CBRE GROUP, INC.
Form 10-K
March 01, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange

Act of 1934

For the fiscal year ended December 31, 2018

Commission File Number 001 – 32205

CBRE GROUP, INC.

(Exact name of registrant as specified in its charter)

Delaware	94-3391143
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
400 South Hope Street, 25th Floor	
Los Angeles, California	90071
(Address of principal executive offices)	(Zip Code)

(213) 613-3333

(Registrant's telephone number, including area code)

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

Title of Each Class	Name of Each Exchange on Which Registered
Class A Common Stock, $0.01 par value	New York Stock Exchange

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

N.A.

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to the Form 10-K.

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

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

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

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

As of June 29, 2018, the aggregate market value of Class A Common Stock held by non-affiliates of the registrant was $16.2 billion based upon the last sales price on June 29, 2018 on the New York Stock Exchange of $47.74 for the registrant's Class A Common Stock.

As of February 14, 2019, the number of shares of Class A Common Stock outstanding was 335,834,731.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement for the registrant's 2019 Annual Meeting of Stockholders to be held May 17, 2019 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 2018 revenue, with leading global market positions in our leasing, property sales, occupier outsourcing and valuation businesses. As of December 31, 2018, we operated in more than 480 offices worldwide with over 90,000 employees, excluding independent affiliates. We serve clients in more than 100 countries.

Our business is focused on providing services to both occupiers of and investors in real estate. For occupiers, we provide facilities management, project management, transaction (both property sales and leasing) and consulting services, among others. For investors, we provide capital markets (property sales, commercial mortgage brokerage, loan origination and servicing), property leasing, investment management, property management, valuation and development services, among others. We provide commercial real estate services under the "CBRE" brand name, investment management services under the "CBRE Global Investors" brand name and development services under the "Trammell Crow Company" brand name.

We generate revenue from both management fees (large multi-year portfolio and per-project contracts) and commissions on transactions. Our contractual, fee-for-services businesses generally involve occupier outsourcing (including facilities and project management), property management, investment management, appraisal/valuation and loan servicing. Occupiers and investors increasingly prefer to purchase integrated, account-based services, and CBRE has been well-positioned to capture this business. As a result, we have generated significantly more contractual revenue over the past decade.

In 2018, 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 2018 we were ranked #207 on the Fortune 500. We have been voted the most recognized commercial real estate brand in the Lipsey Company survey for 18 consecutive years (including 2019). We have also been rated a World's Most Ethical Company by the Ethisphere Institute for six consecutive years.

CBRE History

We will mark our 113th year of continuous operations in 2019, 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 2018 revenue) through organic growth and a series of strategic acquisitions. Among these are the following acquisitions: FacilitySource (June 2018); Global Workplace Solutions (September 2015); Norland Managed Services Ltd (December 2013); ING Group N.V.'s Real Estate Investment Management (REIM) operations in Europe and Asia (October 2011) and its U.S.-based global real estate listed securities business (July 2011); and Trammell Crow Company (December 2006).

Our Regions of Operation and Principal 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.

On August 17, 2018, we announced a new organization structure that became effective on January 1, 2019. Under the new structure, we will organize our operations around, and will publicly report our financial results on, three global business segments: (1) Advisory Services, (2) Global Workplace Solutions and (3) Real Estate Investments. For 2018, we continued to report our financial results through the following segments: (1) Americas, (2) Europe, Middle East and Africa, or EMEA, (3) Asia Pacific, (4) Global Investment Management and (5) Development Services.

The Americas

The Americas is our largest reporting segment, comprised of operations throughout the United States and Canada as well as key markets in Latin America.

Most of our operations are conducted through our indirect wholly-owned subsidiary CBRE, Inc. Our mortgage loan origination, sales and servicing operations are conducted exclusively through our indirect wholly-owned subsidiary operating under the name CBRE Capital Markets, Inc., or CBRE Capital Markets, and its subsidiaries. Our operations in Canada are conducted through our indirect wholly-owned subsidiary CBRE Limited and our operations in Latin America are operated through various indirect wholly-owned subsidiaries.

Our operations also include independent affiliates to whom we license the “CBRE” name in their local markets in return for payments of annual or quarterly royalty fees to us and an agreement to cross-refer business between us and the affiliate. Revenue from affiliates totaled less than 1% of total revenue in our Americas segment in 2018.

Within our Americas segment, we organize our services into several business lines, as further described below.

Leasing Services

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 generate significant repeat business from existing clients, which, for example, accounted for approximately 66% of our U.S. leasing activity in 2018, including referrals from other parts of our business. We believe we are a market leader for the provision of these services in most top U.S. metropolitan statistical areas (as defined by the U.S. Census Bureau), including Atlanta, Austin, Chicago, Dallas, Denver, Houston, Los Angeles, Miami/South Florida, New York, Philadelphia, Phoenix, San Francisco and Seattle.

Capital Markets

We offer clients property sales and mortgage and structured financing services. The tight integration of these services helps to meet marketplace demand for comprehensive solutions. During 2018, we closed approximately $147.5 billion of capital markets transactions in the Americas, including $100.1 billion of property sales transactions and $47.5 billion of mortgage originations and loan sales.

We are the leading property sales advisor in the United States, accounting for approximately 16% of investment sales transactions greater than $2.5 million across office, industrial, retail, multifamily and hotel properties in 2018, according to Real Capital Analytics. Our mortgage brokerage business brokers, originate and service commercial mortgage loans primarily through relationships established with investment banking firms, national and regional banks, credit companies, insurance companies and pension funds. In the Americas, our mortgage loan origination volume in 2018 was $46.9 billion, including approximately $21.1 billion for U.S. Government Sponsored Enterprises (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 that will be secured by the loan. We advised on the sale of approximately $0.6 billion of mortgages on behalf of financial institutions in 2018. We also oversee a loan servicing portfolio, which totaled approximately $162 billion in the Americas (approximately $201 billion globally) at year-end 2018.

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 information, technology, branding and marketing.

We further strengthen our relationships with our real estate services clients by offering proprietary research to them through CBRE Research and CBRE Econometric Advisors, our commercial real estate market information and forecasting groups, respectively.

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 2018, we completed over 78,000 valuation, appraisal and advisory assignments in the Americas.

Occupier Outsourcing Services

We provide a broad suite of services to occupiers of real estate, including facilities management, project management, transaction management and management consulting. We report facilities and project management as well as management consulting activities in our occupier outsourcing revenue line and transaction management in our lease and sales revenue lines.

We believe the outsourcing of commercial real estate services is a long-term trend in our industry, with occupiers, such as corporations, health care providers and others, achieving better execution and improved efficiency by relying on the expertise of third-party real estate specialists.

We typically enter into multi-year, often multi-service, outsourcing contracts with our clients and also provide services on a one-off assignment or a short-term contract basis. 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 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 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. 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 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.

Property 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. 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.

Europe, Middle East and Africa (EMEA)

Our Europe, Middle East and Africa, or EMEA, reporting segment serves clients in over 70 countries. The largest operations are located in Belgium, France, Germany, Ireland, Italy, The Netherlands, Spain, Switzerland and the United Kingdom. We generally provide a full range of services concentrated on the commercial property sector in this segment. Within EMEA, our services are organized along similar lines as in the Americas, including leasing, property sales, valuation services, asset management services and occupier outsourcing, among others.

In several countries in EMEA, we have contractual relationships with independent affiliates that provide commercial real estate services under our brand name. Our agreements include licenses that allow these independent affiliates to use the “CBRE” name in the relevant territory in return for payments of annual or quarterly royalty fees to us. In addition, these agreements typically provide for the cross-referral of business between us and our affiliates. Revenue from affiliates totaled less than 1% of total revenue in our EMEA segment in 2018.

Asia Pacific

Our Asia Pacific reporting segment serves clients in over 20 countries. Our largest operations in Asia are located in Greater China, India, Japan, Singapore and Thailand. The Pacific region includes Australia and New Zealand. We generally provide a full range of commercial real estate services in this segment, similar to the services provided by our Americas and EMEA segments. We also provide services to the residential property sector, primarily in the Pacific region.

In several countries in Asia, we have contractual agreements with independent affiliates that generate royalty fees and support cross-referral arrangements similar to our EMEA segment. Revenue from affiliates totaled less than 1% of total revenue in our Asia Pacific segment in 2018.

Global Investment Management

Operations in our Global Investment Management reporting segment are conducted through our indirect wholly-owned subsidiary CBRE Global Investors, LLC and its global affiliates, which we also refer to as CBRE Global Investors. 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 estate. 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 four 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; and (4) indirect real estate, infrastructure and private equity investments through multi-manager investment programs.

Assets under management, or AUM, totaled $105.5 billion at December 31, 2018 as compared to $103.2 billion at December 31, 2017. In local currency, AUM for 2018 was up $5.1 billion, but this increase was reduced by $2.8 billion of unfavorable foreign currency movement.

Development Services

Operations in our Development Services reporting segment are conducted through our indirect wholly-owned subsidiary Trammell Crow Company, LLC, which we also refer to as Trammell Crow Company, and certain of its subsidiaries, providing development services in the United States to users of and investors in commercial real estate, as well as for its own account. Trammell Crow Company pursues 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.

Trammell Crow Company pursues development and investment activity on behalf of 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.

At December 31, 2018, Trammell Crow Company had $9.0 billion of development projects in process. Additionally, the inventory of pipeline deals (prospective projects we believe have a greater than 50% chance of closing or where land has been acquired and the projected construction start date is more than twelve months out) totaled $3.7 billion at December 31, 2018.

Competition

We compete across a variety of business lines within the commercial real estate 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) real estate investment management, valuation, loan servicing, development services and proprietary research. Each business line is highly competitive on an international, national, regional and local level. Although we are the largest commercial real estate services firm in the world in terms of 2018 revenue, our relative competitive position varies significantly across geographic markets, property types and services. We face competition from other commercial real estate service providers that compete with us on a global, national, regional or local basis or within a market segment; companies that traditionally competed in limited portions of our facilities management business and have expanded their outsourcing offerings from time to time; 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 recent 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 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, or JLL, Cushman & Wakefield, Colliers International Group, Inc., Savills plc and Newmark Group, Inc.; market-segment specialists, such as Eastdil Secured, HFF, L.P., Marcus & Millichap, Inc. and Walker & Dunlop; and firms with business lines that compete with our occupier outsourcing business, such as ISS, and Sodexo. In addition, in recent years, providers of co-working space, such as WeWork, IWG/Regus, Industrious and Knotel, have offered services directly to occupiers, providing competition, particularly for smaller space requirements. These co-working providers also compete with our new flex-space subsidiary, CBRE Hana, which we announced in late 2018.

