Equity Research

May 2, 2022

CONSUMER: Lodging

Gregory J. Miller
212-303-4198
Gregory.J.Miller@truist.com

C. Patrick Scholes
212-319-3915
Patrick.Scholes@truist.com

Alexander Barenklau
212-303-4166
Alexander.Barenklau@truist.com

15 Page Document

Reasons for this report

Deep dive analysis of recent U.S. hotel profits, a proxy for the Lodging REITS, franchisee health of full-service hotel owners, and incentive management fees (IMFs) for Lodging C-corps.

Companies discussed include: H, HLT, MAR, PLYA, and the Lodging REITS

1Q22 Hotel P&L Analyzer: GOP margin of 34.2% (-140 bps vs 1Q19) led by strong leisure room rates

We analyze revenue and expense "big data" on over 2,000 U.S. hotels (data source: HotStats) and discussions with private hotel owners. Our analysis suggests a bifurcated 1Q22 of hotel margins (unsurprisingly given Omicron). A much improved March 2022 GOP margin of 42.4% was driven by above-inflationary room rate growth and outside-the-room-spend at resorts. Strong resort profits should be considered alongside the prices paid by REITS for their resort acquisitions.

1Q22: GOP margin of 34.2% was -140 bps versus 3-year GOP margin growth on -31.3% Total RevPAR (Rooms RevPAR + outside-of-the-room spend).

For investors in leisure-oriented hotels, particularly luxury resorts, March was a redeeming month to the bottom line and should lead to 1Q22 domestic hotel EBITDA margin results (a proxy for a diversified Lodging REIT) being similar to 4Q21 (1Q22 GOP margins: 34.2%; 4Q21: 34.0%). In absolute terms, HotStats data suggests profits were roughly 34% below 1Q19 (4Q21 was 29% below 4Q19). Detailed figures are presented at the end of this note. Certainly many corporate-focused hotels (especially outside the Sunbelt) are still running far below normalized occupancy with continued margin pressures. However, we are not surprised to hear REITS with outsized leisure exposure recovering more quickly; (for example, Braemar (BHR, Not Rated)) spoke positively last week to surging leisure demand and commensurate strength in room rates and EBITDA. **Essentially for U.S. hotel owners and Lodging REITS, the greater the leisure exposure, the better EBITDA results for 1Q22.**

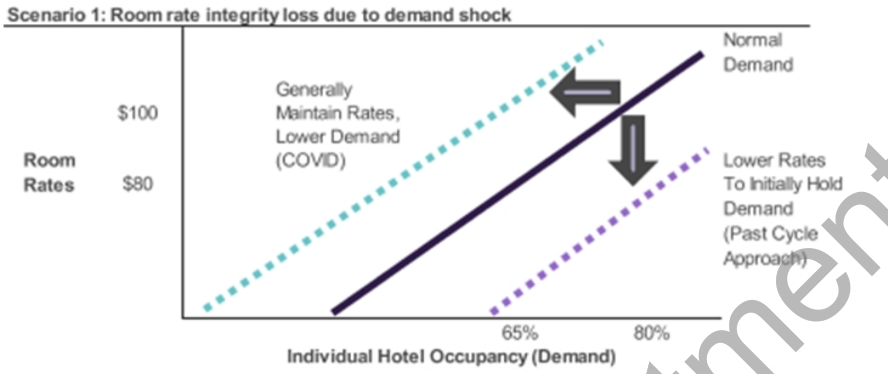
The Lodging C-corps have also likely benefitted from March profit strength at high-end transient leisure-focused resorts (meaning: less corporate group focused), countered in some respects by a softer January and early February due to Omicron:

- We focus in part on owned hotels and domestic incentive management fees for the Lodging C-corps. In our coverage, in terms of transient-leisure focused managed hotels, we view IMF contribution as most material to Marriott (MAR, Hold, Scholes), then Hyatt (H, Buy, Scholes), then Hilton (HLT, Hold, Scholes). We consider the appealing Upper Upscale resorts that cater primarily to the transient (individual/couples/family) travelers benefitting in some of the same respects as the even higher-priced luxury-oriented resorts, although some Upper Upscale resorts have large room counts and are oriented in no small part to large business groups in normal times. As a result, we view profit margins are likely superior for many smaller key count leisure resorts, even in markets with greater staffing shortages.
- H should also benefit from its Apple Leisure exposure in the Caribbean and U.S. resorts, possibly including the wellness-focused owned Miravals (we note that many wellness resorts tend to necessitate well-paid staff and expensive COGS for F&B, fitness, and spa services, which can somewhat counterbalance room rate strength; it is preliminary for us to have more than a gut feel on the Miravals especially given the ramp of the relatively new Berkshires property that opened in July 2020). However, H also has material exposure to corporate and convention-focused urban hotels both in North America and globally and the net impact to corporate EBITDA is less clear cut to us. Further, we do not receive profit metrics by month outside the U.S.
- Playa (PLYA, Hold, Scholes) should also see the benefits of ADR expansion to margins due to its Caribbean and Mexico focus (combined with the Middle East, the Caribbean is one of the strongest regions of the world in terms of a RevPAR recovery as highlighted in the prior link). However, as we noted in the previous bullet, we do not receive profit metrics outside the U.S. and so we cannot speak to great specificity

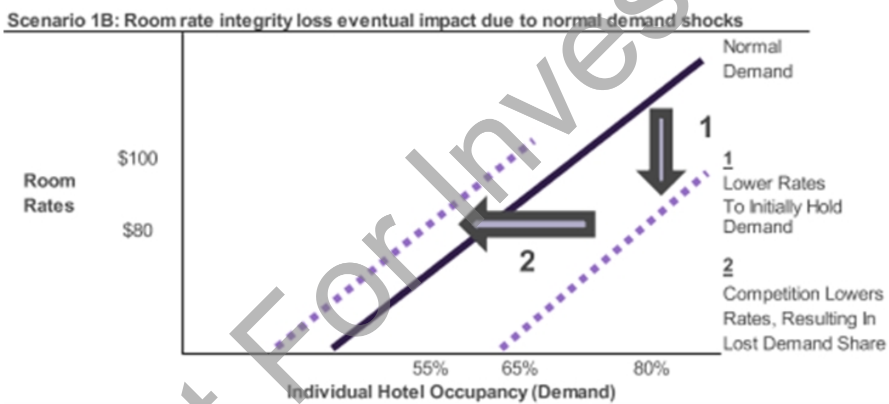
for PLYA's owned portfolio, even with consideration to the relatively lower labor cost environment in PLYA's Mexico, Dominican Republic, and Jamaica markets.

