

Presale:

GSCG Trust 2019-600C

August 15, 2019

Preliminary Ratings

Class	Preliminary rating(i)	Preliminary amount (\$)	LTV (%) (ii)	Market value decline (%) (iii)	Debt yield (%) (iv)
A	AAA (sf)	84,944,000	45.0	74.4	16.1
X(v)	BBB- (sf)	135,344,000(vi)	N/A	N/A	N/A
B	AA- (sf)	18,876,000	55.0	68.7	13.1
C	A- (sf)	14,157,000	62.5	64.4	11.6
D	BBB- (sf)	17,367,000	71.7	59.2	10.1
E	NR	31,854,000	88.6	49.6	8.2
F	NR	21,310,000	99.9	43.1	7.2
G	NR	22,402,000	111.7	36.4	6.5
H	NR	17,090,000	120.8	31.2	6.0
VRR interest(vii)	NR	12,000,000	N/A	N/A	N/A

Note: This presale report is based on information as of Aug. 15, 2019. The ratings shown are preliminary. This report does not constitute a recommendation to buy, hold, or sell securities. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. (i)The issuer will issue the certificates to qualified institutional buyers in line with Rule 144A of the Securities Act of 1933. (ii)Based on the trust balance and S&P Global Ratings' value. (iii)Reflects the decline in the approximate \$349.0 million appraised value that would be necessary to experience a principal loss at the given rating level. (iv)Based on S&P Global Ratings' net cash flow. (v)Interest-only class. (vi)Notional balance. The notional amount of the class X certificates will equal the certificate balance of the class A, B, C, and D certificates. (vii)Non-offered vertical risk retention interest, which will be retained by Goldman Sachs Mortgage Co. and Citi Real Estate Funding Inc. as the retaining sponsors. LTV--Loan-to-value ratio, based on S&P Global Ratings' values. N/A--Not applicable. NR--Not rated.

Profile

Expected closing date Aug. 28, 2019.

Loan One five-year interest-only, fixed-rate commercial mortgage loan totaling \$240.0 million. The loan has a fixed interest rate equal to 4.0% and matures Sept. 6, 2024.

Collateral The borrower's fee interest in 600 California, a 359,154 sq. ft. office building located in San Francisco.

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Profile (cont.)

Payment structure	On each distribution date, principal payments will be made sequentially to classes A, B, C, D, E, F, G, and H. The issuer will make interest payments on the certificates to classes A and X, pro rata, based on the interest due; and then sequentially to classes B, C, D, E, F, G, and H. The class X certificates will not be entitled to receive principal distributions. However, the class X notional amount will equal the certificate balance of the class A, B, C, and D certificates. Realized losses are allocated in reverse sequential order starting with the class H certificates.
Permitted secondary debt	None permitted.
Mortgage loan originators	Goldman Sachs Bank USA and Citi Real Estate Funding Inc.
Mortgage loan sellers	Goldman Sachs Mortgage Co. and Citi Real Estate Funding Inc.
Borrowers	600 California Owner LLC and 600 California Buyer LLC.
Borrowers' sponsors	A collection of funds owned by affiliates of Ivanhoe Cambridge Inc. and related entities (48.8%), a Eurasian Sovereign wealth fund (29.1%), The We Co. (3.4%), Rhone Group (2.2%), and other investors (16.5%), none of which own more than 10% of the beneficial interest in the borrowers.
Master servicer	Midland Loan Services, a division of PNC Bank N.A.
Special servicer	Midland Loan Services, a division of PNC Bank N.A.
Trustee and certificate administrator	Wells Fargo Bank N.A.

Rationale

The preliminary ratings assigned to GSCG Trust 2019-600C's commercial mortgage pass-through certificates series 2019-600C reflect S&P Global Ratings' view of the collateral's historic and projected performance, the sponsor's and the manager's experience, the trustee-provided liquidity, the loan's terms, and the transaction's structure. We determined that the mortgage loan has a debt service coverage ratio (DSCR) of 1.48x and a beginning and ending loan-to-value (LTV) ratio of 120.8%, based on S&P Global Ratings' value.