Seasonality

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 tend 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.

Employees

At December 31, 2018, excluding our independent affiliates, we had more than 90,000 employees worldwide, approximately 37% of whose costs are fully reimbursed by clients and are mostly in our Occupier Outsourcing and Property Management lines of business. At December 31, 2018, approximately 9% of our employees worldwide were subject to collective bargaining agreements.

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" name. 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" names. We maintain trademark registrations for the CBRE service mark 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.

Environmental Matters

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 Global Investment Management and Development Services businesses, which could adversely affect the results of operations of these business lines.

Available Information

Our website is www.cbre.com. We use our website as a channel of distribution for company information, and financial and other material information regarding our company is routinely posted and accessible on our website.

On the Investor Relations section of our website, we post the following filings as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission, or the SEC: our Annual Report on Form 10-K, or Annual Report, our Proxy Statement on Schedule 14A, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act. 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 web page is available to be viewed free of charge. Information contained on our website is not part of this Annual Report or our other filings with the SEC. We assume no obligation to update or revise any forward-looking statements in this Annual Report whether as a result of new information, future events or otherwise, unless we are required to do so by law.

The SEC also maintains a website (www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

Item 1A. Risk Factors

Set forth below and elsewhere in this 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 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 later become material) may also adversely affect our business.

The success of our business is significantly related to general economic conditions and, accordingly, our business, operations and financial condition could be adversely affected by economic slowdowns, liquidity pressure, fiscal or political uncertainty and possible subsequent declines in commercial real estate asset values, property sales and leasing activities in one or more of the geographies or industry sectors that we or our clients serve.

Periods of economic weakness or recession, significantly rising interest rates, 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 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 principally operate, which can result in a general decline in real estate acquisition, disposition and leasing activity, as well as a general decline in the value of commercial real estate and in rents, which in turn reduces 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. 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, uncertainty with respect to the political and economic impact of the United Kingdom’s announced departure from the European Union and the continued negotiations related thereto has caused and may continue to cause market volatility and currency fluctuations and adversely impact our clients’ and consumers’ confidence, which may result in a deterioration in our U.K. and other European businesses if leasing and investing activity slows down. Furthermore, if such withdrawal from the European Union has an adverse economic impact on the United Kingdom, our U.K. operations may experience a prolonged period of decreased sales and leasing activity.

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Adverse economic conditions or political or regulatory uncertainty could also lead to a decline in property sales prices as well as a decline in funds invested in existing commercial real estate assets and properties planned for development, which in turn could reduce the commissions and fees that we earn. In particular, the performance of commercial real estate assets located in the United Kingdom and access to funds from investors located in the United Kingdom may be adversely impacted by any weakness in the British economy following withdrawal from the European Union or the perception that such weakness may occur. In addition, our development and investment strategy often entails making co-investments alongside our investor clients. During an economic downturn, capital for our investment activities is usually constrained and it may take longer for us to dispose of real estate investments or selling prices 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 amount of loan originations and related servicing by our Capital Markets business.

The performance of our Property Management business depends upon how well the properties we manage perform. This is because our fees are generally based on a percentage of rent collections from these properties. Rent collections may be affected by many factors, including: (1) real estate and financial market conditions prevailing generally and locally; (2) our ability to attract and retain creditworthy tenants, particularly during economic downturns; and (3) the magnitude of defaults by tenants under their respective leases, which may increase during distressed economic conditions.

In continental Europe and Asia Pacific, the economies in certain countries where we operate can be fragile, which may adversely affect our financial performance.

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 increasingly 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 harm our business, results of operations and financial condition.

Our Global 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 marketplace 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 market.

Disruptions in the credit markets may adversely affect 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 procure credit on favorable terms, there may be fewer completed leasing transactions, dispositions and acquisitions of property. In addition, if purchasers of commercial real estate are not able to procure favorable financing, resulting in the lack of disposition and acquisition opportunities for our funds and projects, our Global Investment Management and Development Services businesses may be unable to generate incentive fees, and we may also experience losses of co-invested equity capital if the disruption causes a permanent 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 United States and as a result, we are subject to risks associated with doing business globally. During 2018, approximately 43% of our revenue was transacted in foreign currencies, the majority of which included the Australian dollar, Brazilian real, British pound sterling, Canadian dollar, Chinese yuan, Czech koruna, Danish krone, euro, Hong Kong dollar, Indian rupee, Israeli shekel, Japanese yen, Korean won, Mexican peso, New Zealand dollar, Polish zloty, Singapore dollar, Swedish krona, Swiss franc and Thai baht. Fluctuations in foreign currency exchange rates may result in corresponding fluctuations in our assets under management for our Global Investment Management business, revenue and earnings. Over time, fluctuations in the value of the U.S. dollar relative to the other currencies in which we may generate earnings could adversely affect 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. For example, uncertainty with respect to the political and economic impact of the United Kingdom's announced withdrawal from the European Union has caused and may continue to cause additional volatility in international currency markets and any long-term adverse economic consequences of such withdrawal may create additional volatility in the international currency markets. 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.

In addition to exposure to foreign currency fluctuations, our international operations expose us to international economic trends as well as foreign governmental policy measures. Additional circumstances and developments related to international operations that could negatively affect our business, financial condition or results of operations include, but are not limited to, the following factors:

- 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;
- the responsibility of 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;
- greater difficulty in collecting accounts receivable in some geographic regions such as Asia, where many countries have underdeveloped insolvency laws;
- a tendency for clients to delay payments in some European and Asian countries;
- political and economic instability in certain countries;
- foreign ownership restrictions with respect to operations 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 or due to trends such as political populism and economic nationalism.

We maintain anti-corruption and anti-money-laundering compliance programs and programs designed to enable us to comply with applicable government economic sanctions, embargoes and other import/export controls throughout the company. 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 civil sanctions, including material monetary fines, penalties, equitable remedies (including disgorgement), 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 penetrated, and seek to continue to enter into, 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.

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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, including Robert E. Sulentic, our President and Chief Executive Officer. While certain of our executive officers and key employees are subject to long-term compensatory arrangements from time to time, which include retention incentives and various restrictive covenants, 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 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 support personnel in all areas of our business. We 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 and we may be unable 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. Furthermore, stockholder influence on our compensation practices, including our ability to issue equity compensation, may decrease our ability to offer attractive compensation to key personnel and make recruiting, retaining and incentivizing such personnel more difficult. If we are unable to attract and retain these qualified personnel, our growth may be limited and our business and operating results could suffer.

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 2018 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 has benefited significantly from acquisitions, which may not perform as expected and similar opportunities may not be available in the future.

A significant component of our growth over time has been generated by acquisitions. Any future growth through acquisitions will depend in part upon the continued availability of suitable acquisition candidates at favorable prices and upon advantageous terms and conditions, which may not be available to us, 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, subject to the restrictions contained in the documents governing our then-existing indebtedness. If we incur additional debt, the risks associated with our leverage, including our ability to service our then-existing debt, would increase. Acquisitions involve risks that business judgments concerning the value, strengths and weaknesses of businesses acquired may prove incorrect. Future acquisitions and any necessary related financings also may involve significant transaction-related expenses, which 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 disruptive to our business and the acquired company’s businesses as it requires coordination of geographically diverse organizations and implementation of new accounting and information technology systems. We believe that most acquisitions will initially have an adverse impact on operating and net income. Acquisitions also frequently involve significant costs related to integrating information technology and accounting and management services.

We complete acquisitions with the expectation that they will result in various benefits, including enhanced or more stable revenues, a strengthened market position, cross-selling opportunities, cost synergies, tax benefits and accretion to our adjusted net income per share. Achieving the anticipated benefits of these acquisitions is subject to a number of uncertainties, including the realization of accretive benefits in the timeframe anticipated, whether we will experience greater-than-expected 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.

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

Our size and scale 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, particularly given our world-wide operations. The size and scope of our operations increase the possibility that we will have employees who engage in unlawful or fraudulent activity, or otherwise expose us to business or reputational risks, despite our efforts to train them and maintain controls to prevent such instances. For example, employee misconduct could involve inappropriate behavior directed at an individual’s gender, appearance, ethnicity or religious beliefs, asking for a personal payment in exchange for awarding a company contract, accepting or giving inappropriate or excessive gifts, or misappropriating property or confidential or proprietary information or technology belonging to the company, our clients or third parties. 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 impacted.

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 of our business, 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 client or employee complaints, regulatory compliance, such as compliance with applicable 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, the media, activists, competitors or others in response to such conduct. Negative publicity or claims about us on social media channels can also cause rapid, widespread reputational harm to our brand.

Our brand and reputation may also be harmed by actions taken by third parties that are outside our control. For example, any shortcoming or controversy related to a third-party vendor may be attributed to us, thus damaging our reputation and brand value and increasing the attractiveness of our competitors' services. Also, business decisions or other actions or omissions of our joint venture partners may adversely affect the value of our investments, result in litigation or regulatory action against us and otherwise damage our reputation and brand. Adverse developments with respect to our industry may also, by association, negatively impact our reputation, or result in greater regulatory or legislative scrutiny or litigation against us. Furthermore, as a company with headquarters and operations located in the United States, a negative perception of the United States arising from its political or other positions could harm the perception of our company and our brand. 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.

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

We have utilized joint ventures for commercial investments, select local brokerage and other affiliations both in the United States 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.

Our real estate investment and co-investment activities in our Global Investment Management as well as Development Services businesses subject us to real estate investment risks which could cause fluctuations in our earnings and cash flow.

An important part of the strategy for our Global 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, 2018, we had committed $53.7 million to fund future co-investments in our Global Investment Management business, approximately $24.3 million of which is expected to be funded during 2019. 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 Global Investment Management business, which might suffer if we were unable to make these investments.

