BofA SECURITIES

Internet/e-Commerce

Real Estate FinTech market appraisal

Industry Overview

15 June 2023

Equity
United States

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Home data stabilizing in May but affordability a concern

We continue to see a relatively high degree of uncertainty in real estate trends given rate volatility, a dearth of inventory and a potential 2H recession. However, metrics appear to be stabilizing on somewhat lower rates from peak and price compression. Thus far we have not seen evidence of a slowdown in volumes but do see some risk in 2H, due to higher rates, 30-Yr came in at 6.8% for the week of 6/8, and home listing prices that have moved up. While we still believe that 1Q23 marked a trough, and expect YoY trends to improve through the year, volumes may not improve as much as we currently forecast. We remain constructive on a return to growth in 2024 and thus far rates have not impacted demand. Per our most recent real estate expert call (see report), despite still challenging home affordability driven by near 7% mortgage rates and elevated home listing prices: 1) underlying homebuyer demand is very high; 2) buyers are still very much accepting of higher mortgage rates; and 3) the spring selling season started earlier and remained stronger than each expert had anticipated. However, we see potential 2H risk as demand historically ebbs. We remain cautious on underlying margins and net debt for Underperform rated RDFN and OPEN.

Transactions likely troughed in 1Q

Pricing for existing homes declined 1.7% in April, a further deceleration from -1.0% in March, and from February which came in flat Y/Y. We forecast existing home prices to decrease 2.4% on average in 2023 and increase 2.7% in 2024. Existing home volumes declined 27% in 1Q23 (vs. -33% in 4Q22) but we expect for them to steadily improve to a decline of 2% by 4Q23. For 2023, we forecast volumes to decline 16% YoY and increase 8% in 2024. In 1Q23, total transactions declined 22.9% YoY (vs. -32.6% in 4Q) compared to down 17% for ZG Residential and down 35% for RDFN real estate services revenues.

Web traffic in May grows 0.1% YoY

Web traffic for the largest online real estate websites strengthened in May to +0.1% YoY from -6.0% in April, and marks the first YoY increase since August of last year. Web traffic to the largest online real estate advertising websites was -4.9% YoY in May on average, compared to -9.7% YoY in April. Web traffic to brokerage websites increased 7.7% vs. 0.3% in April and iBuyer site traffic declined 41.9% vs. -43.9% in April.

Home affordability a renewed headwind

Lower home ownership affordability and a slowdown in the overall real estate market is a headwind to margins and revenue growth for online real estate companies, particularly the iBuyers (OPEN). Home affordability in March (latest available) improved to 75.2 from 74.1 in February, and compared to 82.6 a year earlier. In comparison, at the lowest point of the GFC, affordability measured 71.5. However, FED listing data indicates that HPA seems to be strengthening again, and rates have increased significantly from March, which likely is a headwind to affordability, all else being equal.

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Refer to important disclosures on page 14 to 18. Analyst Certification on page 12. Price Objective Basis/Risk on page 11. **12570402**