In a simplified context, when room rates grow above inflation/other cost growth, especially when hotels are running close to normal occupancy, there can be a high profit flowthrough. When we asked Pebblebrook (PEB, Hold) to discuss this topic on the 4Q21 earnings call, they pointed to ADR growth flowing to profits at ~75%. For high-end resorts that are close to full occupancy today, we view that high profit flowthrough as a likely phenomenon in 1Q22, especially March, given HotStats results. We caution investors that eventually guest demands tend to ramp with higher room rates and outside-the-room spend (restaurants, resort activities, etc.) and that imbalance is particularly germane today with labor shortages. For now, the tailwinds to margins outweigh the headwinds, and we could see public company messaging focusing more on the profit strength than the cost creep catchup in the next few years.

- **This cycle is different for room rate strength early in the cycle; it is also different for margin recovery.** Last year we analyzed lodging cycles since 1930 and the degradation of room rates following a demand shock (war, recession, etc.). In past cycles, hoteliers have intentionally discounted room rates to try to induce occupancy; the consequence is ADR not recovering in real terms to pre-lodging shock levels for several years and a commensurate hit to profitability. This lodging cycle recovery has largely not seen as much rate discounting in part as many travelers were not going to travel at any price due to health concerns and limited higher-rated corporate travel. Without material room rate discounting, the positive impact also flows to profitability. **In this cycle, hotel profit recovery is more driven by the recovery of demand and the ability to push room rates above inflation rather than by the much more common "rate integrity" headwind.** From a hotel profitability lens, we prefer the light blue line of Scenario 1 than the purple movement of Scenario 1B.



Source: Truist Securities Research

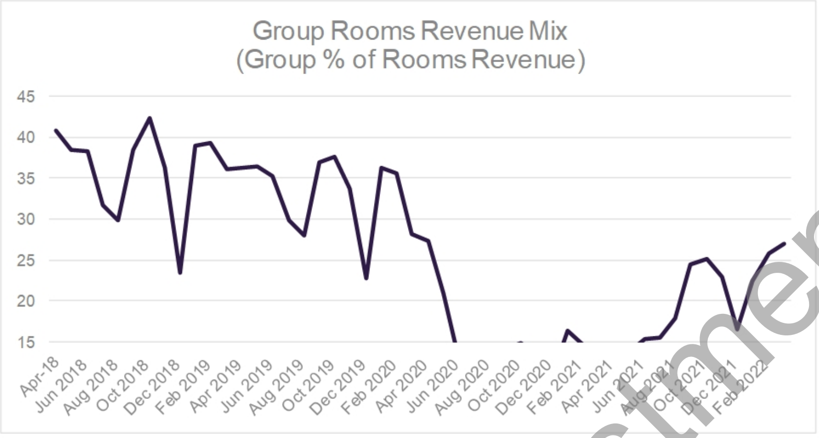


Source: Truist Securities Research

The Importance of Group Recovery for Absolute EBITDA Recovery

We do not see as of yet group revenue as close to full recovery, particularly corporate and association groups; this gap of recovery also contributes to absolute EBITDA still 20-40% below 2019 levels for many hotels. In the below chart we track group rooms revenue mix (as a percentage of rooms revenue). Group mix remains well shy of pre-pandemic levels. In March 2022, group mix in the HotStats sample was 27.0% (the best result since the pandemic) but well shy of March 2019 of 36.1%. While social groups such as weddings are recovering very well with robust spend according to our private hotel owner contacts, live attendance net of no-shows for corporate groups remains in some cases 25-50% below pre-pandemic levels. We warn investors that forward convention pace data does not necessarily capture event no-shows or the negative consequences of hybrid meetings when attendees decide to not travel due to illness, flight cancellations, rising travel costs, or time conflicts; for now, pace data is not as reliable as pre-pandemic.

For large group hotels that are seeing revenues and EBITDA margins similar to pre-pandemic levels, in many cases we would suggest it is the leisure guest driving the recovery, not the traditional corporate/association group customer that can normally comprise 50-80% of occupancy. This customer mix variance also impacts hotel labor staffing needs and margin results. Lighter F&B/catering staff factors into the relatively lower margin F&B department (lower revenues/less headline margin headwind) versus the higher staffing needs in the higher-margin rooms department. We would posit that from our review of weekly segmentation data from STR, the group recovery trend is fairly similar across the country. Perhaps surprisingly, the Pacific region has had a relatively superior group recovery in recent weeks vs. 2019 than the Southeast.



Note: We have intentionally not presented the low group mix in 2020 for easier visuals.

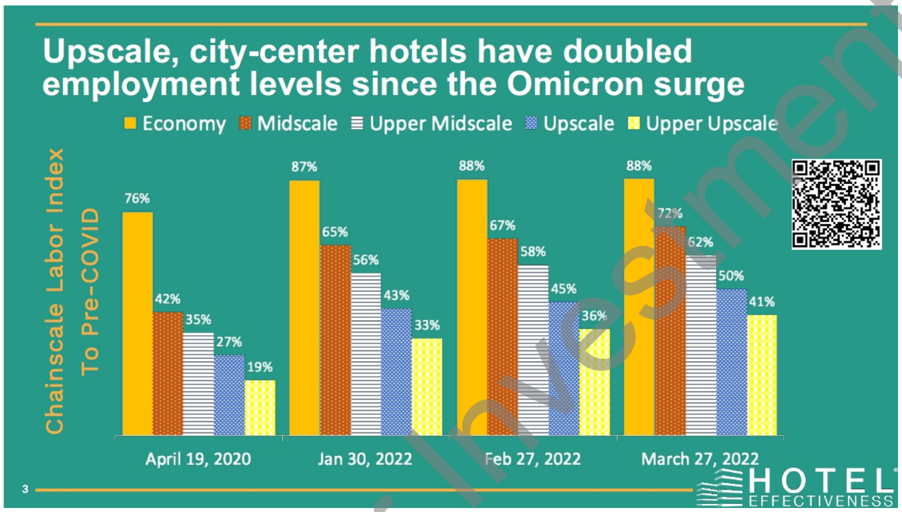
Source: HotStats, Truist Securities Research