Selective investment in real estate projects is an important part of our Development Services business strategy, and there is an inherent risk of loss of our investments. As of December 31, 2018, we had seven real estate projects consolidated in our financial statements. In addition, as of December 31, 2018, we were involved as a principal (in most cases, co-investing with our clients) in approximately 65 unconsolidated real estate subsidiaries with invested equity of $93.3 million and had committed additional capital to these unconsolidated subsidiaries of $34.7 million. As of December 31, 2018, we also guaranteed outstanding notes payable of these unconsolidated subsidiaries with outstanding balances of $8.4 million.

During the ordinary course of our Development Services business, 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. While we generally have “guaranteed maximum price” contracts with reputable general contractors with respect to projects for which we provide these guarantees (which are intended to pass most of the risk to such contractors), 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.

Poor performance of the investment programs that our Global Investment Management business manages would cause a decline in our revenue, net income and cash flow and could adversely affect our ability to raise capital for future programs.

The revenue, net income and cash flow generated by our Global Investment Management business can be volatile period over period, primarily due to the fact that management, transaction and incentive fees can vary as a result of market movements from one period to another. In the event that any of the investment programs that our Global 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.

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.

We have debt and related debt service obligations. As of December 31, 2018, our total debt, excluding notes payable on real estate (which are generally nonrecourse 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 $1.8 billion. For the year ended December 31, 2018, our interest expense was $107.3 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 consolidations and mergers;
- 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) of 2.00x 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 of 4.25x (and, in the case of the first four full fiscal quarters following the consummation of a qualified acquisition (as defined in the 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 20.61x for the year ended December 31, 2018, and our leverage ratio of total debt less available cash to consolidated EBITDA was 0.61x as of December 31, 2018. Our ability to meet these financial ratios can 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.

In July 2017, the Financial Conduct Authority (the authority that regulates LIBOR) announced it intends to stop compelling banks to submit rates for calculation of LIBOR after 2021. The Alternative Reference Rates Committee (ARRC) has proposed that the Secured Overnight Financing Rate (SOFR) is the rate that represents best practice as the alternative to USD-LIBOR for use in derivatives and other financial contracts that are currently indexed to USD-LIBOR. The ARRC has proposed a paced market transition plan to SOFR from USD-LIBOR and organizations are currently working on industry wide and company specific transition plans as it relates to derivatives and cash markets exposed to USD-LIBOR. We have debt instruments (including our credit agreement) that are indexed to USD-LIBOR and are monitoring this activity and evaluating the related risks.

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.

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 that impact our ability to close large transactions may have a disproportionate effect on our financial condition and results of operations.

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. 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.

The concentration of business with corporate clients can increase business risk, and our business can be adversely affected due to the loss of certain of these clients.

We value the expansion of business relationships with individual corporate clients because of the increased efficiency and economics that can result from developing recurring business from performing an increasingly broad range of services for the same client. Although our client portfolio is highly diversified, as we grow our business, relationships with certain corporate clients may increase, and our client portfolio may become increasingly concentrated. For example, part of our strategy is to increase our revenues from existing clients which may lead to an increase in corporate clients and therefore greater concentration of revenues. Having increasingly large and concentrated clients also can lead to greater or more concentrated risks if, among other possibilities, any such client (1) experiences its own financial problems; (2) becomes bankrupt or insolvent, which can lead to our failure to be paid for services we have previously provided or funds we have previously advanced; (3) decides to reduce its operations or its real estate facilities; (4) makes a change in its real estate strategy, such as no longer outsourcing its real estate operations; (5) decides to change its providers of real estate services; or (6) mergers with another corporation or otherwise undergoes a change in control, which may result in new management taking over with a different real estate philosophy or in different relationships with other real estate providers.

Additionally, competitive conditions, particularly in connection with increasingly large clients may require us to compromise on certain contract terms with respect to the payment of fees, the extent of risk transfer, acting as principal rather than agent in connection with supplier relationships, liability limitations, credit terms, and other contractual terms, or in connection with disputes or potential litigation. Where competitive pressures result in higher levels of potential liability under our contracts, the cost of operational errors and other activities for which we have indemnified our clients will be greater and may not be fully insured. Where we provide real estate services to firms in the financial services industry, including banks and investment banks, we are experiencing indirectly the increasing extent of the regulatory environment to which they are subject in the aftermath of the global financial crisis. This increases the cost of doing business with them, which we are not always able to pass on, as a result of the additional resources and processes we are required to provide as a critical supplier.

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 actual or perceived conflicts of interests in the provision of our services. For example, conflicts may arise from our position as broker to 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 adversely affect us.

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 significantly 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.

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

Security breaches and other disruptions of our information and technology networks 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 and on our networks. The secure processing, maintenance and transmission of this information is critical to our operations.

Although we 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 (GDPR), which became effective in May 2018, various U.S. federal and state laws governing the protection of health or other personally identifiable information 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. The GDPR imposes new compliance obligations regarding the handling of personal data and has significantly increased financial penalties for noncompliance. For example, failure to comply with the GDPR may lead to regulatory enforcement actions, which can result in monetary penalties of up to 4% of worldwide revenues, orders to discontinue certain data processing operations, private lawsuits or reputational damage.

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.

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 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.

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.

The buildings we manage for clients, which include some of the world's largest office properties and retail centers, are used by numerous people daily. As a result, fires, earthquakes, floods, other natural disasters, defects and terrorist attacks can result in significant loss of life, 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 results of operations could be adversely affected if we are unable to maintain effective internal controls.

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 the internal controls over financial reporting that includes an assessment of the effectiveness of these controls. Internal controls 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 controls over financial reporting might not prevent or detect all misstatements or fraud. If we cannot 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 significant 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.

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 significant 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, or 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, both the difficulty of ensuring compliance with numerous licensing and other regulatory requirements and the possible loss resulting from non-compliance have increased. The global economic crisis has resulted in increased government and legislative activities, including the introduction of new legislation and changes to rules and regulations, which we expect will continue into the future. New or revised legislation or regulations applicable to our business, both within and outside of the United States, 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. A number of countries where we do business, including the United States and many countries in the European Union, have implemented, and are considering implementing, changes in relevant tax, accounting and other laws, regulations and interpretations. For example, on December 22, 2017, President Trump signed into law the “Tax Cuts and Jobs Act,” or Tax Act, that significantly reforms the Internal Revenue Code of 1986, as amended. The Tax Act’s “base erosion and anti-abuse tax” provisions, or regulations issued thereunder, could adversely impact our ongoing effective tax rate by imposing taxes on our intercompany transactions and limiting our ability to deduct certain expenses. Our future effective tax rate could also 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. 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.

Cautionary Note on Forward-Looking Statements

This Annual Report on Form 10-K, or Annual Report, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or 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 i 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 and business conditions, particularly in geographies where our business may be concentrated;
- volatility and disruption of the securities, capital and credit markets, interest rate increases, the cost and availability of capital for investment in real estate, clients' willingness to make real estate or long-term contractual commitments and other factors affecting the value of real estate assets, inside and outside the United States;
- increases in unemployment and general slowdowns in commercial activity;
- trends in pricing and risk assumption for commercial real estate services;
- the effect of significant movements in average cap 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;
- declines in lending activity of U.S. Government Sponsored Enterprises, regulatory oversight of such activity and our mortgage servicing revenue from the commercial real estate mortgage market;
- our ability to 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 maintain EBITDA and adjusted EBITDA margins that enable us to continue investing in our platform and client service offerings;
- our ability to control costs relative to revenue growth;
- economic volatility and market uncertainty globally related to the United Kingdom's withdrawal from the European Union, including concerns relating to the economic impact of such withdrawal on businesses within the United Kingdom and Europe;
- foreign currency fluctuations;
- our ability to retain and incentivize key personnel;
- our ability to compete globally, or in specific geographic markets or business segments that are material to us;
- the emergence of disruptive business models and technologies;
- our ability to identify, acquire and integrate synergistic and accretive businesses;
- costs and potential future capital requirements relating to businesses we may acquire;
- integration challenges arising out of companies we may acquire;

- the ability of our Global 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;
- 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;
- the ability of CBRE Capital Markets to periodically amend, or replace, on satisfactory terms, the agreements for its warehouse lines of credit;
- variations in historically customary seasonal patterns that cause our business not to perform as expected;
- 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;
- liabilities under guarantees, or for construction defects, that we incur in our Development Services business;
- our and our employees' ability to execute on, and adapt to, information technology strategies and trends;
- cybersecurity threats, including the potential misappropriation of assets or sensitive information, corruption of data or operational disruption;
- changes in domestic 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 Russia, Eastern Europe and the Middle East, due to the level of political instability in those regions;
- 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;
- negative publicity or actions by our employees, regulators, media, activists, competitors or others that harm our reputation or brand;
- changes in applicable tax or accounting requirements, including the impact of any subsequent additional regulation or guidance associated with the Tax Act (which was enacted into law on December 22, 2017);
- the effect of implementation of new accounting rules and standards (including new lease accounting guidance which became effective in the first quarter of 2019); 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.

Item 1B. Unresolved Staff Comments
None.

Item 2. Properties
We occupied the following offices, excluding affiliates, as of December 31, 2018:

	Sales Offices	Corporate Offices	Total
Americas	243	3	246
Europe, Middle East and Africa (EMEA)	153	1	154
Asia Pacific	88	1	89
Total	484	5	489

Some of our offices house employees from our Global Investment Management and Development Services segments as well as employees from our other business segments. We have provided above office totals by geographic region rather than by business segment in order to avoid double counting our Global Investment Management and Development Services offices.

In general, these leased offices are fully utilized. The most significant terms of the leasing arrangements for our offices are the length of the lease and the 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 locations. 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.

We do not own any of these offices.

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 therefor as liabilities on our financial statements are unlikely to be significant, but litigation is inherently uncertain and there is the potential for a material adverse effect on our 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 New York Stock Exchange under the symbol "CBG" from June 10, 2004 until the change to our new symbol of "CBRE" on March 19, 2018.