Strengths

The transaction exhibits the following strengths:

- The property is a 20-story, class A- office tower located in downtown San Francisco, built in 1991. The property features a recently renovated lobby, column-free floor plates averaging 18,000 sq. ft., an 11th floor terrace with views of the San Francisco Bay and skyline, a three-level underground parking garage, a small fitness center, and on-site bicycle storage. The property is well located in the Financial District and Union Square submarkets, and adjacent to Chinatown.
- The property has been extensively renovated, with approximately \$9.0 million of capital expenditures since 2015. Major renovations in 2016 included lobby upgrades (new tile, enhanced lighting, and commissioned artwork) and improvements to the management office, fitness center, and bike room. The engineering report identified approximately \$12.0 million of deferred maintenance, including \$894,490 for immediate repairs. The sponsor is planning to address the repairs in 2019 through 2021, which will include elevator modernization, exterior

waterproofing, cooling tower replacement, roof systems work, and general HVAC upgrades. There is an upfront reserve of \$11.6 million (96.5% of the total cost) for the planned improvements, which reflects the immediate and short-term recommendations identified in the engineering report.

- The property is currently 100% leased to 18 distinct tenants (excluding the management office and ACE Parking) and has exhibited strong historical performance. The property has a 10-year historic average vacancy of 7.7% and a 20-year average vacancy of 7.2%. Approximately 13.6% of the net rental area (NRA, 12.1% of in-place gross rent) is occupied by four investment-grade (rated 'BBB-' and above) tenants. The property's net cash flow (NCF) increased to \$13.0 million as of May 2019 from \$7.1 million at year-end 2016.
- The property is located in a primary market. Primary markets generally have higher barriers to entry than secondary and tertiary markets. The property is located within the Financial District and Union Station submarkets of San Francisco according to CBRE Econometric Advisors (CBRE-EA), both of which had low office vacancy rates of 4.5% and 7.4%, respectively, as of the first of quarter 2019.
- We visited the property in July 2019 and found it to be in very good condition. The property is less than a 10-minute walk to the BART and MUNI stations on Market Street, and it is easily accessible by car for commuters coming from the North Bay. The higher floors feature views of the San Francisco Bay, and all floors except the fifth and ground floors are leased to a single tenant. The WeWork Cos. Inc. (WeWork) spaces have modern buildouts and flooring and feature sofa seating areas, booths, kitchens, and coffee bars. WeWork also has a desirable private terrace with seating areas, tables, and plants.
- The property has limited tenant rollover during the five-year loan term. Leases representing 35.1% of the NRA and 35.5% of the in-place gross rent expire through year-end 2024, and no more than 11.6% of the NRA or 10.2% of the gross rent expires in any given year during this period. There is an ongoing tenant improvement/leasing commission (TI/LC) reserve for \$1.00 per sq. ft. per year, capped at \$500,000, which must be replenished as it is used.
- The loan is structured with a hard lockbox and springing cash management. During a trigger period, all excess cash flow will be deposited into a lender-controlled account. A trigger period will occur upon an event of default; the debt yield falling below 6.25%; the bankruptcy, default, or lease termination/cancellation of any specified tenant (WeWork or any other tenant occupying more than 20% of the NRA); or, as long as it represents at least 20% of the NRA, WeWork failing to have at least 50% of its space available for use by its tenants for a consecutive 90-day period. There are also ongoing reserves for taxes, insurance (unless a blanket policy is in place), capital expenditures, and TI/LCs equal to \$1.00 per sq. ft. per year, subject to a cap of \$500,000. There are also upfront reserves for \$16.7 million for all unfunded obligations for outstanding free rent, gap rent, and TI/LCs as of the closing date.
- The loan is an acquisition, and the sponsors are contributing \$123.4 million (34.0% of the total financing) to acquire the property for \$322.8 million (\$899 per sq. ft.), excluding the transfer tax. The sponsors are a collection of funds owned by Ivanhoe Cambridge Inc. and related entities (Ivanhoe, 48.8%), a Eurasian sovereign wealth fund (29.1%), The We Co. (WeCo, 3.4%), Rhone Group (Rhone, 2.2%), and other investors (16.5%). The funds are managed by ARK Capital Advisors LLC (ARK), an investment management vehicle held indirectly by WeCo and Rhone to invest in and operate properties that include WeCo and its affiliates. ARK is owned approximately 80% by WeCo and 20% by Rhone. Vertically integrated in Canada, Ivanhoe is a subsidiary of Caisse de Depot et Placement du Quebec, one of Canada's leading institutional fund managers, with assets of approximately C\$65 billion. Through subsidiaries and partnerships, Ivanhoe holds interests in more than 1,000 buildings worldwide. Rhone and its

affiliates comprise a global alternative investment management firm with over 20 years of investing experience and more than \$5.0 billion in assets under management. WeCo is a global company that manages and provides shared workspaces and services for entrepreneurs, freelancers, startups, small businesses, and large enterprises. Founded in 2010, WeCo is headquartered in New York City. WeCo has over 12,500 employees servicing over 527,000 members across 528 locations in 111 cities and 29 countries.