Digging Deeper on Profit Recovery Versus Cost Growth

Less discussed today: cost growth can lag profit growth -- both labor and other expenses (food, utilities, maintenance costs, etc.). On the whole, we are learning from hotel owners that labor issues are improving although the measures to attract staff tend to still include one-time bonuses and other temporary incentives. Wages remain in some respects not terribly competitive with some non-service industries that attract entry-level workers. On-property working conditions (odd days of week, odd hours, volatile occupancy with inconsistencies on tip expectations, etc.) remain as inherent industry challenges as they were pre-pandemic (Hotel Business). Positively, the industry is arguably more strategically messaging that many employees can rise from unskilled hourly positions to management (we saw a LinkedIn post by MAR's CEO on Friday referencing the story of the General Manager of the St. Regis Cairo who started as a busboy at the now JW Marriott Grosvenor House London). How much that style of messaging is being communicated to an hourly prospective workforce is less clear. Further, we view the U.S. political climate particularly in an election year as less likely to support looser immigration policies, especially from Latin America, which could help alleviate some of the labor challenges. On our watchlist: if any weakening macroeconomic conditions may alleviate some of the labor shortage issues. **Please see an exhibit further in this note on the rising housekeeping wages that had proceeded up well before COVID and is continuing to do so at 3-4% per quarter since April 2019.**

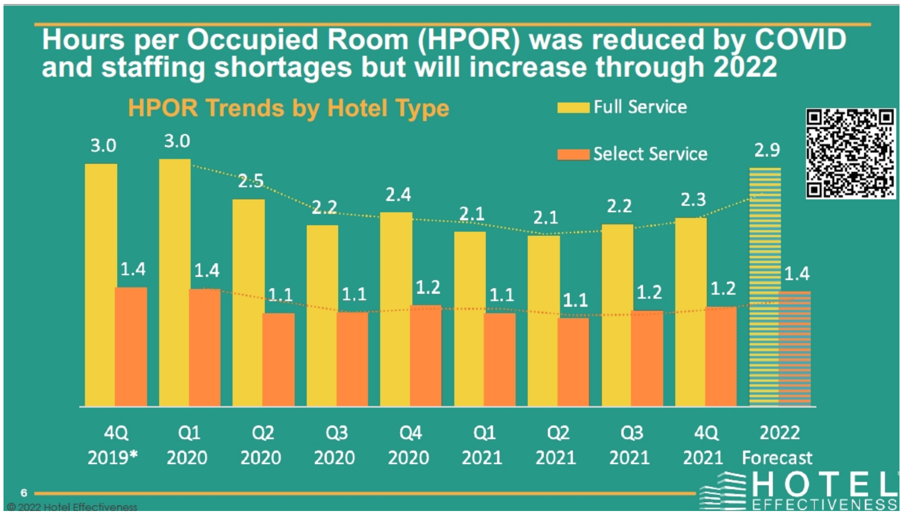
Hotel Effectiveness, a labor solutions company that offers technology and real-time data systems for thousands of hotels in the US of all property types, provides highly detailed quantitative support for what we are discussing in anecdotal conversations with institutional hotel owners.

Per Hotel Effectiveness, labor remains far below pre-COVID levels for higher-rated urban hotels (41% for Upper Upscale). Hotel Effectiveness suggests that their Labor Index is a proxy for full-time equivalent (FTE) employee counts. Hotel Effectiveness suggests that the lag in labor staffing is driven by non-rooms divisions (F&B, catering, etc.) which would conform with the detailed P&L data we analyze from HotStats. **We can further suggest that some of the margins that the full-service REITS are achieving today may see some headwinds as they add back the lower margin departmental staffing. We do not expect management teams to be highly detailed on this messaging as this goes against the critically important positive theme of recovering business group demand.**



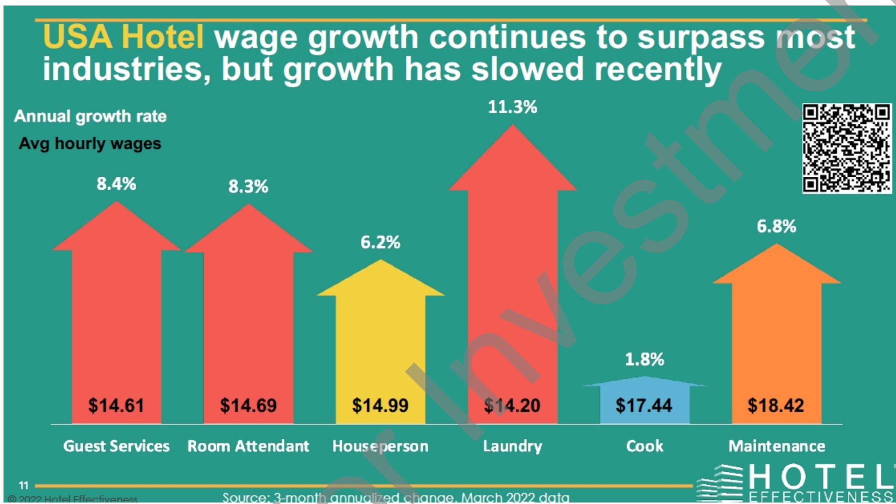
Source: Hotel Effectiveness

In line with our views on above management team messaging on labor and our views on inflated margins in recent/current earnings, Hotel Effectiveness forecasts that the "Hours per Occupied Room" (HPOR) labor will recover to essentially 2019 levels by year-end 2022.



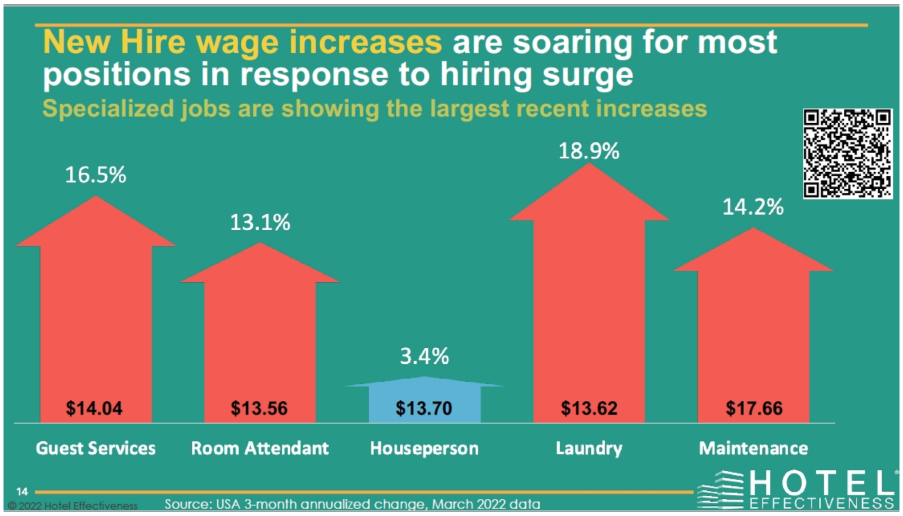
Source: Hotel Effectiveness

Wage rates are continuing to grow at in some respects mid to high teens y/y increases. In light of the slower pace on the below exhibit, Hotel Effectiveness suggested to us that new hires at lower wages also impacts the average wage and we are in a period of another hiring wave in advance of "revenge travel" (we assume summer travel driven).