As of February 14, 2019, there were 55 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 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

As permitted by our director compensation policy, certain of our non-employee directors elected to receive shares of our Class A common stock as consideration for their service as directors in lieu of cash payments during 2018. Director fees are allocated in quarterly installments, and the non-employee directors participating in the "stock in lieu of cash" program were issued 45 shares on February 13, 2018 in lieu of $2,000 in accrued director fees, 64 shares on May 7, 2018 in lieu of $3,000 in accrued director fees and 4,072 shares on August 7, 2018 in lieu of $202,000 in accrued director fees. The number of shares issued was based on the closing price on the NYSE of our Class A common stock on the date of issuance. The issuance of these securities qualified for an exemption from registration under the Securities Act of 1933, as amended, or the Securities Act, pursuant to Section 4(a)(2) of the Securities Act because the issuance did not involve a public offering.

Issuer Purchases of Equity Securities

Open market share repurchase activity during the three months ended December 31, 2018 was as follows (dollars in thousands, except per share amounts):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or

			Programs	Programs (1)
October 1, 2018 - October 31, 2018	—	$ —	—	
November 1, 2018 - November 30, 2018	932,613	$ 42.89	932,613	
December 1, 2018 - December 31, 2018	3,048,043	$ 39.68	3,048,043	
Total	3,980,656	$ 40.43	3,980,656	$ 89,046

(1) On October 27, 2016, we announced that our board of directors had authorized the company to repurchase up to an aggregate of $250.0 million of our Class A common stock over three years, of which $161.0 million had been utilized as of December 31, 2018. No shares were repurchased prior to October 1, 2018. The remaining $89.0 million in the table represents the amount available to repurchase shares under the authorized repurchase program as of December 31, 2018.

During January 2019, we repurchased an additional 1,144,449 shares of our Class A common stock in open market transactions at an average price of $39.38 per share. Additionally, on February 28, 2019, our board of directors authorized a new program for the company to repurchase up to $300.0 million of our Class A common stock over three years, effective March 11, 2019. The existing program will terminate upon the effectiveness of the new program.

Our repurchase programs do not obligate us to acquire any specific number of shares. Under these programs, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act. 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.

Equity Compensation Plan Information

The following table summarizes information about our equity compensation plans as of December 31, 2018. 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)	9,535,878	$ —	3,632,717
Equity compensation plans not approved by security holders	—	—	—
Total	9,535,878	$ —	3,632,717

(1) Consists of restricted stock units ("RSUs") issued under 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. We cannot issue any further awards under the 2012 Plan.

In addition:

- The figures in the foregoing table include:
  - 5,542,706 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
  - 3,993,172 RSUs that are time vesting in nature.

Stock Performance Graph

The following graph shows our cumulative total stockholder return for the period beginning December 31, 2013 and ending on December 31, 2018. The graph also shows the cumulative total returns of the Standard & Poor's 500 Stock Index, or S&P 500 Index, in which we are included, and two industry peer groups.

The comparison below assumes $100 was invested on December 31, 2013 in our Class A common stock and in each of the indices shown and assumes that all dividends were reinvested. Our stock price performance shown in the following graph is not necessarily indicative of future stock price performance. The 2018 industry peer group is comprised of JLL, a global commercial real estate services company publicly traded in the United States, as well as the following companies that have significant commercial real estate or real estate capital markets businesses within the United States or globally, that in each case are publicly traded in the United States or abroad: Colliers International Group Inc. (CIGI), Cushman & Wakefield, Inc. (CWK) , HFF, L.P. (HF), ISS A/S (ISS), Marcus & Millichap, Inc. (MMI), Newmark Group Inc. (NMRK), Savills plc (SVS.L, traded on the London Stock Exchange) and Walker & Dunlop, Inc. (WD). 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 2017 peer group did not include CWK, which was added to our peer group in 2018. In addition, the 2017 peer group included BGC Partners (BGCP), which is the publicly traded parent of Newmark Grubb Knight Frank. In 2018, we elected to remove BGCP from our peer group and replace it with NMRK.

Indices	12/31/13	12/14	12/15	12/16	12/17	12/18
CBRE Group, Inc.	100.00	130.23	131.48	119.73	164.68	152.24
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
2017 Peer Group	100.00	140.03	164.66	140.11	198.02	154.72
2018 Peer Group	100.00	137.61	162.31	133.66	185.92	146.27

(1) $100 invested on 12/31/13 in stock or index-including reinvestment of dividends.
Fiscal year ending December 31.

(2)
This graph shall not be deemed incorporated by reference by any general statement incorporating by reference this Annual Report on Form 10-K into any filing under the Securities Act or under 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 under 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, 2018. The statement of operations data, the statement of cash flows data and the other data for the years ended December 31, 2018, 2017 and 2016 and the balance sheet data as of December 31, 2018 and 2017 were derived from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K (Annual Report). The statement of operations data, the statement of cash flows data and the other data for the years ended December 31, 2015 and 2014, and the balance sheet data as of December 31, 2016, 2015 and 2014 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 included under the headings "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Annual Report (dollars in thousands, except share data).

	Year Ended December 31,				
	2018	2017 (1) (As Adjusted)	2016 (1) (As Adjusted)	2015 (2)	2014
STATEMENTS OF OPERATIONS DATA:					
Revenue	$21,340,088	$18,628,787	$17,369,108	$10,855,810	$9,049,918
Operating income	1,087,989	1,078,682	816,831	835,944	792,254
Interest income	8,585	9,853	8,051	6,311	6,233
Interest expense	107,270	136,814	144,851	118,880	112,035
Write-off of financing costs on extinguished debt	27,982	—	—	2,685	23,087
Net income	1,065,948	703,576	585,170	558,877	513,503
Net income attributable to non-controlling interests	2,729	6,467	12,091	11,745	29,000
Net income attributable to CBRE Group, Inc.	1,063,219	697,109	573,079	547,132	484,503
Income per share attributable to CBRE Group, Inc. (3):					
Basic income per share	$3.13	$2.06	$1.71	$1.64	$1.47
Diluted income per share	3.10	2.05	1.69	1.63	1.45
Weighted average shares:					
Basic	339,321,056	337,658,017	335,414,831	332,616,301	330,620,206
Diluted	343,122,741	340,783,556	338,424,563	336,414,856	334,171,509

STATEMENTS OF CASH FLOWS DATA (4):					
Net cash provided by operating activities	$1,131,249	$894,411	$616,985	$651,897	$661,780
Net cash used in investing activities	(560,684)	(302,600)	(150,524)	(1,618,959)	(151,556)
Net cash (used in) provided by financing activities	(506,600)	(627,742)	(220,677)	789,548	(232,069)

OTHER DATA:					
EBITDA (5)	$1,954,932	$1,697,941	$1,373,706	$1,297,335	$1,142,252
Adjusted EBITDA (5)	1,905,168	1,716,774	1,562,347	1,412,724	1,166,125
BALANCE SHEET DATA:					
Cash and cash equivalents	$777,219	$751,774	$762,576	$540,403	$740,884
Total assets (6)	13,456,793	11,718,396	10,994,338	11,017,943	7,568,010
Long-term debt, including current portion, net (6)	1,770,406	1,999,611	2,548,137	2,679,539	1,851,012
Notes payable on real estate, net (6)	6,304	17,872	25,969	38,258	41,445
Total liabilities (6)	8,446,891	7,543,782	7,848,438	8,258,873	5,266,612
Total CBRE Group, Inc. stockholders' equity	4,938,797	4,114,496	3,103,142	2,712,652	2,259,830

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

(1) We adopted new revenue recognition guidance in the first quarter of 2018. Certain restatements have been made to the 2017 and 2016 financial statements to conform with the 2018 presentation. See Notes 2 and 3 of our Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report. Amounts for the years ended December 31, 2015 and 2014 have not been restated to conform with the presentation for the years ended December 31, 2018, 2017 and 2016.

(2) On September 1, 2015, CBRE, Inc., our wholly-owned subsidiary, closed on a Stock and Asset Purchase Agreement with Johnson Controls, Inc. (JCI) to acquire JCI's Global Workplace Solutions (JCI-GWS) business (which we refer to as the GWS Acquisition). The results for the year ended December 31, 2015 include the operations of JCI-GWS from September 1, 2015, the date such business was acquired.

(3) See Income Per Share information in Note 16 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 Updated (ASU) 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments." Certain reclassifications have been made to the 2017 and 2016 statements of cash flows to conform with the 2018 presentation. Amounts for the years ended December 31, 2015 and 2014 have not been reclassified to conform with the presentation for the years ended December 31, 2018, 2017 and 2016.

(5) EBITDA and adjusted EBITDA are not recognized measurements under accounting principles generally accepted in the United States, or 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 EBITDA and adjusted EBITDA may not be comparable to similarly titled measures of other companies.

EBITDA represents earnings before net interest expense, write-off of financing costs on extinguished debt, income taxes, depreciation and amortization. Amounts shown for adjusted EBITDA further remove (from EBITDA) the impact of certain cash and non-cash items related to acquisitions, costs associated with our reorganization, including cost-savings initiatives, cost-elimination expenses, certain carried interest incentive compensation (reversal) expense to align with the timing of associated revenue and other non-recurring costs. 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.

EBITDA and adjusted EBITDA are not intended to be measures of free cash flow for our discretionary use because they do not consider certain cash requirements such as tax and debt service payments. These measures may also differ from the amounts calculated under similarly titled definitions in our debt instruments, which amounts 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 and making certain restricted payments. We also use adjusted EBITDA as a significant component when measuring our operating performance under our employee incentive compensation programs.