- The transaction structure holds the borrowers responsible for expenses that would typically result in shortfalls to the certificateholders, such as special servicing, workout, and liquidation fees, as well as costs and expenses incurred from the special servicer's appraisals and inspections. If deemed recoverable from the liquidation proceeds, the servicer must make administrative advances (provided the collateral has sufficient value) to prevent interest shortfalls that might otherwise arise from these expenses if the borrowers do not pay them on time.

Risk Considerations

The risks we considered for this transaction include:

- The \$240.0 million mortgage loan is highly leveraged with a 120.8% LTV ratio, based on our valuation. The LTV ratio based on the appraiser's "as-is" valuation is 68.8%. Our estimate of long-term sustainable value is 43.1% lower than the appraiser's as-is valuation.
- The mortgage loan is interest only for its entire five-year term, meaning there will be no scheduled amortization during the loan term. We accounted for this by reducing our LTV adjustment across the capital structure.
- The loan is subject to tenant concentration risk because 51.8% of the NRA is leased to WeWork. All of WeWork's leases have a term of 15 years through 2035, 11 years beyond the loan's maturity. WeWork's contractual base rent is \$79.07 per sq. ft., and when including reimbursements, its gross rent is \$83.30 per sq. ft., as calculated by S&P Global Ratings. In our view, this is a full rent despite the scarcity of large blocks of space in the market and the rent premium that large spaces command. We marked WeWork's 83,170 sq. ft. expansion space rent of \$87.50 per sq. ft. down to the appraiser's estimate of market rent for the WeWork space of \$84.00 per sq. ft. and assumed a 9.0% vacancy on the WeWork space, which is higher than the submarkets' current and projected rates. This resulted in an S&P Global Ratings' value that is 39.4% below the \$899 per sq. ft. purchase price and 43.1% below the appraised value.
- The largest tenant, WeWork, is a coworking tenant, which presents additional risks relative to a traditional office tenant. Notably, there is a duration mismatch between WeWork's long-term lease at the building and the monthly member contracts. There is inherent risk to the sustainability of the coworking business model in an economic downturn, during which tenants may rapidly cancel their memberships as employment dynamics shift. Also, under the loan agreement, WeWork has the right to expand in up to 70% of the building's NRA. However, the building has exhibited strong historical performance with a 10-year average vacancy rate of only 7.7%. WeWork has shown strong performance at the property to date, with a 92% utilization rate of its desks at a \$916 desk price in its original 102,960 sq. ft. of space. To account for the coworking tenant risk, we utilized a 9.0% vacancy on the WeWork space and used a lower renewal rate in our calculation of TI/LCs for WeWork.
- The WeWork expansion space lease will not commence until Oct. 1, 2019. The lease entitles WeWork to five months of free rent, and the company will not begin paying rent on the expansion space until March 2020. However, there is an upfront reserve for \$3.03 million for the

free rent and \$1.06 million for the gap rent from closing until the lease commences.

- The property is located in San Francisco, a city with a high degree of seismic activity. Based on the seismic report, the property has a seismic expected loss of 19%. Damage to the property as a result of an earthquake could adversely affect its operations and revenues and, thus, the borrowers' ability make payments on the mortgage loan. However, the loan agreement requires earthquake insurance to be in place throughout the loan term, and it is currently in place with a limit of \$50.0 million per occurrence and in the annual aggregate.
- The sponsor investor group includes WeCo, which is affiliated with WeWork, a major tenant in the building. ARK, the manager of the fund investor group, is managed by an eight-member board, consisting of four WeWork-designated members, two Rhone-designated members, and two independent members. The general partnership interests in the sponsors and ARK are owned 80% by WeCo and 20% by the Rhone Group. However, the sponsor has implemented certain controls to address potential conflicts of interest between the sponsor and WeWork. For decisions that relate to the WeWork lease at the property, any decision of ARK's board that connects to a related party transaction requires the consent of the Rhone members and/or the independent board members. Also, if ARK approves any transaction between the borrower and a related party (including amendments to any WeWork lease), the decision would require a second-level of independent approval by Rhone. Also, in certain circumstances major beneficial owners of the equity interests in the sponsor must provide an independent consent to actions proposed by ARK and approved by the sponsor as they relate to the WeWork lease. In addition, on Aug. 14, 2019, WeCo filed a Form S-1 Registration Statement with respect to its proposed IPO. WeCo had an accumulated deficit as of year-end 2017 and 2018 and for the six months ended June 30, 2018, and 2019. The company had net losses of \$0.4 billion, \$0.9 billion, and \$1.9 billion for the years ended Dec. 31, 2016, 2017, and 2018, respectively; and \$0.7 billion and \$0.9 billion for the six months ended June 30, 2018, and 2019. According to the registration statement, the accumulated deficit and net losses have historically resulted primarily from the substantial investments required to grow WeCo business. WeCo expects these costs and investments to increase as it continues to grow its business.
- The loan does not have a warm body carve-out guarantor. In our view, this limitation generally lessens the disincentive provided by a full nonrecourse carve-out related to "bad boy" acts or voluntary bankruptcy.
- Although the special-purpose entity (SPE) borrower is structured with a nonconsolidation opinion and one independent director, the independent director can be removed without cause with advance written notice.
- The transaction is concentrated by property type, sponsor, and geographic location. The collateral consists of one loan secured by one office building in downtown San Francisco. We considered this concentration when assessing the underlying property and the loan.
- The transaction documents include provisions for the transaction parties to seek rating agency confirmation (RAC) that certain actions will not result in a downgrade or withdrawal of the then-current ratings on the securities. The definition of RAC in the transaction documents includes an option for the transaction parties to deem their RAC request satisfied if, after having delivered a RAC request, the transaction parties have not received a response to the request within a certain period of time. We believe it is possible for a situation to arise where an action subject to a RAC request would cause us to downgrade our rating on the securities in accordance with our ratings methodology even though a RAC request is deemed to be satisfied per this option.