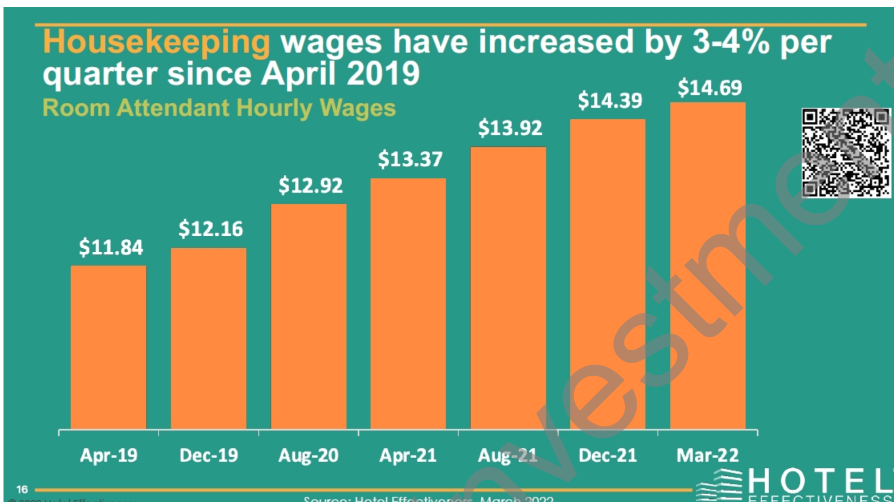
Source: Hotel Effectiveness

- While we do not have specific data per market, **Hotel Effectiveness noted significant wage growth in the Washington DC market** (y/y wages up 27% for room attendants, 20% in laundry, and 15% in guest services). **REITS with heavy exposure in the Washington DC metro include RHP (north of 10% of Hospitality EBITDA) and north of 5% include DRH, HST, RLJ, and SHO.** (PEB's legacy DC exposure has been reduced through resort acquisitions.) Among major US markets, MAR also has relatively high managed full-service exposure in its hometown market. We recognize that there are some differences in labor within the District, in Northern Virginia, Maryland, and with respect to unionized and non-unionized hotels.



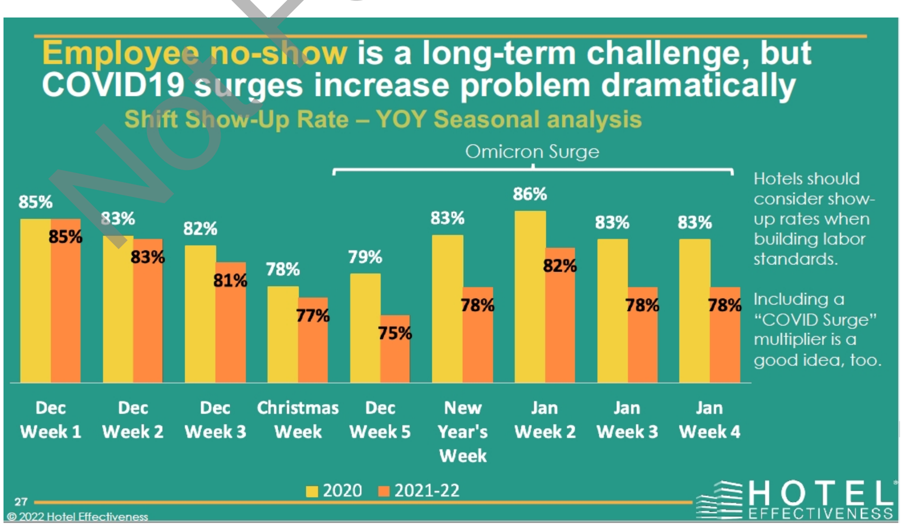
Source: Hotel Effectiveness

One example of where new hire wage growth is continuing to act as a headwind is housekeeping, which we view a partial consequence of the limited political support for wider immigration into the U.S. (as discussed above).



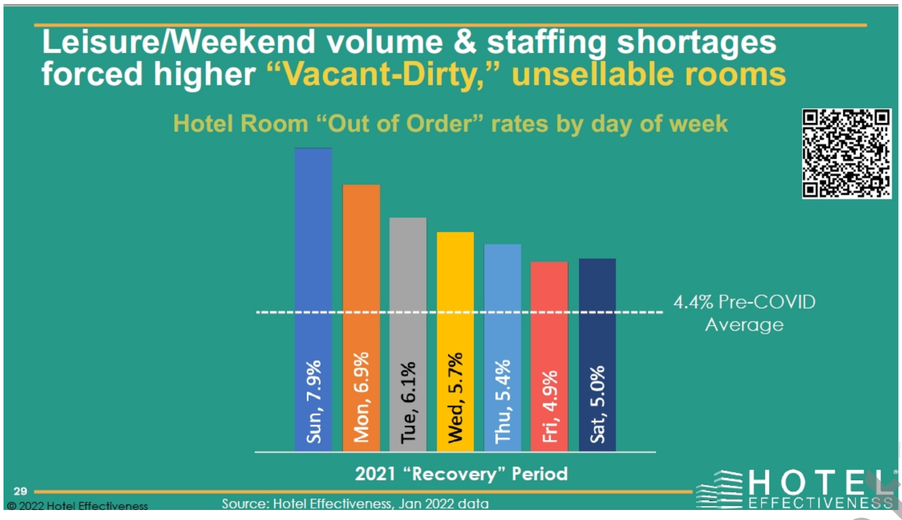
Source: Hotel Effectiveness

Turnover and employee no-shows are challenges in many service industry roles but are even more of a factor in a tight labor environment and when Omicron leads to employee illness. While we do not wish for the latest Omicron variants to lead to a public health repeat of early 1Q22, Hotel Effectiveness presents a very interesting analysis of the degree of impact of employee no-shows during the initial Omicron wave (we focus on the variance between the yellow and orange bars widening materially in January).



Source: Hotel Effectiveness

- Another complication of no-shows is when rooms could be sold but are unable to be sold because of staffing shortages -- which again we attribute to not just labor shortages but employee illness from COVID. We had not seen a proper labor quantification of what are called "vacant-dirty" rooms in a detailed manner but Hotel Effectiveness presents an interesting implication of staffing shortages on rooms that could be sold but are not. Our interpretation is that hotels are losing a few percentage points per week in leisure occupancy due to the combination of strong leisure demand and staffing issues. Conversely, lower available rooms may also support somewhat higher room rates in aggregate due to lower rooms "supply".