EBITDA and adjusted EBITDA are calculated as follows (dollars in thousands):

	Year Ended December 31,				
	2018	2017 (As Adjusted) (1)	2016 (As Adjusted) (1)	2015	2014
Net income attributable to CBRE Group, Inc.	$1,063,219	$ 697,109	$ 573,079	$547,132	$484,503
Add:					
Depreciation and amortization	451,988	406,114	366,927	314,096	265,101
Interest expense	107,270	136,814	144,851	118,880	112,035
Write-off of financing costs on extinguished debt	27,982	—	—	2,685	23,087
Provision for income taxes	313,058	467,757	296,900	320,853	263,759
Less:					

Interest income	8,585	9,853	8,051	6,311	6,233
EBITDA	1,954,932	1,697,941	1,373,706	1,297,335	1,142,252
Adjustments:					
Costs associated with our reorganization, including cost-savings initiatives (i)	37,925	—	—	—	—
Integration and other costs related to acquisitions	9,124	27,351	125,743	48,865	—
Costs incurred in connection with litigation settlement	8,868	—	—	—	—
Carried interest incentive compensation (reversal) expense to align with the timing of associated revenue	(5,261)	(8,518)	(15,558)	26,085	23,873
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	40,439	—
Adjusted EBITDA	$1,905,168	$ 1,716,774	$ 1,562,347	$1,412,724	$1,166,125

(i) 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.

(6) In the third quarter of 2015, we elected to early adopt the provisions of ASU 2015-03, "Interest – Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs." This ASU required that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability instead of separately being recorded in other assets. As of December 31, 2014, deferred financing costs totaling $25.6 million were reclassified from other assets and netted against the related debt liabilities to conform with the 2015 presentation.

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

We are the world’s largest commercial real estate services and investment firm, based on 2018 revenue, with leading global market positions in our leasing, property sales, occupier outsourcing and valuation businesses. As of December 31, 2018, we operated in more than 480 offices worldwide with over 90,000 employees, excluding independent affiliates.

Our business is focused on providing services to both occupiers of and investors in real estate. For occupiers, we provide facilities management, project management, transaction (both property sales and tenant leasing) and consulting services, among others. For investors, we provide capital markets (property sales, commercial mortgage brokerage, loan origination and servicing), leasing, investment management, property management, valuation and development services, among others. We provide commercial real estate services under the “CBRE” brand name, investment management services under the “CBRE Global Investors” brand name and development services under the “Trammell Crow Company” brand name.

Our revenue mix has shifted in recent years toward more contractual revenue as occupiers and investors increasingly prefer to purchase integrated, account-based services from firms that meet the full spectrum of their needs nationally and globally. We believe we are well-positioned to capture a growing share of this business. We generate revenue from both management fees (large multi-year portfolio and per-project contracts) and commissions on transactions. Our contractual, fee-for-services businesses generally involve occupier outsourcing (including facilities and project management), property management, investment management, appraisal/valuation and loan servicing. In addition, our leasing services business line is largely recurring in nature over time.

In 2018, 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 2018 we were ranked #207 on the Fortune 500. We have been voted the most recognized commercial real estate brand in the Lipsey Company survey for 18 years in a row (including 2019). We have also been rated a World’s Most Ethical Company by the Ethisphere Institute for six consecutive years.

Critical Accounting Policies

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States, or 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 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 on Form 10-K, or 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 the "Intangibles – Goodwill and Other" Topic of the Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, (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, 2018 and 2017 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, but not limited to:

- a U.S. corporate tax rate decrease from 35% to 21%, effective for tax years beginning after December 31, 2017;
- the transition of U.S. international taxation from a worldwide tax system to a territorial system; and
- a one-time transition tax (i.e. toll charge) on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017 at an income tax rate of 15.5% to the extent such cumulative earnings were attributable to foreign cash and certain other net current assets, and 8% on the remainder.

In December 2017, the Securities and Exchange Commission (SEC) staff issued Staff Accounting Bulletin No. 118 (SAB 118), "Income Tax Accounting Implications of the Tax Cuts and Jobs Act," which allowed us to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. In March 2018, the Financial Accounting Standards Board (FASB) issued ASU 2018-05, "Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118," which added SEC guidance related to SAB 118.

Our provision for income taxes for 2017 included a net expense of $143.4 million attributable to the Tax Act, including a provisional amount representing our estimate of the U.S. federal and state tax impact of the transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of December 31, 2017. During 2018, we continued to analyze the impact of the Tax Act and interpreted the additional guidance issued by the U.S. Treasury Department, the Internal Revenue Service, and other standard-setting bodies. Our provision for income taxes for 2018 included a net expense true-up of $13.3 million associated with the Tax Act based upon our final analysis. As of December 31, 2018, we have completed our analysis and the final net expense associated with the Tax Act was $156.7 million.

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.

Our foreign subsidiaries have accumulated $2.1 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 has 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.

See Note 14 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

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 tend 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.

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 do not believe that general inflation has 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 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; 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 effect of difficult market conditions on our operating margins 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. Nevertheless, adverse global and regional economic trends could pose significant risks to the performance of our operations and our financial condition.

Commercial real estate markets in the United States have generally been marked by increased demand for space, falling vacancies and higher rents since 2010. During this time, healthy U.S. property sales activity has been sustained by gradually improving market fundamentals, including higher occupancy rates and rents, broad, low-cost credit availability and increased institutional capital allocations to commercial real estate. Following years of strong growth, U.S. property sales volumes slowed in 2016 and 2017, but improved in 2018 as significant capital continues to target commercial real estate, and the availability of relatively low-cost financing remains plentiful. The market for commercial real estate leasing has also remained strong, reflecting healthy economic and employment growth.

European countries began to emerge from recession in 2013, with economic growth improving in 2017 and 2018. Sales and leasing activity have also generally improved across most of Europe in the past three years. While leasing demand has remained solid, sales market volumes were relatively flat in 2018. Since the United Kingdom’s June 2016 referendum to leave the European Union (EU), economic and property market performance has been solid, with lease volumes up in 2018, while investment volumes declined slightly. However, the continued absence of any legislation confirming the terms on which the UK will leave the EU as the March 2019 deadline draws closer has contributed to increased uncertainty and could adversely affect lease and sales volumes in 2019.

In Asia Pacific, real estate leasing and investment markets have been active since late 2016. While leasing activity continued to grow solidly in 2018, investment levels cooled in 2018 as investors became more cautious. However, Asia Pacific investors remain a significant source of real estate investment both in the region and across other parts of the world.

Real estate investment management and property development markets have been generally favorable with abundant debt and equity capital flows into commercial real estate. Actively managed real estate equity strategies have been pressured by a shift in investor preferences from active to passive portfolio strategies and concerns about higher interest rates.

The performance of our global real estate services and real estate investment businesses depends on sustained economic growth and job creation; stable, healthy global credit markets; and continued positive business and investor sentiment.

Effects of Acquisitions

We historically have made significant use of strategic acquisitions to add and enhance service competencies around the world. For example, on September 1, 2015, CBRE, Inc., our wholly-owned subsidiary, pursuant to a Stock and Asset Purchase Agreement with Johnson Controls, Inc. (JCI), acquired JCI's Global Workplace Solutions (JCI-GWS) business (which we refer to as the GWS Acquisition). The acquired JCI-GWS business was a market-leading provider of integrated facilities management solutions for major occupiers of commercial real estate and had significant operations around the world. The purchase price was $1.475 billion, paid in cash, plus adjustments totaling $46.5 million for working capital and other items. We completed the GWS Acquisition in order to advance our strategy of delivering globally integrated services to major occupiers in our Americas, EMEA and Asia Pacific segments. We merged the acquired JCI-GWS business with our existing occupier outsourcing business line, which adopted the "Global Workplace Solutions" name.

Additionally, on June 12, 2018, CBRE Jason Acquisition LLC (Merger Sub), our wholly-owned subsidiary, and FacilitySource Holdings, LLC (FacilitySource), WP X Finance, LP and Warburg Pincus X Partners, LP (collectively, the Stockholders) entered into a stock purchase agreement and plan of merger (the Merger Agreement). As part of the Merger Agreement, (i) we purchased from the Stockholders all the outstanding shares of capital stock of FS WP Holdco, Inc (Blocker Corp), which owned 1,686,013 Class A units (the Blocker Units) and (ii) immediately following the acquisition of Blocker Corp, Merger Sub merged with FacilitySource, with FacilitySource continuing as the surviving company and our wholly-owned subsidiary within our Americas segment (the FacilitySource Acquisition), with the remaining Blocker Units not held by Blocker Corp. canceled and converted into the right to receive cash consideration as set forth in the Merger Agreement. The estimated net initial purchase price was approximately $266.5 million, with $263.0 million paid in cash. We financed the transaction with cash on hand and borrowings under our revolving credit facility. We completed the FacilitySource Acquisition to help us (i) build a tech-enabled supply chain capability for the occupier outsourcing industry and (ii) drive meaningfully differentiated outcomes for leading occupiers of real estate.

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 in which, in some cases, we held a small equity interest. During 2018, we 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, a provider of real estate and facilities consulting services to healthcare companies across the United States and the remaining 50% equity interest in our longstanding New England joint venture.

During 2017, we completed 11 in-fill acquisitions, including two leading Software as a Service (SaaS) platforms – one that produces scalable interactive visualization technologies for commercial real estate and one that provides technology solutions for facilities management operations, a healthcare-focused project manager in Australia, a full-service brokerage and management boutique in South Florida, a technology-enabled national boutique commercial real estate finance and consulting firm in the United States, a retail consultancy in France, a majority interest in a Toronto-based investment management business specializing in private infrastructure and private equity investments, a San Francisco-based technology-focused boutique real estate brokerage firm, a project management and design engineering firm operating across the United States, a Washington, D.C.-based retail brokerage operation and a leading technical engineering services provider in Italy.

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

Our acquisition structures often include deferred and/or contingent purchase price payments in future periods that are subject to the passage of time or achievement of certain performance metrics and other conditions. As of December 31, 2018, we have accrued deferred consideration totaling $136.3 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 are monitoring the economic and political developments related to the United Kingdom's referendum to leave the European Union and the potential impact on our businesses in the United Kingdom and the rest of Europe, including, in particular, sales and leasing activity in the United Kingdom, as well as any associated currency volatility impact on our results of operations.

As we continue to increase our international operations through either acquisitions or organic growth, fluctuations in the value of the U.S. dollar relative to the other currencies in which we may generate earnings could adversely affect our business, financial condition and operating results. Our Global Investment Management business has a significant amount of euro-denominated assets under management, or AUM, 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 the 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.