Collateral Description

The property, 600 California, is a 20-story, class A- San Francisco office building totaling 359,154 sq. ft. Built in 1991, the property is located at the corner of California, Grant, Kearny, and Sacramento Streets. It features an atrium lobby, column-free floor plates averaging 18,000 sq. ft., a three-level underground parking garage with 200 spaces, 24-hour 365-day security, and about 9,800 sq. ft. of ground floor retail space. The property is located about one-half mile from Embarcadero Center, and the BART Montgomery Station is located 0.3 miles southeast of the property. The property has been extensively renovated, with approximately \$9.0 million of capital expenditures since 2015. Major renovations in 2016 included lobby upgrades and improvements to the management office, fitness center, and bike room. The engineering report identified approximately \$12.0 million of deferred maintenance, including \$894,490 for immediate repairs. The sponsor is planning to address the repairs in 2019 through 2021. There is an upfront reserve of \$11.6 million (96.5% of the total cost) for the planned improvements, which reflects the immediate and short-term recommendations identified in the engineering report. The property is currently managed by Jones Lang LaSalle Americas Inc.

S&P Global Ratings toured the property in July 2019 with representatives of the sponsor. During our tour, we walked several occupied spaces, including WeWork, Zignal (which has an interior staircase), and the vacated Federal Home Loan Bank/WeWork expansion space. The higher floors feature views of the San Francisco Bay, and all floors except the fifth and ground floors are leased to a single tenant. The WeWork spaces have modern buildouts and flooring and feature sofa seating areas, booths, kitchens, and coffee bars. WeWork also has a desirable private terrace with seating areas, tables, and plants. The building merits a class A- designation due to its good condition from significant recent capital expenditures and its strong infill location, though it lacks robust tenant amenities.

Market Summary

San Francisco office market

The property is located in San Francisco, which has a total population of 1.93 million and a per capital personal income of \$124,695, which is significantly above the national average. According to CBRE, total employment stands at 1.29 million workers and the near-term forecast calls for positive growth in office workers through year-end 2020. Over the past five years, San Francisco's total employment has grown at an average annual rate of 3.4%, compared to 1.8% for the U.S. overall. The property is located within the San Francisco-Oakland-Hayward MSA, which had an unemployment rate of 2.7% as of year-end 2018, compared to 4.2% for California and 3.9% for the U.S. overall.

The San Francisco-Oakland-Hayward MSA is a leader in technology and a regional employment center with a well-diversified economy. The region is expected to continue to attract highly educated workers due to its strong technology and innovation industries. San Francisco has the second-highest percentage of residents with a college degree, after Seattle. San Francisco offers the walkability, transit access, vibrancy, and urban living that are attractive to a growing number of technology professionals. However, it also has a very high cost of living, at an index of 193.8 for the San Francisco-Oakland-Hayward MSA, compared to the national average score of 100, a factor that may constrain economic growth.

According to CBRE, San Francisco has about 99.4 million sq. ft. of office space with an average vacancy rate of 6.6% over the past five years. According to CBRE, San Francisco's S.F. City office market, which includes the property's submarkets, contains about 71.5 million sq. ft. across nine submarkets. The remaining eight submarkets are primarily suburban, and these contain about 27.8 million sq. ft. of inventory.

