate financial activities, including controls, in an appropriate and timely manner.
- GWS EMEA did not effectively assess and address the risks posed by changes in the business and the related effect on the GWS EMEA system of internal controls. In relation to this, specific to the rollout of GWS EMEA's primary financial system, GWS EMEA did not effectively operate general information technology controls related to financial data migrations, user access, system changes and financial data processing. Because of the deficiencies in general information technology controls, the business process controls (automated and manual) that are dependent on this system were also deemed ineffective because they could have been adversely impacted.
- GWS EMEA did not design or execute control activities that sufficiently mitigated the financial reporting risks related to GWS EMEA.
- GWS EMEA did not have an effective information and communication process to identify, capture and process relevant information necessary for financial accounting and reporting.
- The Company did not monitor the presentation and effectiveness of components of internal control through evaluation and remediation in an appropriate manner within GWS EMEA and GWS EMEA was not sufficiently integrated with the corporate oversight function.

Consequently, there were control failures for GWS EMEA in the areas of revenue and receivables, balance sheet account reconciliations, journal entries and general information technology controls.

/s/ KPMG LLP

Los Angeles, California
February 24, 2021

CERTIFICATIONS

I, Robert E. Sulentic, certify that:

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

Date: February 24, 2021

/s/ ROBERT. E. SULENTIC

Robert E. Sulentic
President and Chief Executive Officer

CERTIFICATIONS

I, Leah C. Stearns, certify that:

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

Date: February 24, 2021

/s/ LEAH C. STEARNS

Leah C. Stearns
Chief Financial Officer

**CERTIFICATIONS PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
(18 U.S.C. SECTION 1350)**

The undersigned, Robert E. Sulentic, Chief Executive Officer, and Leah C. Stearns, Chief Financial Officer of CBRE Group, Inc. (the “Company”), hereby certify as of the date hereof, solely for the purposes of 18 U.S.C. §1350, that:

- (i) the Annual Report on Form 10-K for the period ended December 31, 2020, of the Company (the “Report”) fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company at the dates and for the periods indicated.

Date: February 24, 2021

/s/ ROBERT E. SULENTIC

Robert E. Sulentic
President and Chief Executive Officer

/s/ LEAH C. STEARNS

Leah C. Stearns
Chief Financial Officer

The foregoing certification is being furnished solely pursuant to 18 U.S.C. Section 1350 and is not being filed as part of the Report or as a separate disclosure document.