Source: Hotel Effectiveness

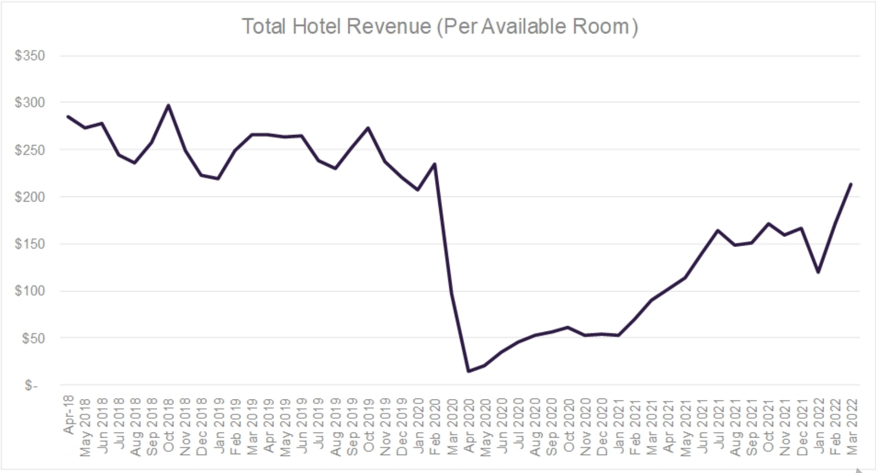
Evaluating Margins in Light of REIT Transaction Activities

Further less appreciated on the Lodging REIT side is how 2022 margin results versus 2019 (or what may eventually be part of the "permanent margin expansion" narratives) cannot be evaluated simply at face value given portfolio transaction activity. We argue investors need to be sharply attentive to transaction activity by owners both in the acquisition costs of luxury leisure properties (especially urban and resort locations with price points north of $1M/room) and the disposition of hotels at material losses. We note that while some real estate trade publications tend to highlight impairments and dispositions that can be in some cases tens to hundreds of millions of dollars per asset, it is understandable that REIT management teams do not wish to highlight this disconnect. **Some REITS have sold properties at sharp discounts to prior purchase prices while at the same time highlighting very high 2019 EBITDA multiples.** We highlight a few examples below. While we are not trying to call out certain past management decisions and do not necessarily disagree with the decisions of said REITS to divest some of their lower margin assets, we think it is important for investors to keep a broader context in mind when evaluating the revised/pro forma portfolios versus pre-pandemic versions:

- **Host** (HST, Hold, Scholes) recently divested the Sheraton New York Times Square for $373M, a 28.0x EBITDA multiple on 2019 EBITDA but was purchased in 2006 for $738M (CoStar). The acquirers noted the purchase price was $210K/room, one of the lowest prices per key for fee simple real estate in Manhattan in the last 13 years.
- **RLJ** (RLJ, Buy) sold the DoubleTree Metropolitan in NYC's Midtown East for about half of its 2011 purchase price of $335M. The hotel was purchased in 2003 by a previous owner for $110.5M (plus $35M for a renovation) which compares to RLJ's disposition pricing of $169M. RLJ noted the hotel sold for over 47x 2019 Hotel EBITDA.

Total RevPAR and GOP Margin Trends

While we present below that GOP margins in 1Q22 were quite similar to 1Q19, the recovery of revenues is lagging. The below chart presents Total RevPAR (rooms plus outside-the-room spend). While 1Q22 was a sharp improvement, March 2022 Total RevPAR of $213 was far below March 2019 of $266 (20%). The recovery of higher-rated corporate travel, both individual travel and group/convention citywides, combined with lower international inbound travel, combine for much of the gap to 2019 levels. It is also important to remember that the 2022 statistics do not factor in inflation which further depresses the revenue comparison to 2019.

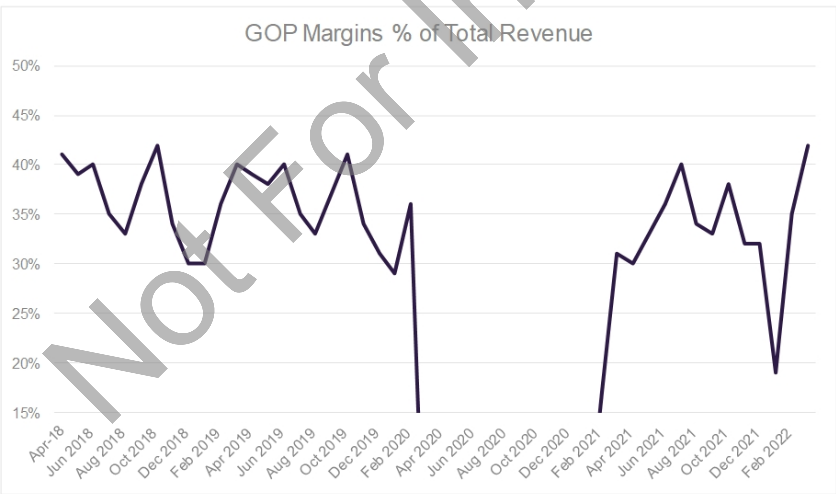


Source: HotStats, Truist Securities Research

We can see how volatile GOP margins were in 1Q22 in the following chart. Per HotStats data, GOP margins as a percentage of total revenue over the last six months have proceeded as follows:

- October 2021: 38%
- November 2021: 32%
- December 2021: 32%
- January 2022: 19%
- February 2022: 35%
- March 2022: 42%

We highlight simply looking at the quarters in aggregate presents a deceptively "similar" headline result between 4Q21 and 1Q22 but by month results are more varied. It is clear to us that a seasonally low occupancy January/early February combined with the impact of Omicron had a large impact on margins.



Note: We have intentionally not presented the deeply negative margins in 2020 for easier visuals.

Source: HotStats, Truist Securities Research

We do not suggest investors view the headline profit margins for March as a new run rate or straight-line trend of margin growth through 2022. March had excellent results driven in part from an overweight (positive) impact from outperforming luxury and resort properties with no impeding holidays and a less impactful virus situation.

1Q22 Profit Results vs. 4Q21

As discussed above, in aggregate the most recent two quarters share similarities in terms of both top-line results vs. the comparable 2019 quarter and on profitability.