As of year-end 2018, the overall vacancy rate for San Francisco's office market decreased 220 basis points to 5.3% from the prior year, according to CBRE-EA. 600 California is located within San Francisco's Financial District and Union Station submarkets according to CBRE-EA, which, for all office building classes, were 4.5% and 7.4% vacant, respectively, as of first-quarter 2019. Although the total market vacancy rate is expected to increase to 11.7% by 2022, the vacancy rate for the Financial District submarket is expected to remain stable at 4.3%, while the Union Square submarket vacancy is expected to decline slightly to 7.0% over the next two years.

According to CBRE-EA, the average gross asking rent for San Francisco was \$60.80 per sq. ft., compared to \$65.53 per sq. ft. for the Financial District submarket and \$64.81 per sq. ft. for the Union Station submarket as of first-quarter 2019.

According to the appraiser, which utilizes Costar data, the property is in the North Financial District submarket, which saw its vacancy rate drop to 7.0% as of first-quarter 2019 from 8.2% as of year-end 2018. Gross rents in the submarket increased to \$67.77 as of the first-quarter 2019 from \$62.06 per sq. ft. at year-end 2018. Based on the appraisal, there is no office space under construction in the submarket. The appraiser assumed a 93.0% occupancy rate in its analysis of the property. The appraiser cited market office rents for the building, based on comparables in the vicinity, of \$76.00 per sq. ft. gross for office floors below floor 16, \$80.00 per sq. ft. for floors 16-20, and \$84.00 per sq. ft. for large block spaces (greater than 50,000 sq. ft.). Including the retail space, the appraiser estimated an overall market rent of \$80.22 per sq. ft. for the building, which is generally in line with the average gross rent in place (triple net for the retail leases) of \$80.60 per sq. ft. as calculated by S&P Global Ratings.

The property has maintained an average occupancy of about 92.3% over the past 10 years and 92.8% over the past 20 years. The property has been 100% occupied over the past three years and is currently 100% leased.

Tenant Concentration

WeWork is the largest tenant, leasing 186,130 sq. ft. and generating 53.1% of the gross in-place rent, as calculated by S&P Global Ratings (see table 1). The tenant first took occupancy in the building in July 2016, with 73,348 sq. ft. at a base rent of \$66.95 per sq. ft. on floors 11-15. In August 2018, the tenant expanded by 29,612 sq. ft. into floors 19-20 at a base rent of \$73.00 per sq. ft., and the tenant is expanding by an additional 83,170 sq. ft. into floors two through five at a rent of \$87.50 per sq. ft.

The rent for the expansion space is higher than the previous WeWork leases. However, the initial lease was signed in 2016, and the second lease was for smaller square footage. Due to the large overall size of the space WeWork has in the building and the limited supply of large spaces available in the market, the appraiser concluded an overall market rent for the WeWork space of \$84.00 per sq. ft., compared to the actual in-place gross rent of \$83.30 per sq. ft. Nevertheless, we marked the expansion space down to \$84.00 per sq. ft. from \$87.50 per sq. ft. to be in-line with the appraiser's concluded market rent for larger spaces.

The WeWork expansion lease has been executed and amended, which will commence in October 2019, and rent will be paid starting in March 2020 after a five-month free rent period. WeWork

received 10 months of free rent, five of which were converted to a TI allowance on the expansion lease. In addition, WeWork received a TI allowance of \$100.00 per sq. ft. plus a \$5.00 per sq. ft. base building cost allowance. The five months of free rent, TI allowance, and base building allowance are fully provided for in an upfront reserve. There is also an upfront reserve for the gap rent from closing until the expansion lease commences. All of the WeWork leases will have a coterminous lease expiration date of March 31, 2035, and two consecutive five-year renewal options with no termination or lease contraction options. The tenant is responsible for its pro rata share of operating expenses, taxes, and insurance over the 2020 base year, and its pro rata share of utilities and janitorial services.

WeWork is taking over the space formerly occupied by Federal Home Loan Bank, which occupied the property starting in 1990 and had a long-term lease with below market renewal rates. This resulted in a base rent of only \$38.35 per sq. ft. at its lease end date in June 2019. Facing a fair market rent reset for the first time in many years, the tenant opted to vacate.

As of June 2019, there were 14 WeWork locations in downtown San Francisco, totaling 15,498 desks. At 600 California, excluding the 83,170 sq. ft. expansion space, WeWork has 1,841 desks, a 92.0% desk occupancy, an average desk price of \$916, and 38% enterprise users (corporations with 500-plus employees). During our site visit, representatives of the sponsors indicated that 70% of users are on 12-month contracts or longer, with the rest being month-to-month users, and six months' notice is required to cancel a 12-month lease.