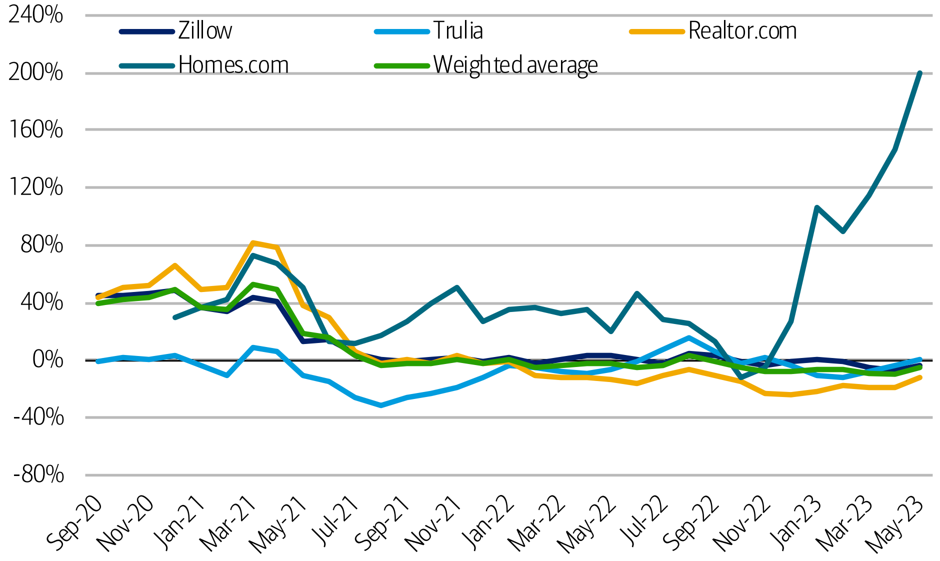
Timestamp: 15 June 2023 05:00AM EDT

Industry Overview

Real estate web traffic higher on average in May

Total real estate web traffic was +0.1% YoY in May, compared to -6.0% in April and -6.8% in March. Web traffic to the largest online real estate advertising websites was -4.9% YoY on average for May, compared to -9.7% in April and -9.0% in March. Zillow traffic declined 3.0% YoY, versus a 7.0% decline in April. Trulia (owned by Zillow and less than 20% the traffic of Zillow) web traffic saw a YoY increase of 1.1%, compared to a 3.3% decline in April. Realtor.com (Zillow's largest competitor) web-traffic accelerated by 7pts and was at -11.4% in May vs. -18.4% in April. Homes.com had the best performance (albeit on a small base), with traffic increasing +200.0% YoY for May compared to its +146.1% growth in April. We continue to monitor traffic from Homes.com, relative to Zillow. While the two companies are not direct competitors, they do compete for web traffic. Homes.com is still less one-tenth the size of Zillow and traffic is primarily driven by paid search (vs. organic for Zillow). Both Redfin and Zillow senior management have also publicly that Homes.com has not had any impact on business trends and a high degree of paid marketing spend (relative to Zillow and Redfin) may not be sustainable.

Exhibit 1: US online real estate marketing web traffic (YoY %)
Total traffic accelerated in May, from the month prior



Source: SimilarWeb

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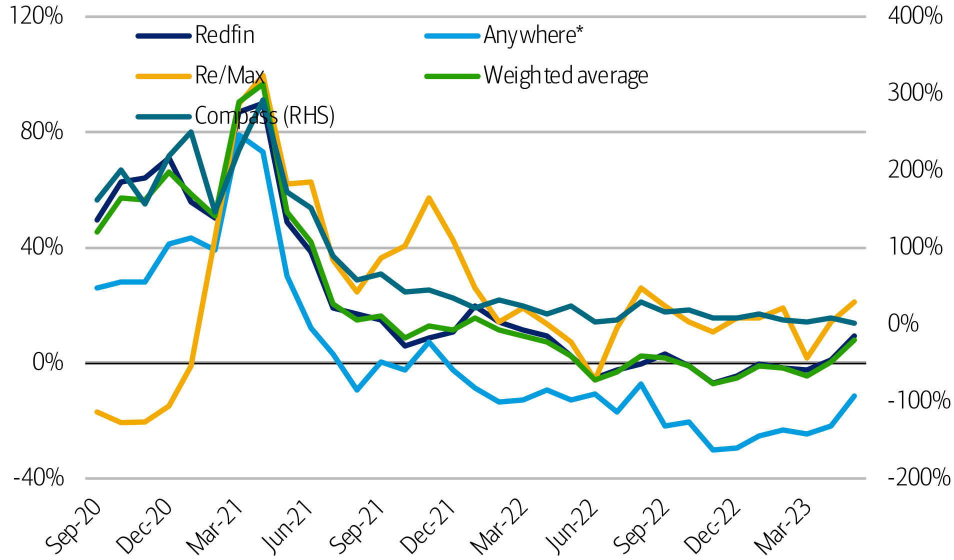
Web traffic to brokerages was +7.7% YoY for the month of May on average, compared to +0.3% in April and -4.2% in March. For Redfin, YoY traffic in May was +9.7% versus +1.3% in April. Anywhere web traffic was -11.2% vs. -21.5% in April, while Compass was +1.8% vs. 8.2% in April and Re/Max was up 21.4% vs. 14.0% in April.

Exhibit 2: Real estate broker web traffic (YoY % change)
Traffic has stabilized in recent months