During the year ended December 31, 2018, approximately 43% of our business was transacted in non-U.S. dollar currencies, the majority of which included the Australian dollar, Brazilian real, British pound sterling, Canadian dollar, Chinese yuan, Czech koruna, Danish krone, euro, Hong Kong dollar, Indian rupee, Israeli shekel, Japanese yen, Korean won, Mexican peso, New Zealand dollar, Polish zloty, Singapore dollar, Swedish krona, Swiss franc and Thai baht. The following table sets forth our revenue derived from our most significant currencies (U.S. dollars in thousands):

	Year Ended December 31,					
	2018		2017 (As Adjusted) (1)		2016 (As Adjusted) (1)	
United States dollar	$12,264,188	57.5 %	$10,954,608	58.8 %	$10,434,782	60.1 %
British pound sterling	2,586,890	12.1 %	2,242,973	12.1 %	2,150,428	12.4 %
euro	2,329,832	10.9 %	1,740,764	9.3 %	1,612,521	9.3 %
Canadian dollar	717,692	3.3 %	617,923	3.3 %	532,203	3.1 %
Australian dollar	482,749	2.3 %	467,623	2.5 %	408,772	2.4 %
Indian rupee	418,390	2.0 %	370,705	2.0 %	285,459	1.6 %
Chinese yuan	303,600	1.4 %	244,717	1.3 %	218,999	1.2 %
Japanese yen	277,636	1.3 %	269,835	1.4 %	259,007	1.5 %
Singapore dollar	268,193	1.3 %	256,319	1.4 %	198,816	1.1 %
Swiss franc	182,641	0.9 %	153,078	0.8 %	154,463	0.9 %
Brazilian real	174,728	0.8 %	198,270	1.1 %	139,409	0.8 %
Hong Kong dollar	169,449	0.8 %	148,174	0.8 %	133,283	0.8 %
Mexican peso	135,187	0.6 %	115,812	0.6 %	99,723	0.6 %
Polish zloty	90,343	0.4 %	71,849	0.4 %	74,199	0.4 %
Danish krone	81,804	0.4 %	82,061	0.4 %	69,676	0.4 %

Thai baht	79,373	0.4 %	65,553	0.4 %	62,947	0.3 %
Swedish krona	70,471	0.3 %	71,849	0.4 %	74,199	0.4 %
New Zealand dollar	63,251	0.3 %	51,353	0.3 %	45,219	0.3 %
Korean won	59,912	0.3 %	48,475	0.3 %	44,520	0.3 %
Israeli shekel	57,779	0.3 %	22,628	0.1 %	27,648	0.2 %
Czech koruna	54,986	0.3 %	42,008	0.2 %	34,261	0.2 %
Other currencies	470,994	2.1 %	392,210	2.1 %	308,574	1.7 %
Total revenue	$21,340,088	100.0%	$18,628,787	100.0%	$17,369,108	100.0%

(1) We adopted new revenue recognition guidance in the first quarter of 2018. Certain restatements have been made to the 2017 and 2016 financial statements to conform with the 2018 presentation. See Notes 2 and 3 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report for more information.

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, 2018, the net impact would have been an increase in pre-tax income of $4.1 million. Had the euro-to-U.S. dollar exchange rates been 10% higher during the year ended December 31, 2018, the net impact would have been an increase in pre-tax income of $9.5 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.

From time to time, we have entered into derivative financial instruments to attempt to protect the value or fix the amount of certain obligations in terms of our reporting currency, the U.S. dollar. In March 2014, we began a foreign currency exchange forward hedging program by entering into foreign currency exchange forward contracts, including agreements to buy U.S. dollars and sell Australian dollars, British pound sterling, Canadian dollars, euros and Japanese yen. The purpose of these forward contracts was to attempt to mitigate the risk of fluctuations in foreign currency exchange rates that would adversely impact some of our foreign currency denominated EBITDA. Hedge accounting was not elected for any of these contracts. As such, changes in the fair values of these contracts were recorded directly in earnings. As of December 31, 2018 and 2017, we had no foreign currency exchange forward contracts outstanding as we made the decision to let our program expire at the end of 2016. Included in the consolidated statement of operations set forth in Item 8 of this Annual Report was a net gain of $7.7 million from foreign currency exchange forward contracts for the year ended December 31, 2016. We do not intend to hedge our foreign currency denominated EBITDA in 2019.

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 affects 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, 2018, 2017 and 2016 (dollars in thousands):

	Year Ended December 31,					
	2018		2017 (As Adjusted) (1)		2016 (As Adjusted) (1)	
Revenue:						
Fee revenue (1):						
Occupier outsourcing	$3,040,949	14.2 %	$2,526,069	13.6 %	$2,279,963	13.1 %
Property management	605,387	2.8 %	555,076	3.0 %	505,086	2.9 %
Valuation	560,815	2.6 %	527,638	2.8 %	504,370	2.9 %
Loan servicing	183,421	0.9 %	157,449	0.8 %	122,517	0.7 %
Investment management	434,405	2.0 %	377,644	2.0 %	369,800	2.1 %
Leasing	3,375,558	15.8 %	2,863,352	15.4 %	2,651,986	15.3 %
Capital Markets:						
Sales	1,919,140	9.0 %	1,806,313	9.7 %	1,700,503	9.8 %
Commercial mortgage origination	536,436	2.5 %	450,521	2.4 %	448,166	2.6 %
Other:						
Development services	86,320	0.4 %	60,513	0.3 %	55,638	0.3 %
Other	95,121	0.6 %	84,461	0.5 %	86,235	0.5 %
Total fee revenue	10,837,552	50.8 %	9,409,036	50.5 %	8,724,264	50.2 %
Pass through costs also recognized as revenue	10,502,536	49.2 %	9,219,751	49.5 %	8,644,844	49.8 %
Total revenue	21,340,088	100.0%	18,628,787	100.0%	17,369,108	100.0%
Costs and expenses:						
Cost of services	16,449,212	77.1 %	14,305,099	76.8 %	13,420,911	77.3 %
Operating, administrative and other	3,365,773	15.8 %	2,858,720	15.3 %	2,780,301	16.0 %
Depreciation and amortization	451,988	2.1 %	406,114	2.2 %	366,927	2.1 %
Total costs and expenses	20,266,973	95.0 %	17,569,933	94.3 %	16,568,139	95.4 %
Gain on disposition of real estate	14,874	0.1 %	19,828	0.1 %	15,862	0.1 %
Operating income	1,087,989	5.1 %	1,078,682	5.8 %	816,831	4.7 %
Equity income from unconsolidated subsidiaries	324,664	1.5 %	210,207	1.0 %	197,351	1.2 %
Other income	93,020	0.4 %	9,405	0.1 %	4,688	0.0 %
Interest income	8,585	0.0 %	9,853	0.1 %	8,051	0.0 %
Interest expense	107,270	0.5 %	136,814	0.7 %	144,851	0.8 %
Write-off of financing costs on extinguished debt	27,982	0.0 %	—	0.0 %	—	0.0 %
Income before provision for income taxes	1,379,006	6.5 %	1,171,333	6.3 %	882,070	5.1 %
Provision for income taxes	313,058	1.5 %	467,757	2.5 %	296,900	1.7 %
Net income	1,065,948	5.0 %	703,576	3.8 %	585,170	3.4 %
Less: Net income attributable to non-controlling interests	2,729	0.0 %	6,467	0.1 %	12,091	0.1 %

Net income attributable to CBRE Group, Inc.	$1,063,219	5.0	%	$697,109	3.7	%	$573,079	3.3	%
EBITDA	$1,954,932	9.2	%	$1,697,941	9.1	%	$1,373,706	7.9	%
Adjusted EBITDA	$1,905,168	8.9	%	$1,716,774	9.2	%	$1,562,347	9.0	%

(1) We adopted new revenue recognition guidance in the first quarter of 2018. Certain restatements have been made to the 2017 and 2016 financial statements to conform with the 2018 presentation. See Notes 2 and 3 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report for more information.

Fee revenue, EBITDA 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, EBITDA 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 net interest expense, write-off of financing costs on extinguished debt, income taxes, depreciation and amortization. Amounts shown for adjusted EBITDA further remove (from EBITDA) the impact of certain cash and non-cash items related to acquisitions, costs associated with our reorganization, including cost-savings initiatives, certain carried interest incentive compensation reversal to align with the timing of associated revenue and other non-recurring costs. 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.

EBITDA and adjusted EBITDA are not intended to be measures of free cash flow for our discretionary use because they do not consider certain cash requirements such as tax and debt service payments. These measures may also differ from the amounts calculated under similarly titled definitions in our debt instruments, which amounts 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 and making certain restricted payments. We also use adjusted EBITDA as a significant component when measuring our operating performance under our employee incentive compensation programs.

EBITDA and adjusted EBITDA are calculated as follows (dollars in thousands):

	Year Ended December 31,		
	2018	2017 (As Adjusted) (1)	2016 (As Adjusted) (1)
Net income attributable to CBRE Group, Inc.	$1,063,219	$ 697,109	$ 573,079
Add:			
Depreciation and amortization	451,988	406,114	366,927
Interest expense	107,270	136,814	144,851
Write-off of financing costs on extinguished debt	27,982	—	—
Provision for income taxes	313,058	467,757	296,900
Less:			
Interest income	8,585	9,853	8,051
EBITDA	1,954,932	1,697,941	1,373,706
Adjustments:			
Costs associated with our reorganization, including cost-savings initiatives (2)	37,925	—	—
Integration and other costs related to acquisitions	9,124	27,351	125,743
Costs incurred in connection with litigation settlement	8,868	—	—
Carried interest incentive compensation reversal to align with the timing of associated revenue	(5,261)	(8,518)	(15,558)
One-time gain associated with remeasuring an investment	(100,420)	—	—

in an unconsolidated subsidiary to fair value as of the date the remaining controlling interest was acquired			
Cost-elimination expenses (3)	—	—	78,456
Adjusted EBITDA	$1,905,168	$ 1,716,774	$ 1,562,347

(1) We adopted new revenue recognition guidance in the first quarter of 2018. Certain restatements have been made to the 2017 and 2016 financial statements to conform with the 2018 presentation. See Notes 2 and 3 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report for more information.

(2) 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.