The second-largest tenant is Cardinia Real Estate, a subsidiary of Omnicom Group (BBB+/Stable/A-2), which guarantees the lease. Omnicom Group is a global media, marketing, and communications holding company headquartered in New York City. The tenant occupies 11.6% of the NRA and generates 10.3% of the gross rent as calculated by S&P Global Ratings. The tenant's current lease expires in May 2025, with one five-year extension option. The tenant currently pays base rent of \$63.50 per sq. ft. and generates 10.3% of the gross rent, as calculated by S&P Global Ratings.

The third-largest tenant is Audentes Therapeutics, a genetic medicines company focused on developing products for rare neuromuscular diseases founded in 2013. The company reported a market capitalization of \$1.6 billion and had an IPO in July 2016. The tenant occupies 29,720 sq. ft. (8.3% of the NRA) and generates 9.0% of the gross rent, as calculated by S&P Global Ratings. The tenant's lease expires in June 2023.

The 200-space parking garage is leased to a third-party operator through November 2020 for a base rent of \$792,000 per year.

Table 1

600 California Top Five Tenants

Tenant	S&P Global Ratings' credit rating	Space type	Leased sq. ft.	% of collateral NRA	Base rent per sq. ft. \$(ii)	Lease expiration
WeWork Cos. Inc.	B	Office	186,130	51.8	79.07	March 31, 2035
Cardinia Real Estate LLC	BBB+(i)	Office	41,648	11.6	63.50	May 31, 2025
Audentes Therapeutics Inc.	NR	Office	29,720	8.3	80.55	June 7, 2023
Bridge Housing Corp.	NR	Office	20,945	5.8	77.77	March 31, 2024
Burr Pilger Mayer Inc.	NR	Office	20,824	5.8	57.31	Oct. 31, 2021
Total top 5	N/A	Office	299,267	83.3	75.44	N/A

Table 1

600 California Top Five Tenants (cont.)

Tenant	S&P Global Ratings' credit rating	Space type	Leased sq. ft.	% of collateral NRA	Base rent per sq. ft. \$(ii)	Lease expiration
Remaining tenants	N/A	Various	59,887	16.7	60.29	N/A
Total building	N/A	Various	359,154	100.0	75.12	N/A

(i)Parent company is Omnicom Group Inc., which guarantees the lease. (ii)Underwritten S&P Global Ratings base rent, which includes 12-month rent steps. Parking income is excluded. NRA--Net rentable area. NR--Not rated. N/A--Not applicable.

The average in-place office gross rent for the building is \$81.29 per sq. ft., based on the July 2019 rent roll plus one year of rent steps, as calculated by S&P Global Ratings. The retail tenants have triple net leases, while the property's leases are mainly structured as gross or modified-gross, whereby tenants are responsible for their pro rata share of real estate taxes and operating expenses above a base year.

Tenant Rollover

Rollover during the loan term is staggered during the next five years, with a maximum rollover of 11.6% of the NRA in 2021 (four tenants, 10.1% of gross in-place rent), 11.6% in 2024 (two tenants, 10.2%), and 11.6% in 2025 (one tenant, 10.3%) (see table 2). The leases for the largest tenant, WeWork, are long term and expire in 2035, with no termination or contraction rights. WeWork has two five-year extension options. Additionally, the lease for the parking garage expires in November 2020.

Table 2

S&P Global Ratings' Tenant Rollover

Year	No. of leases expiring	NRA (sq. ft.)(i)	% of NRA	% of S&P Global Ratings in-place rent
2019	0	0	0.0	0.0
2020	5	7,464	2.1	4.8
2021	4	41,657	11.6	10.1
2022	2	5,507	1.5	1.4
2023	1	29,720	8.3	9.0
2024	2	41,576	11.6	10.2
2025	1	41,648	11.6	10.3
2026	2	866	0.2	0.3
2027	0	0	0.0	0.0
2028	0	0	0.0	0.0
2029	0	0	0.0	0.0
2030 and beyond	2	189,399	52.7	53.9
MTM(ii)	2	0	0.0	0.04
Vacant	0	0	0.0	0.0

Table 2

S&P Global Ratings' Tenant Rollover (cont.)

Year	No. of leases expiring	NRA (sq. ft.)(i)	% of NRA	% of S&P Global Ratings in-place rent
Total	21	357,836	99.6	100.0

NRA--Net rentable area. MTM--Month to month. (i)Excludes management office space of 1,318 sq. ft. with no base rent attributed.
(ii)Represent two of the four antenna tenants.