*includes Coldwell, Century21, Sotheby's and Corcoran
Source: SimilarWeb

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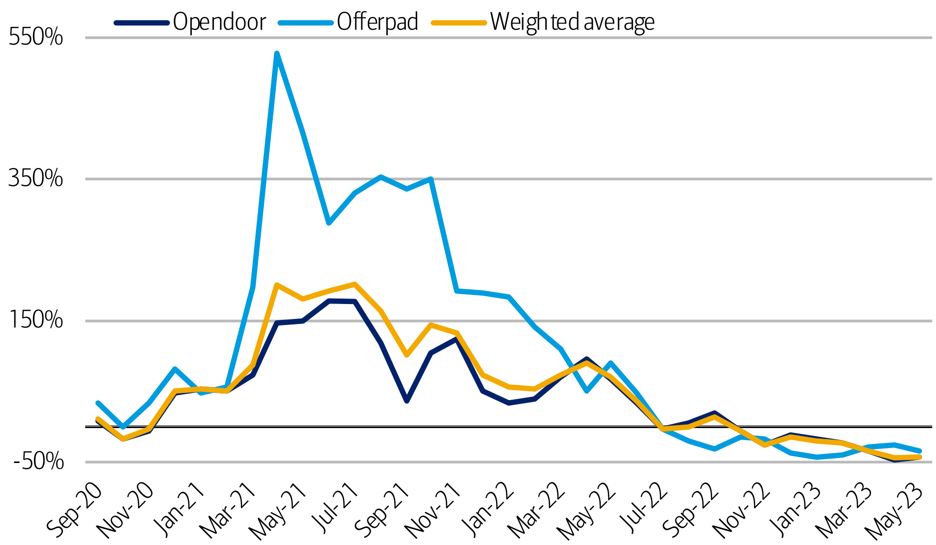
Web traffic to iBuyers was -41.9% for the month of May on average, compared to -43.9% in April. For Opendoor, YoY traffic declined 43.4% in May from -47.0% in April. For Offerpad, YoY traffic declined 33.6% in May from -26.3% in April.

Exhibit 3: Opendoor vs. Offerpad web traffic (YoY %)
Both have decelerated significantly since peaking in mid-2021



Source: SimilarWeb

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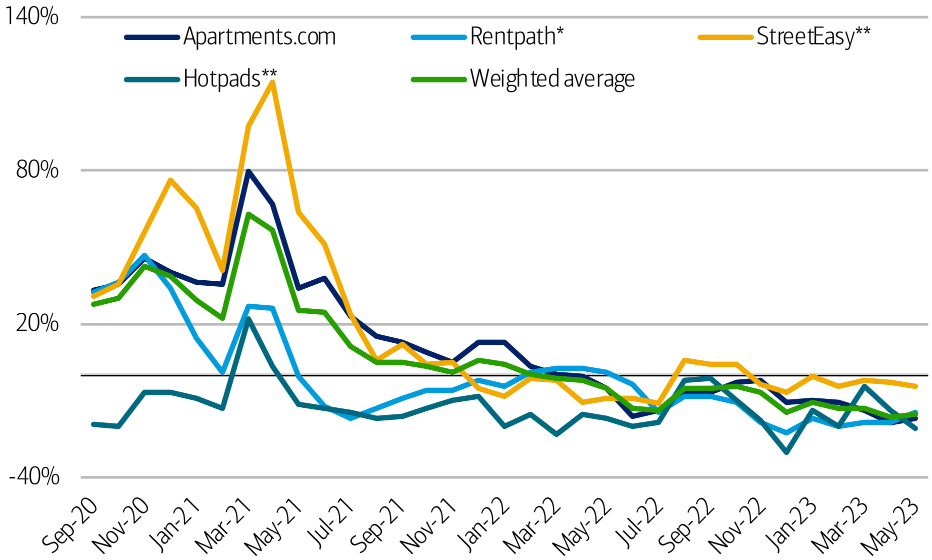
Web-traffic for apartments in May was down 15.1% on average, compared to a 16.5% YoY decline in April. StreetEasy (owned by Zillow) performed best at -4.6%, while Hotpads web-traffic performed worst and declined by 20.5%. We note that our analysis does not directly capture rental activity on Zillow's primary site but total revenues increased over 20% YoY in 1Q23.

Exhibit 4: Apartment and home rental web traffic (YoY %)
Total traffic decelerated slightly for the month of May compared to the month prior



Source: SimilarWeb

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Housing trends are showing signs of stabilization

In the section below we analyze the most recent trends and forecasts for real estate metrics that are most important to FinTech real estate companies. We also provide read-through and takeaways for each metric.

Lower home volumes driven by a steep decline in affordability have been a drag on RDFN brokerage transactions, ZG Residential Revenues and OPEN's ability to profitably sell homes. Affordability could remain challenged in 2023 given an uptick in rates and relatively modest pricing declines. However we still see room for improvement later in 2023 and into 2024, primarily on lower rates. Existing home volumes declined 27% in 1Q23 (vs. -33% in 4Q22) and we expect for them to steadily improve to a decline of 2% by 4Q23. For 2023, we forecast volumes to decline 16% YoY and increase 8% in 2024.