Aggregated U.S. Hotel Operating Performance: 1Q22 vs. Prior Years

	1Q22	1Q21	*y/y % change*	1Q19	*3-yr % change*
Occupancy	55.0%	34.9%	*57.6%*	73.1%	*-24.8%*
ADR	$209	$146	*43.4%*	$215	*-2.5%*
RevPAR	**$115**	**$51**	***125.8%***	**$157**	***-26.7%***
Total RevPAR	**$168**	**$71**	***137.7%***	**$245**	***-31.3%***
Room Margin	73.2%	71.4%	*2.5%*	72.8%	*0.5%*
F&B Margin	24.2%	8.4%	*188.1%*	30.1%	*-19.6%*
Operating Department Margin	62.2%	61.6%	*1.0%*	60.0%	*3.7%*
GOP Margin	**34.2%**	**19.1%**	***79.1%***	**35.6%**	***-3.9%***
GOP Per Available Room	**$57**	**$13**	***330.5%***	**$87**	***-34.3%***
Total Hotel Payroll (% of Total Revenue)	34.8%	40.7%	*-14.5%*	35.7%	*-2.5%*
Total Hotel Payroll (Per Available Room)	$58	$28	*105.9%*	$87	*-33.2%*
Total Hotel Payroll (Per Occupied Room)	$106	$81	*30.8%*	$119	*-11.1%*

Note: HotStats sample is somewhat skewed to U.S. full-service hotels although individual hotel results vary widely today by hotel location and customer base.

Source: Truist Securities Research; HotStats

Aggregated U.S. Hotel Operating Performance: 4Q21 vs. Prior Years

	4Q21	4Q20	*y/y % change*	4Q19	*2-yr % change*
Occupancy	54.7%	26.8%	*104.1%*	72.8%	*-24.9%*
ADR	$217	$142	*53.2%*	$212	*2.4%*
RevPAR	**$119**	**$38**	***213.2%***	**$154**	***-23.1%***
Total RevPAR	**$182**	**$56**	***226.4%***	**$241**	***-24.5%***
Room Margin	72.6%	62.1%	*16.9%*	72.7%	*-0.1%*
F&B Margin	24.5%	-18.8%	*-230.3%*	29.0%	*-15.5%*
Operating Department Margin	61.0%	50.1%	*21.8%*	60.0%	*1.7%*
GOP Margin	**34.0%**	**4.8%**	***608.3%***	**35.4%**	***-4.0%***
GOP Per Available Room	**$61**	**$3**	***2176.0%***	**$85**	***-28.7%***
Total Hotel Payroll (% of Total Revenue)	35.4%	48.5%	*-27.0%*	35.2%	*0.6%*
Total Hotel Payroll (Per Available Room)	$64	$27	*138.3%*	$85	*-25.0%*
Total Hotel Payroll (Per Occupied Room)	$116	$100	*16.0%*	$116	*-0.7%*

Note: HotStats sample is somewhat skewed to U.S. full-service hotels although individual hotel results vary widely today by hotel location and customer base.

Source: Truist Securities Research; HotStats

Important to the above data: our HotStats data set is geared to institutionally owned hotels that are somewhat skewed to higher-rated hotels, a relatively better proxy for the Lodging REITS and incentive management fee contributing U.S. hotels. We do not have detailed profit data on lower-rated and select-service hotels that may have fully recovered demand and in suburban/small market locations where labor shortages are more pressing. We add the obvious caveat that especially in today's environment, comparisons between HotStats data and individual hotels or REIT portfolios may not be aligned. That said, we view HotStats data in aggregate as an excellent indication to the financial strength of institutional quality higher-rated U.S. hotels.

HLT: Valuation and Risks

We apply a blended multiple of 17.0x (11.5x for Owned/leased and 17.0x for Managed/franchised) to our 2023 adjusted EBITDA estimate to derive a price target of $152. This multiple is at the high end of the historical range of 10x-16x.

Risks to our rating and price target:
Upside risks include: Higher than expected pipeline growth, material RevPAR growth (macroeconomic improvement beyond expectations), material market share gains.
Downside risks include: Growth trajectory could disappoint. Pipeline growth could either slow down or projects scheduled for construction could be cancelled, which would diminish system growth for the firm and disappoint investors.

H: Valuation and Risks

Our price target of $111 for H is derived by applying a 14.5x target EV/EBITDA multiple (a blended average of the industry multiples for each business segment) to our estimate for 2024 EBITDA. Our valuation model for Hyatt assumes an owned-hotel 2024 EBITDA multiple of 12.5x and a franchise/management fee EBITDA multiple of 16.0x plus a 10% discount for time of money.

Downside risk: lodging recovery takes longer than expected. Planned dispositions take longer than expected. Material labor issues to owned hotels. Pipeline growth slower than expected. Apple Leisure Group underperforms Hyatt's 2023 guidance.

MAR: Valuation and Risks

Our $182 price target is based on a 16.8x blended multiple on our 2023E EBITDA. In the parts, we assign a 13.0x multiple of EBITDA to the Owned segment and 17.0x fees EBITDA (the fees EBITDA also includes credit card branding fees, a 10x multiple business) to the managed/franchised business. The multiple is towards the higher end of the historical range of 9-18x.

Risks to our rating and price target:

Upside Risks: Significant U.S macroeconomic improvement results in large recovery in transient corporate and group/convention demand. Owned assets sell for premium prices relative to MAR expectations. Supply growth is stronger than expectations. Consolidation in the lodging industry benefits MAR.

Downside Risks: Deep macroeconomic recession. Geopolitical and policy risks negatively impact lodging demand. Inability to grow pipeline in line with Street expectations.

Our ratings and price targets generally represent our recommendations and forecasts based on a 12 to 18 month outlook. We acknowledge that near term uncertainty and volatility could affect financial inputs to our targets, and the likely multiples the market may pay for those metrics.

PLYA: Valuation and Risks

Our $8 price target is based on a 10.0x multiple on our 2023E EBITDA estimate. This represents a ~2.5x turn discount to our full-service oriented Lodging C-corp coverage.

Upside risks: Quicker than expected macroeconomic recovery post-virus impact; better-than-expected pricing in PLYA markets, faster-than-expected group recovery to Caribbean destinations including PLYA's group-focused hotels.

Downside risks: Corporate liquidity or dilutive issuance concerns. Various market and country-specific demand shocks, hurricanes, material supply growth, insufficient airlift, inability to complete growth initiatives, and country-specific risks (emerging market portfolio).