Structural Issues

We reviewed the structural matters that we believe are relevant to our analysis. This review included analysis of the major transaction documents, including the offering circular, trust and servicing agreement, and other relevant documents and opinions, to understand the transaction's mechanics and its consistency with applicable criteria. We also conducted a structural review of the first-mortgage loan and cash management agreement.

Historical Cash Flow And S&P Global Ratings' Cash Flow Notes

We reviewed the historical cash flows and the issuer- and appraiser-reported cash flows to determine our view of a sustainable cash flow for the property. We summarize the historical and S&P Global Ratings' NCF for the property below (see tables 3A and 3B).

Table 3A

Cash Flows: 600 California

	2016	2017	2018	TTM ended May 2019	Issuer	S&P Global Ratings
Income (\$)						
Gross potential rent(i)	17,282,605	19,308,663	20,026,978	20,453,071	26,980,101	26,980,100
Less: vacancy loss(ii)	(3,255,823)	(94,919)	(720,559)	(360,279)	(1,493,732)	(2,411,230)
Expense reimbursement(iii)	794,917	873,769	904,530	981,569	2,264,500	2,499,420
Other income(iv)	385,090	399,813	492,377	430,580	429,967	429,967
Contractual rent steps (v)	-	-	-	-	200,079	-
Mark to market (vi)						(291,095)
Effective gross income	15,206,789	20,487,326	20,703,326	21,504,941	28,380,915	27,207,162
Expenses (\$)						
Real estate taxes(vii)	2,718,965	2,552,043	2,712,642	2,968,101	4,659,345	4,951,955
Property insurance(viii)	484,851	512,809	476,086	487,924	557,110	557,110
Utilities(iv)	551,257	611,200	451,798	438,519	438,519	500,506
Repairs and maintenance(iv)	1,995,343	2,082,397	2,130,089	2,128,769	2,128,769	2,128,769
Janitorial(iv)	718,181	778,785	774,403	777,000	777,000	777,000
Management fees(x)	149,966	203,335	206,418	216,506	851,427	1,000,000
General and administrative(iv)	628,642	704,356	664,076	676,745	676,745	676,745

Table 3A

Cash Flows: 600 California (cont.)

	2016	2017	2018	TTM ended May 2019	Issuer	S&P Global Ratings
Other(iv)	308,090	325,359	304,673	348,713	348,713	348,713
Total operating expense	7,555,295	7,770,284	7,720,185	8,042,277	10,437,628	10,940,798
Capital items (\$)						
Leasing commissions(xi)	-	-	-	-	170,598	731,959
Tenant improvements(xi)					170,598	948,457
Capital reserves (xii)					222,675	222,675
Total capital items	-	-	-	-	563,872	1,903,091
NCF (\$)	7,651,494	12,717,042	12,983,141	13,462,664	17,379,414	14,363,273
Capitalization rate %(xiii)						7.25
Additions/subtractions to value(xiv)						585,648
S&P Global Ratings' value (\$)						198,699,765
S&P Global Ratings' value per sq. ft. (\$)						553

(i)-(xiv) See table 3B for the related notes. TTM--Trailing 12 months.

Table 3B

Cash Flow Notes

- (i) Based on in-place rents as of the July 2019 rent roll plus upcoming rent steps for the next year.

- (ii) 8.2%, based on a 9.0% vacancy rate for WeWork and 7.25% for the remaining tenants. This is higher than the property's 10- and 20-year historical averages and submarket vacancy rates. The property is currently 100.00% occupied.

- (iii) Estimated reimbursements based on contractual lease terms and our expenses.

- (iv) Based on TTM/issuer.

- (v) Year one rent steps, which are included in the S&P Global Ratings' gross potential rent.

- (vi) Marked the WeWork expansion space to \$84 per sq. ft. from \$87.50 per sq. ft.

- (vii) Based on the appraiser's taxes for 2019-2020 plus the Proposition C estimated tax, which was instituted in 2019 in California.

- (viii) Based on the actual insurance premium.

- (iv) Based on the TTM expense, except for utilities, which was based on a three-year average.

- (x) Based on 4.0% of effective gross income, capped at the greater of \$1 million and 1.5% of effective gross income.

- (xi) TIs calculated per table 4 below. LCs based on 4.0% for new leases and 2.0% for renewals.

- (xii) Based on \$0.62 per sq. ft., according to the property condition report.

- (xiii) Based on the classification of a class A- office property in San Francisco's central business district.

- (xiv) The add-to value consists of the present value of the future rent steps for various investment-grade tenants.

TTM--Trailing 12 months. TIs--Tenant improvements. LCs--Leasing commissions.