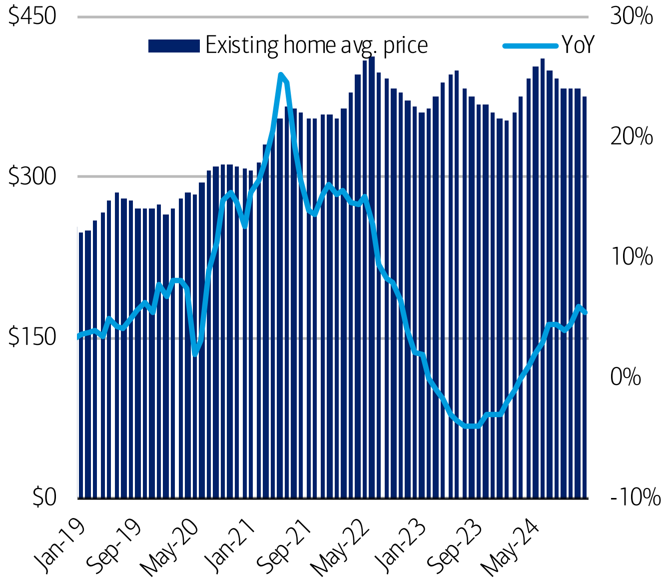
Home pricing has cooled, albeit at a low rate

Home prices are softening after two years of very solid growth. Per the Case Shiller home price index, prices increased 0.7% YoY in March (latest available), compared to 2.1% in February. Pricing for existing homes declined 1.7% in April, a further deceleration from -1.0% in March, and February which came in flat Y/Y. Existing home prices rose 10.4% in 2022. We expect pricing to continue to cool through 2023. According to Zillow rent data, pricing for single family home rentals continued to outpace home price growth in April (4.8% vs. expected flat YoY per Case Shiller).

We forecast existing home prices to decrease 2.4% on average in 2023 and increase 2.7% on average in 2024.

Exhibit 5: Monthly existing home average price (000's) and Y/Y % change

Pricing for existing homes declined 1.7% in April



Source: BofA Global Research, Bloomberg

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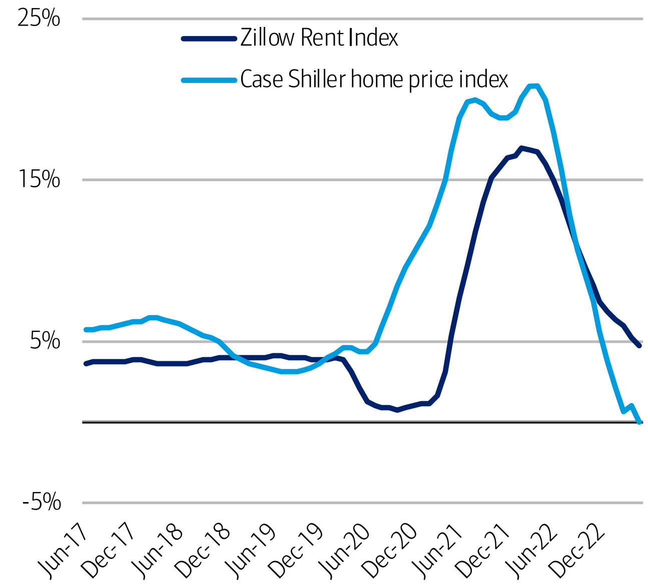
Exhibit 6: Single family rent index vs. Case Shiller home price index