Companies Mentioned in This Note

DiamondRock Hospitality Company (DRH, $10.62, Hold, C. Patrick Scholes)
Hyatt Hotels Corporation (H, $94.96, Buy, C. Patrick Scholes)
Hilton Worldwide Holdings Inc. (HLT, $155.29, Hold, C. Patrick Scholes)
Host Hotels & Resorts, Inc. (HST, $20.35, Hold, C. Patrick Scholes)
Marriott International, Inc. (MAR, $177.52, Hold, C. Patrick Scholes)
Pebblebrook Hotel Trust (PEB, $24.42, Hold, Gregory Miller)
Park Hotels & Resorts Inc. (PK, $19.71, Hold, C. Patrick Scholes)
Playa Hotels & Resorts N.V. (PLYA, $9.44, Hold, C. Patrick Scholes)
Ryman Hospitality Properties, Inc. (RHP, $93.48, Hold, C. Patrick Scholes)
RLJ Lodging Trust (RLJ, $14.02, Buy, Gregory Miller)
Sunstone Hotel Investors, Inc. (SHO, $12.25, Hold, C. Patrick Scholes)
Braemar Hotels & Resorts (BHR, Not Rated)

Analyst Certification

I, Gregory J. Miller , hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company(ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

I, C. Patrick Scholes , hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company(ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

Required Disclosures

Truist Securities, Inc. or an affiliate managed or co-managed a securities offering for the following companies within the last 12 months: H-US and MAR-US

The following companies are clients of Truist Securities, Inc. for investment banking services within the last 12 months: H-US and MAR-US

Truist Securities, Inc. or an affiliate has received compensation for investment banking services within the last 12 months: H-US and MAR-US

Truist Securities, Inc. or an affiliate expects to receive or intends to seek compensation for investment banking services from the following company in the next three months: H-US

The following company is a client of Truist Securities, Inc. for non-securities-related services within the last 12 months: H-US

Truist Securities, Inc. or an affiliate has received compensation for non-securities related services within the last 12 months: H-US

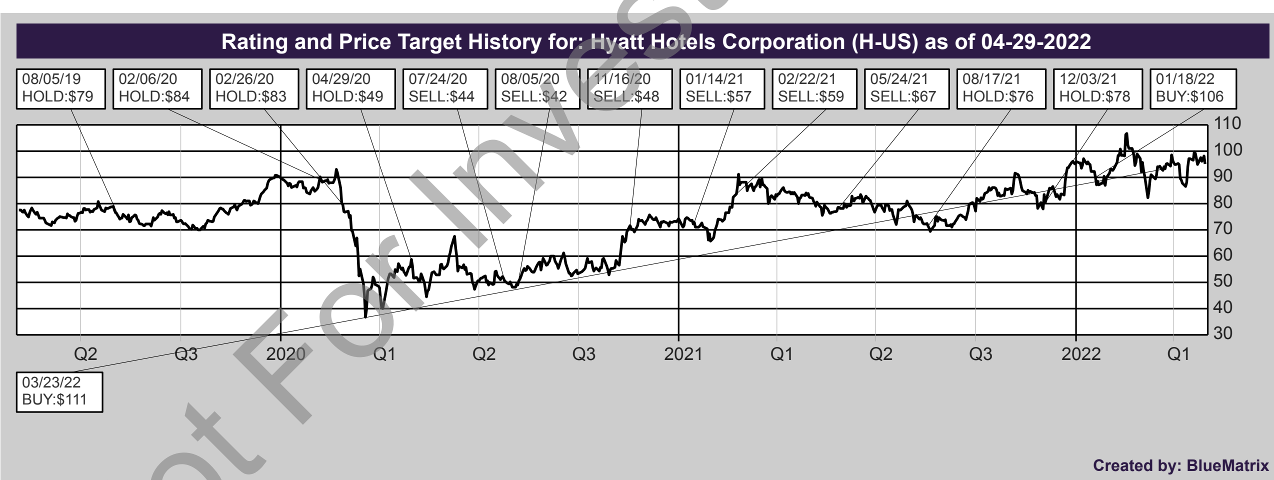
Truist Securities, Inc. makes a market in the following companies: MAR-US and PLYA-US

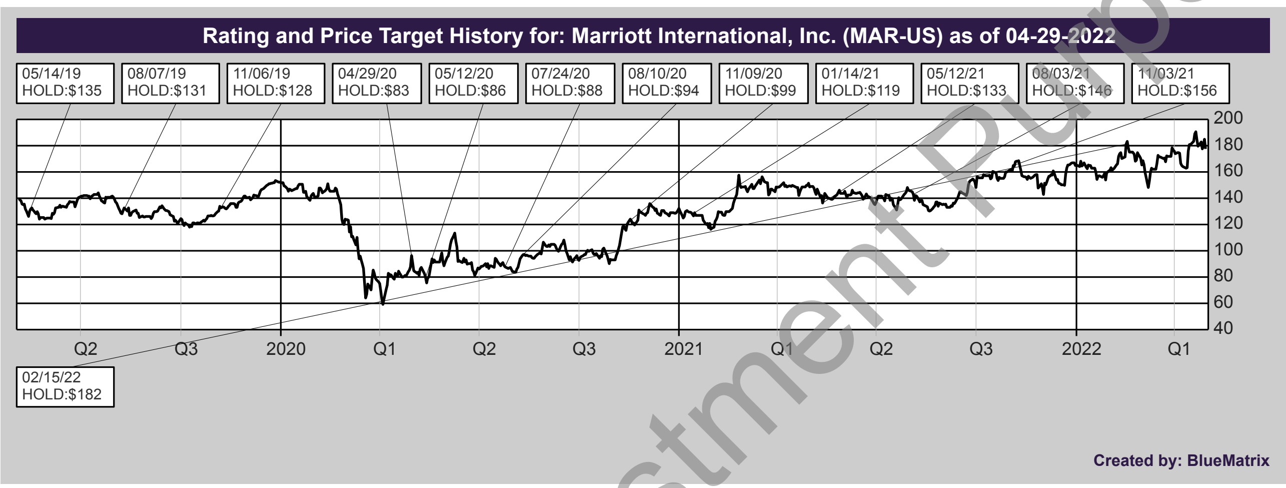
The following company is a client of Truist Securities, Inc. for non-investment banking securities-related services within the last 12 months: MAR-US