To calculate tenant improvement costs as part of our NCF for the major tenant types at 600 California, we used the tenant-improvement costs, renewal probabilities, and assumed lease terms listed in table 4.

Table 4

S&P Global Ratings' Leasing Costs

	WeWork	Office	Retail
New TIs (\$/sq. ft.)	42.00	33.50	16.00
Renewal TIs (\$/sq. ft.)	21.00	16.75	8.00
Renewal probability (%)	60	65	65
Assumed lease term (years)	10	8	8

TIs--Tenant improvements.

Property Evaluation Details

During our property evaluation, we:

- Conducted a site inspection of the subject property.
- Analyzed and valued the property, which included reviewing property-level operating statements, issuer-provided data, and the borrowers' budgets.
- Reviewed management and sponsorship, which included meeting with on-site personnel; reviewing the third-party appraisal and environmental, engineering, and seismic reports for the property; and reviewing the structural matters that we believe are relevant to our analysis, as outlined in our criteria.
- Reviewed the current drafts of the major transaction documents, including the loan agreement, offering circular, and trust and servicing agreement to verify compliance with our criteria and to understand the mechanics of the underlying loan and the transaction.

Scenario Analysis

We performed several 'AAA' stress scenario analyses to determine how sensitive the certificates are to a downgrade over the loan term.

Effect of declining NCF

A decline in NCF may constrain cash flows available for debt service. A decline in cash flows may occur because of falling rental rates and occupancy levels, changes to operating expenses, or other factors that may decrease a property's net income. To analyze how a decline in cash flows would affect our ratings, we developed scenarios whereby the NCF from the property decreases by 10%-40% from our current cash flow, which for purposes of determining our value, is 17.4% lower than the issuer's underwritten NCF. (See table 5 for the potential effect on our 'AAA' rating under these scenarios, holding constant our 7.25% capitalization rate for the mortgage loan.)

Table 5

Effect Of Declining NCF On S&P Global Ratings' Credit Ratings

Decline in S&P Global Ratings' NCF (%)	0.00	(10.00)	(20.00)	(30.00)	(40.00)
Potential 'AAA' rating migration	AAA	AA	A+	BBB+	BB+

NCF--Net cash flow.

Related Criteria

- Criteria | Structured Finance | Legal: U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria, May 15, 2019
- General Criteria: U.S. Government Support In Structured Finance And Public Finance Ratings, Dec. 7, 2014
- Criteria | Structured Finance | CMBS: Insurance Criteria For U.S. And Canadian CMBS Transactions, June 13, 2013
- General Criteria: Methodology And Assumptions: Assigning Ratings To Bonds In The U.S. Based On Escrowed Collateral, Nov. 30, 2012
- Criteria | Structured Finance | CMBS: CMBS Global Property Evaluation Methodology, Sept. 5, 2012
- Criteria | Structured Finance | CMBS: Rating Methodology And Assumptions For U.S. And Canadian CMBS, Sept. 5, 2012
- Criteria - Structured Finance - General: Criteria Methodology Applied To Fees, Expenses, And Indemnifications, July 12, 2012
- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts, May 31, 2012
- Criteria | Structured Finance | CMBS: Assessing Borrower-Level Special-Purpose Entities In U.S. CMBS Pools: Methodology And Assumptions, Nov. 16, 2010
- Criteria | Structured Finance | General: Global Methodology For Rating Interest-Only Securities, April 15, 2010
- Criteria | Structured Finance | General: Methodology For Servicer Risk Assessment, May 28, 2009

Related Research

- Global Structured Finance Outlook 2019: Securitization Continues To Be Energized With Potential \$1 Trillion In Volume Expected Again, Jan. 7, 2019
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- U.S. And Canadian CMBS Diversity Adjustment Factor Matrices, Sept. 5, 2012
- Application Of CMBS Global Property Evaluation Methodology in U.S. And Canadian Transactions, Sept. 5, 2012

In addition to the criteria specific to this type of security (listed above), the following criteria articles, which are generally applicable to all ratings, may have affected this rating action:

"Post-Default Ratings Methodology: When Does Standard & Poor's Raise A Rating From 'D' Or 'SD'?", March 23, 2015; "Global Framework For Assessing Operational Risk In Structured Finance Transactions," Oct. 9, 2014; "Methodology: Timeliness of Payments: Grace Periods, Guarantees, And Use of 'D' And 'SD' Ratings," Oct. 24, 2013; "Counterparty Risk Framework Methodology And Assumptions," June 25, 2013; "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012; "Methodology: Credit Stability Criteria," May 3, 2010; and "Use of CreditWatch And Outlooks," Sept. 14, 2009.

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