(3) Represents cost-elimination expenses relating to a program initiated in the fourth quarter of 2015 and completed in the third quarter of 2016 (our cost-elimination project) to reduce the company's global cost structure after several years of significant revenue and related cost growth. Cost-elimination expenses incurred during the year ended December 31, 2016 consisted of $73.6 million of severance costs related to headcount reductions in connection with the program and $4.9 million of third-party contract termination costs. The total amount for each period does have a cash impact.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

We reported consolidated net income of $1.1 billion for the year ended December 31, 2018 on revenue of $21.3 billion as compared to consolidated net income of $697.1 million on revenue of $18.6 billion for the year ended December 31, 2017.

Our revenue on a consolidated basis for the year ended December 31, 2018 increased by $2.7 billion, or 14.6%, as compared to the year ended December 30, 2017. The revenue increase reflects strong organic growth fueled by higher occupier outsourcing revenue (up 15.2%) and property management revenue (up 7.1%), increased leasing (up 17.8%), sales (up 6.1%) and commercial mortgage origination activity (up 19.1%) and higher revenue from our Global Investment Management segment (up 12.6%). In addition, foreign currency translation had an $88.5 million positive impact on total revenue during the year ended December 31, 2018, primarily driven by strength in the British pound sterling and euro, partially offset by weakness in the Argentine peso and Brazilian real.

Our cost of services on a consolidated basis increased by $2.1 billion, or 15.0%, during the year ended December 31, 2018 as compared to the same period in 2017. This increase was primarily due to higher costs associated with our occupier outsourcing business. In addition, our sales professionals generally are paid on a commission basis, which substantially correlates with our transaction revenue performance. Accordingly, the increase in sales and lease transaction revenue led to a corresponding increase in commission expense. Lastly, foreign currency translation had a $65.0 million negative impact on total cost of services during the year ended December 31, 2018. Cost of services as a percentage of revenue increased from 76.8% for the year ended December 31, 2017 to 77.1% for the year ended December 31, 2018, primarily driven by our revenue mix, with occupier outsourcing revenue, which has a lower margin than sales and lease revenue, comprising a higher percentage of revenue than in the prior year.

Our operating, administrative and other expenses on a consolidated basis increased by $507.1 million, or 17.7%, during the year ended December 31, 2018 as compared to the same period in 2017. The increase was mostly driven by higher payroll-related costs (including increases in bonus and stock compensation expense), higher carried interest expense and increases in consulting, marketing and occupancy costs. During 2018, we also incurred $35.2 million of costs incurred in connection with our reorganization (including cost-savings initiatives) and $8.9 million of costs as a result of a litigation settlement, the impact of which was partly offset by lower integration and other costs associated with acquisitions. Foreign currency translation also had a $23.5 million negative impact on total operating expenses during the year ended December 31, 2018. Operating expenses as a percentage of revenue increased from 15.3% for the year ended December 31, 2017 to 15.8% for the year ended December 31, 2018, partially driven by higher bonus expense in our Development Services segment with no corresponding increase in revenue (as bonus expense was attributable to an increase in equity income from unconsolidated subsidiaries) as well as due to the costs incurred in connection with our reorganization.

Our depreciation and amortization expense on a consolidated basis increased by $45.9 million, or 11.3%, during the year ended December 31, 2018 as compared to the same period in 2017. This increase was primarily attributable to a rise in depreciation expense of $25.9 million during the year ended December 31, 2018 driven by technology-related capital expenditures. Higher amortization expense associated with mortgage servicing rights and intangibles acquired in acquisitions also contributed to the increase.

Our equity income from unconsolidated subsidiaries on a consolidated basis increased by $114.5 million, or 54.5%, during the year ended December 31, 2018 as compared to the same period in 2017, primarily driven by higher equity earnings associated with gains on property sales reported in our Development Services segment.

Our other income on a consolidated basis was $93.0 million for the year ended December 31, 2018 as compared to $9.4 million for the same period in 2017. Included in other income for the year ended December 31, 2018 was a one-time gain of $100.4 million associated with remeasuring our investment in a previously unconsolidated subsidiary in New England to fair value as of the date we acquired the remaining controlling interest.

Our consolidated interest expense decreased by $29.5 million, or 21.6%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. This decrease was primarily driven by the early redemption, in full, of the $800.0 million aggregate outstanding principal amount of our 5.00% senior notes in the first quarter of 2018.

Our write-off of financing costs on extinguished debt on a consolidated basis was $28.0 million for the year ended December 31, 2018. These costs included a $20.0 million premium paid and the write-off of $8.0 million of unamortized deferred financing costs in connection with the early redemption, in full, of the $800.0 million aggregate outstanding principal amount of our 5.00% senior notes.

Our provision for income taxes on a consolidated basis was $313.1 million for the year ended December 31, 2018 as compared to $467.8 million for the same period in 2017. Our provision for income taxes for 2018 included a net expense true-up of $13.3 million resulting from completion of accounting for the Tax Act. Our provision for income taxes for 2017 included a net expense of $143.4 million for the provisional charge related to the Tax Act. These net expenses were primarily comprised of a transition tax on accumulated foreign earnings, net of a tax benefit from the re-measurement of certain deferred tax assets and liabilities using the lower U.S. corporate income tax rate and the release of valuation allowances on foreign tax credits that will decrease the liability related to the transition tax. Excluding these net charges associated with the Tax Act, our effective tax rate, after adjusting pre-tax income to remove the portion attributable to non-controlling interests, would have been 21.8% for the year ended December 31, 2018 compared to 27.8% for the year ended December 31, 2017. We benefited from a lower U.S. corporate tax rate, with such rate being 35% in 2017 versus 21% in 2018. The effect of the decrease in the U.S. corporate tax rate was partially offset by discrete tax benefits for the year ended December 31, 2017 from the re-measurement of income tax exposures relating to prior periods and release of valuation allowances on foreign income tax credits that were expected to be utilized with no similar items for the year ended December 31, 2018.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

We reported consolidated net income of $697.1 million for the year ended December 31, 2017 on revenue of $18.6 billion as compared to consolidated net income of $573.1 million on revenue of $17.4 billion for the year ended December 31, 2016.

Our revenue on a consolidated basis for the year ended December 31, 2017 increased by $1.3 billion, or 7.3%, as compared to the year ended December 31, 2016. The revenue increase reflects strong organic growth fueled by higher occupier outsourcing revenue (up 8.0%) and property management revenue (up 9.3%), increased sales (up 5.8%) and leasing activity (up 7.5%), and higher loan servicing revenue (up 28.9%). These increases were partially offset by foreign currency translation, which had a $34.7 million negative impact on total revenue during the year ended December 31, 2017, primarily driven by weakness in the British pound sterling, partially offset by strength in the euro.

Our cost of services on a consolidated basis increased by $884.2 million, or 6.6%, during the year ended December 31, 2017 as compared to same period in 2016. This increase was primarily due to higher costs associated with our occupier outsourcing business as well as higher professional bonuses (particularly in the United States and United Kingdom). In addition, as previously mentioned, our sales professionals generally are paid on a commission basis, which substantially correlates with our transaction revenue performance. Accordingly, the increase in sales and lease transaction revenue led to a corresponding increase in commission expense. These increases were partially offset by foreign currency translation, which had a $37.9 million positive impact on cost of services during the year ended December 31, 2017. In addition, we incurred $37.1 million of costs in 2016 in connection with our cost-elimination project that did not recur in 2017, which partially contributed to cost of services as a percentage of revenue decreasing from 77.3% for the year ended December 31, 2016 to 76.8% for the year ended December 31, 2017.

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Our operating, administrative and other expenses on a consolidated basis increased by $78.4 million, or 2.8%, during the year ended December 31, 2017 as compared to the same period in 2016. The increase was mostly driven by higher payroll-related costs (including increases in bonus and stock compensation expense driven by improved operating performance). This increase was partially offset by a decrease of $96.7 million in integration and other costs related to the GWS Acquisition incurred during the year ended December 31, 2017 as well as the impact of $41.4 million of costs incurred during the year ended December 31, 2016 as part of our cost-elimination project, which did not recur during the year ended December 31, 2017. Foreign currency also had a $1.7 million positive impact on total operating expenses during the year ended December 31, 2017, including a $0.1 million positive impact from foreign currency translation and $1.6 million of favorable foreign currency transaction activity over the year ended December 31, 2016 (part of which related to net hedging activity during 2016, which did not recur in the 2017 given that we discontinued our hedging program at the end of 2016). Operating expenses as a percentage of revenue decreased from 16.0% for the year ended December 31, 2016 to 15.3% for the year ended December 31, 2017, primarily driven by the aforementioned decline in integration and other costs related to the GWS Acquisition as well as the costs associated with our cost-elimination project in 2016.

Our depreciation and amortization expense on a consolidated basis increased by $39.2 million, or 10.7%, during the year ended December 31, 2017 as compared to the same period in 2016. This increase was primarily attributable to higher amortization expense associated with mortgage servicing rights. A rise in depreciation expense of $14.5 million during the year ended December 31, 2017 driven by technology-related capital expenditures also contributed to the increase.

Our equity income from unconsolidated subsidiaries on a consolidated basis increased by $12.9 million, or 6.5%, during the year ended December 31, 2017 as compared to the same period in 2016, primarily driven by higher equity earnings associated with gains on property sales reported in our Development Services segment.

Our consolidated interest expense decreased by $8.0 million, or 5.5%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. This decrease was primarily driven by lower interest expense due to lower net borrowings under our credit agreement and a decrease in notes payable on real estate during 2017.

Our provision for income taxes on a consolidated basis was $467.8 million for the year ended December 31, 2017 as compared to $296.9 million for the same period in 2016. Our provision for income taxes for 2017 included a provisional net charge of $143.4 million attributable to the Tax Act. This net charge was primarily comprised of a transition tax on accumulated foreign earnings, net of a tax benefit from the re-measurement of certain deferred tax assets and liabilities using the lower U.S. corporate income tax rate and the release of valuation allowances on foreign tax credits that will decrease the liability related to the transition tax. Excluding this net charge, our effective tax rate for 2017, after adjusting pre-tax income to remove the portion attributable to non-controlling interests, would have been 27.8% compared to 34.1% for the year ended December 31, 2016. We benefited from a more favorable geographic mix of income, the re-measurement of income tax exposures relating to prior periods and release of valuation allowances. The release of valuation allowances during the year ended December 31, 2017 primarily related to valuation allowances on foreign income tax credits that are expected to be utilized as well as on net operating losses that have been utilized through current year operations. The re-measurement of income tax exposures, primarily due to the resolution of certain tax audits during the year ended December 31, 2017, contributed to the lower effective tax rate for 2017 as compared to 2016. In addition, the contribution of income from lower taxed jurisdictions to our total consolidated income for the year ended December 31, 2017, provided a more favorable geographic mix of income, resulting in a decrease to the overall effective tax rate.