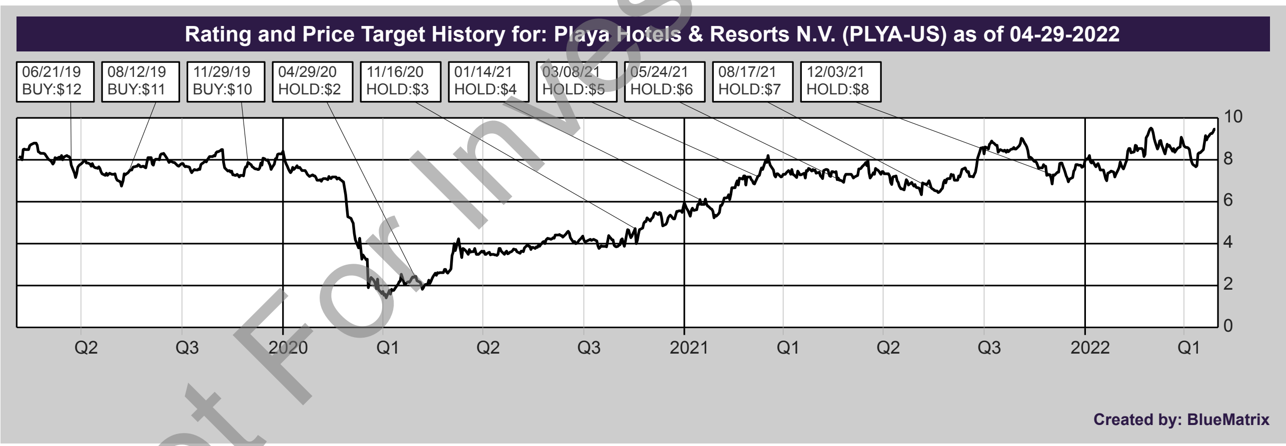
Truist Securities, Inc. or an affiliate has received compensation for non-investment banking services within the last 12 months: MAR-US

Analyst compensation is based upon stock price performance, quality of analysis, communication skills, and the overall revenue and profitability of the firm, including investment banking revenue.

As a matter of policy and practice, the firm prohibits the offering of favorable research, a specific research rating or a specific target price as consideration or inducement for the receipt of business or compensation. In addition, associated persons preparing research reports are prohibited from owning securities in the subject companies.







Truist Securities Ratings System for Equity Securities

Dissemination of Research

Truist Securities, Inc. ("Truist Securities") seeks to make all reasonable efforts to provide research reports simultaneously to all eligible clients. Reports are available as published in the restricted access area of our website to all eligible clients who have requested a password. Institutional investors, corporates, and members of the Press may also receive our research via third party vendors including: Thomson Reuters, Bloomberg, FactSet, and S&P Capital IQ. Additional distribution may be done by sales personnel via email, fax, or other electronic means, or regular mail.

For access to third party vendors or our Research website: https://truistresearch.bluematrix.com/client/library.jsp

Please email the Research Department at EquityResearchDepartment@research.truist.com or contact your Truist Securities sales representative.

Truist Securities Rating System for Equity Securities

Truist Securities, Inc. ("Truist Securities") rates individual equities using a three-tiered system. Each stock is rated relative to the broader market (generally the S&P 500) over the next 12-18 months (unless otherwise indicated).

Buy (B) – the stock's total return is expected to outperform the S&P 500 or relevant benchmark over the next 12-18 months (unless otherwise indicated)

Hold (H) – the stock's total return is expected to perform in line with the S&P 500 or relevant benchmark over the next 12-18 months (unless otherwise indicated)

Sell (S) – the stock's total return is expected to underperform the S&P 500 or relevant benchmark over the next 12-18 months (unless otherwise indicated)

Not Rated (NR) – Truist Securities does not have an investment rating or opinion on the stock

Coverage Suspended (CS) – indicates that Truist Securities' rating and/or target price have been temporarily suspended due to applicable regulations and/or Truist Securities Management discretion. The previously published rating and target price should not be relied upon.

Truist Securities analysts have a price target on the stocks that they cover, unless otherwise indicated. The price target represents that analyst's expectation of where the stock will trade in the next 12-18 months (unless otherwise indicated). If an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Truist Securities Research Management not to assign a target price; likewise certain stocks that trade under $5 may exhibit volatility whereby assigning a price target would be unhelpful to making an investment decision. As such, with Research Management's approval, an analyst may refrain from assigning a target to a sub-$5 stock.

Legend for Rating and Price Target History Charts:

B = Buy

H = Hold

S = Sell

D = Drop Coverage

CS = Coverage Suspended

NR = Not Rated

I = Initiate Coverage

T = Transfer Coverage

Truist Securities ratings distribution (as of 05/02/2022):

Coverage Universe			**Investment Banking Clients Past 12 Months**		
Rating	**Count**	**Percent**	**Rating**	**Count**	**Percent**
Buy	551	70.10%	Buy	148	26.86%
Hold	234	29.77%	Hold	61	26.07%
Sell	1	0.13%	Sell	0	0.00%

Other Disclosures

Information contained herein has been derived from sources believed to be reliable but is not guaranteed as to accuracy and does not purport to be a complete analysis of the security, company or industry involved. This report is not to be construed as an offer to sell or a solicitation of an offer to buy any security. Truist Securities, Inc. and/or its officers or employees may have positions in any securities, options, rights or warrants. The firm and/or associated persons may sell to or buy from customers on a principal basis. Investors may be prohibited in certain states from purchasing some over the-counter securities mentioned herein. Opinions expressed are subject to change without notice.

Truist Securities, Inc.'s research is provided to and intended for use by Institutional Accounts as defined in FINRA Rule 4512(c). The term "Institutional Account" shall mean the account of: (1) a bank, savings and loan association, insurance company or registered investment company; (2) an investment adviser registered either with the SEC under Section 203 of the Investment Advisers Act or with a state securities commission (or any agency or office performing like functions); or (3) any other person (whether a natural person, corporation, partnership, trust or otherwise) with total assets of at least $50 million.

Truist Securities, Inc. is a registered broker-dealer and a member of FINRA and SIPC. It is a service mark of Truist Financial Corporation. Truist Securities, Inc. is owned by Truist Financial Corporation and affiliated with SunTrust Investment Services, Inc. and BB&T Securities, LLC. Despite this affiliation, securities recommended, offered, sold by, or held at Truist Securities, Inc., SunTrust Investment Services, Inc. or BB&T Securities, LLC (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Truist Bank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Truist Bank may have a lending relationship with companies mentioned herein.

Please see our Disclosure Database to search by ticker or company name for the current required disclosures, including valuation and risks. Link: https://truist.bluematrix.com/sellside/Disclosures.action

Please visit the Truist Securities (formerly known as SunTrust Robinson Humphrey) equity research library for current reports and the analyst roster with contact information. Link: https://truistresearch.bluematrix.com/client/library.jsp

Truist Securities, Inc., member FINRA and SIPC. Truist and Truist Securities are service marks of Truist Financial Corporation.

If you no longer wish to receive this type of communication, please request removal by sending an email to EquityResearchDepartment@Research.Truist.com

ADDITIONAL INFORMATION IS AVAILABLE at our website, TruistSecurities.com, or by writing to: Truist Securities, Research Department, 3333 Peachtree Road N.E., Atlanta, GA 30326-1070