Segment Operations

On August 17, 2018, we announced a new organization structure that became effective on January 1, 2019. Under the new structure, we will 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 2018, we are reporting our financial results under our business segments as they existed throughout the year.

Through the year ended December 31, 2018, we reported our operations through the following segments: (1) Americas, (2) EMEA, (3) Asia Pacific, (4) Global Investment Management and (5) Development Services. The Americas consisted of operations located in the United States, Canada and key markets in Latin America. EMEA mainly consisted of operations in Europe, while Asia Pacific included operations in Asia, Australia and New Zealand. The Global Investment Management business consisted of investment management operations in North America, Europe and Asia Pacific. The Development Services business consisted of real estate development and investment activities in the United States.

Americas

The following table summarizes our results of operations for our Americas operating segment for the years ended December 31, 2018, 2017 and 2016 (dollars in thousands):

	Year Ended December 31,								
	2018			2017 (As Adjusted) (1)			2016 (As Adjusted) (1)		
Revenue:									
Fee revenue:									
Occupier outsourcing	$1,282,605	9.8	%	$1,111,187	9.4	%	$949,666	8.6	%
Property management	319,538	2.4	%	286,288	2.4	%	272,000	2.5	%
Valuation	261,559	2.0	%	245,179	2.1	%	245,389	2.2	%
Loan servicing	172,096	1.3	%	146,460	1.2	%	111,373	1.0	%
Leasing	2,423,248	18.5	%	2,054,872	17.4	%	1,924,361	17.4	%
Capital Markets:									
Sales	1,189,368	9.1	%	1,103,862	9.4	%	1,103,452	10.0	%
Commercial mortgage origination	528,338	4.0	%	442,955	3.8	%	443,149	4.0	%
Other	50,342	0.3	%	48,242	0.4	%	50,230	0.4	%
Total fee revenue	6,227,094	47.4	%	5,439,045	46.1	%	5,099,620	46.1	%
Pass through costs also recognized as revenue	6,904,812	52.6	%	6,352,332	53.9	%	5,970,345	53.9	%
Total revenue	13,131,906	100.0	%	11,791,377	100.0	%	11,069,965	100.0	%
Costs and expenses:									
Cost of services	10,468,110	79.7	%	9,410,147	79.8	%	8,873,405	80.2	%
Operating, administrative and other	1,616,216	12.3	%	1,405,552	11.9	%	1,357,438	12.3	%
Depreciation and amortization	327,556	2.5	%	289,338	2.5	%	254,118	2.2	%
Operating income	720,024	5.5	%	686,340	5.8	%	585,004	5.3	%
Equity income from unconsolidated subsidiaries	14,177	0.1	%	18,789	0.1	%	17,892	0.2	%
Other income (loss)	103,689	0.8	%	37	0.0	%	(90)	0.0	%
Add-back: Depreciation and amortization	327,556	2.5	%	289,338	2.5	%	254,118	2.2	%
EBITDA	$1,165,446	8.9	%	$994,504	8.4	%	$856,924	7.7	%
Adjusted EBITDA	$1,111,014	8.5	%	$1,011,643	8.6	%	$950,573	8.6	%

(1) We adopted new revenue recognition guidance in the first quarter of 2018. Certain restatements have been made to the 2017 and 2016 financial statements to conform with the 2018 presentation. See Notes 2 and 3 of the Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report for more information.

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Revenue increased by $1.3 billion, or 11.4%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The revenue increase reflects strong organic growth fueled by higher occupier outsourcing and property management revenue as well as improved sales, leasing and commercial mortgage origination activity. Foreign currency translation had a $56.4 million negative impact on total revenue during the year ended December 31, 2018, primarily driven by weakness in the Argentine peso and Brazilian real.

Cost of services increased by $1.1 billion, or 11.2%, for the year ended December 31, 2018 as compared to the same period in 2017, primarily due to higher costs associated with our occupier outsourcing business. Also contributing to the variance was higher commission expense resulting from improved sales and lease transaction revenue. Foreign currency translation had a $48.2 million positive impact on total cost of services during the year ended December 31, 2018. Cost of services as a percentage of revenue was consistent at 79.7% for the year ended December 31, 2018 versus 79.8% for the same period in 2017.

Operating, administrative and other expenses increased by $210.7 million, or 15.0%, for the year ended December 31, 2018 as compared to the year ended December 31, 2017. The increase was partly driven by higher payroll-related costs (including increases in bonus and stock compensation expense) as well as increases in consulting, marketing and occupancy costs. During 2018, we also incurred $27.4 million of severance costs in connection with our reorganization, including cost-savings initiatives, and $8.9 million of costs as a result of a litigation settlement, the impact of which was partly offset by lower integration and other costs associated with acquisitions. Foreign currency translation had a $6.5 million positive impact on total operating expenses during the year ended December 31, 2018.

In connection with the origination and sale of mortgage loans for which the company retains servicing rights, we record servicing assets or liabilities based on the fair value of the retained mortgage servicing rights (MSRs) on the date the loans are sold. Upon origination of a mortgage loan held for sale, the fair value of the mortgage servicing rights 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). Subsequent to the initial recording, MSRs are amortized (within amortization expense) 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. For the year ended December 31, 2018, MSRs contributed to operating income $173.7 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by $115.7 million of amortization of related intangible assets. For the year ended December 31, 2017, MSRs contributed to operating income $145.1 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by $98.6 million of amortization of related intangible assets

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

Revenue increased by $721.4 million, or 6.5%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The revenue increase reflects strong organic growth fueled by higher occupier outsourcing and property management revenue, improved leasing activity and higher loan servicing revenue. Foreign currency translation had a $3.7 million negative impact on revenue during the year ended December 31, 2017, primarily driven by weakness in the Venezuelan bolivar, largely offset by strength in the Brazilian real and the Canadian dollar.

Cost of services increased by $536.7 million, or 6.0%, for the year ended December 31, 2017 as compared to the same period in 2016, primarily due to higher costs associated with our occupier outsourcing business and higher professional bonuses in the United States. Also contributing to the variance was higher commission expense resulting from improved lease transaction revenue. These items were partially offset by the impact of $11.9 million of costs incurred during the year ended December 31, 2016 in connection with our cost-elimination project that did not recur during the year ended December 31, 2017. Foreign currency translation had a $3.7 million positive impact on cost of services during the year ended December 31, 2017. Cost of services as a percentage of revenue decreased from 80.2% for the year ended December 31, 2016 to 79.8% for the year ended December 31, 2017, partly due to cost-elimination expenses incurred in 2016 that did not recur in 2017.

Operating, administrative and other expenses increased by $48.1 million, or 3.5%, for the year ended December 31, 2017 as compared to the year ended December 31, 2016. The increase was partly driven by higher payroll-related costs (including increases in bonus and stock compensation expense due to improved operating performance). Foreign currency also had a $9.0 million negative impact on total operating expenses during the year ended December 31, 2017, which included a negative impact from foreign currency translation of $2.4 million and $6.6 million of unfavorable foreign currency transaction activity over the year ended December 31, 2016 (part of which related to net hedging activity in 2016, which did not recur in 2017). These increases were partially offset by a decrease of $52.6 million in integration and other costs related to the GWS Acquisition incurred during the year ended December 31, 2017 as well as the impact of $10.4 million of costs incurred during the year ended December 31, 2016 as part of our cost-elimination project, which did not recur during the year ended December 31, 2017.

For the year ended December 31, 2017, MSRs contributed to operating income $145.1 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by $98.6 million of amortization of related intangible assets. For the year ended December 31, 2016, MSRs contributed to operating income $154.0 million of gains recognized in conjunction with the origination and sale of mortgage loans, offset by $73.3 million of amortization of related intangible assets.

EMEA

The following table summarizes our results of operations for our EMEA operating segment for the years ended December 31, 2018, 2017 and 2016 (dollars in thousands):

	Year Ended December 31,					
	2018		2017 (As Adjusted) (1)		2016 (As Adjusted) (1)	
Revenue:						
Fee revenue:						
Occupier outsourcing	$1,466,525	26.8 %	$1,167,364	26.6 %	$1,116,257	27.0 %
Property management	185,260	3.4 %	168,710	3.8 %	148,982	3.6 %
Valuation	187,515	3.4 %	165,082	3.8 %	148,856	3.6 %
Loan servicing	10,755	0.2 %	10,989	0.2 %	11,144	0.3 %
Leasing	526,372	9.6 %	446,446	10.2 %	411,005	10.0 %
Capital Markets:						
Sales	428,810	7.8 %	397,130	9.0 %	334,398	8.1 %
Commercial mortgage origination	5,768	0.1 %	5,447	0.1 %	2,881	0.1 %
Other	32,076	0.7 %	26,583	0.6 %	23,612	0.5 %
Total fee revenue	2,843,081	52.0 %	2,387,751	54.3 %	2,197,135	53.2 %
Pass through costs also recognized as revenue	2,622,842	48.0 %	2,009,074	45.7 %	1,931,771	46.8 %
Total revenue	5,465,923	100.0%	4,396,825	100.0%	4,128,906	100.0%
Costs and expenses:						
Cost of services	4,328,821	79.2 %	3,409,908	77.6 %	3,245,455	78.6 %
Operating, administrative and other	817,224	15.0 %	688,900	15.7 %	685,412	16.6 %
Depreciation and amortization	80,290	1.5 %	72,322	1.6 %	66,619	1.5 %
Operating income	239,588	4.3 %	225,695	5.1 %	131,420	3.3 %
Equity income from unconsolidated subsidiaries	1,523					