Home prices are trending below rents



Source: Bloomberg, Zillow

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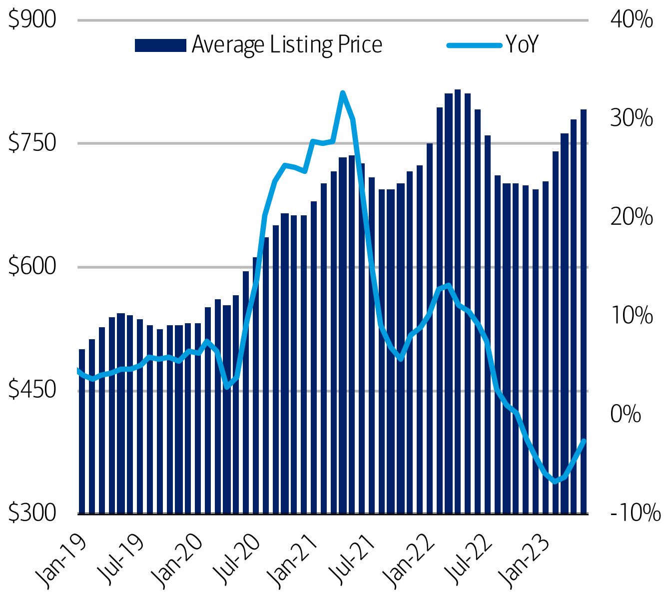
Home listing prices appear to be stabilizing in early 2023, after significant declines in 2H22. Average home listing prices came in at $791,837 (-3% Y/Y) for the month of May, a 2pt increase over April at $778,516 (-5% Y/Y) but below -7% in Feb. Median home listing prices came in at $441,445 (-1% Y/Y) for the month of May, a 2pt deceleration compared to April at $430,000 (+1% Y/Y). The initial increase in listing prices coincided with lower mortgage rates in March/April and the beginning of the spring home-selling season. However, pricing has remained resilient despite an increase in the 30-Yr rate from 6.3% at the end of April, to 6.8% at the end of May. A post-spring/summer price decline is a typical part of the cycle each year, and an acceleration in HPA in January is typical cadence. We note that sequential increases in listing prices were unusually strong in early 2023, but trends have decelerated slightly month over month. As rates are on the rise again, we are looking for any data indicating pricing weakness. Sellers that missed the record home pricing of last summer, may be listing homes in anticipation of a healthy spring season, and it remains to be seen if buyers reciprocate. Inventory and volumes remain significantly depressed from historic averages.

Price increases, bidding wars and homes sold above asking price were common throughout the pandemic. However, with softer volumes and still low affordability, price reductions are returning to pre-pandemic levels. Price reductions in May were 183K, up 3% YoY, but below 411K in July 2019. Price increases, on the other hand, for the month of May were 21K, significantly lower than at the average throughout the last five years and a 33% YoY decline. We note that while the actual count of price reductions remains below the historic average, the percentage of price reductions in relation to total active listings, is at 31% for the month of May, 3pts above the 5-Yr average of 28%. We believe the percentage of price reductions relative to total listings is a better gauge of market conditions, since it accounts for lower overall listings on the market.

Exhibit 7: Average Listing Price (000's) and YoY % change
Listing prices have increased in early 2023 due to seasonality



Source: BofA Global Research, Federal Reserve of St. Louis

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Exhibit 8: Price Cuts as a Percentage of Total Active Listings
Price cuts in May remain slightly above the 5-Yr average

Source: BofA Global Research, St. Louis FED

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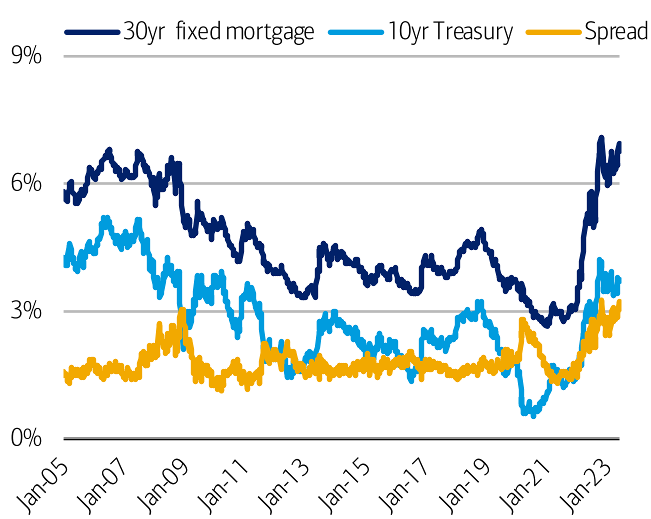
Mortgage rates still high and volatile but likely lower by year-end

Mortgage rates have been somewhat volatile in early 2023 but have been contained between 6-7%. The rate came in at 6.8% for the week of 6/8, up significantly from 5.2% for the same week in 2022. Higher 30yr rates were initially driven by an increase in 10yr US treasury yields (reference rate for 30yr mortgages) and ticked up again leading into the debt ceiling deal but are still down ~20bps from a recent peak in March. The spread between the 10yr and 30yr has increased significantly due to rate volatility and is now at the highest level In at least 20 years (over 300bps vs. 210bp average since 2000). This could remain a headwind to lower mortgage rates. Over time, we still expect a decline In 30yr mortgage rates our view which should improve home affordability and volumes.

Exhibit 9: 30yr mortgage rates vs. 10yr treasury
A significant drop in Treasury yields, from Feb. peak, may cool mortgage rates



Source: Bloomberg, BofA Global Research

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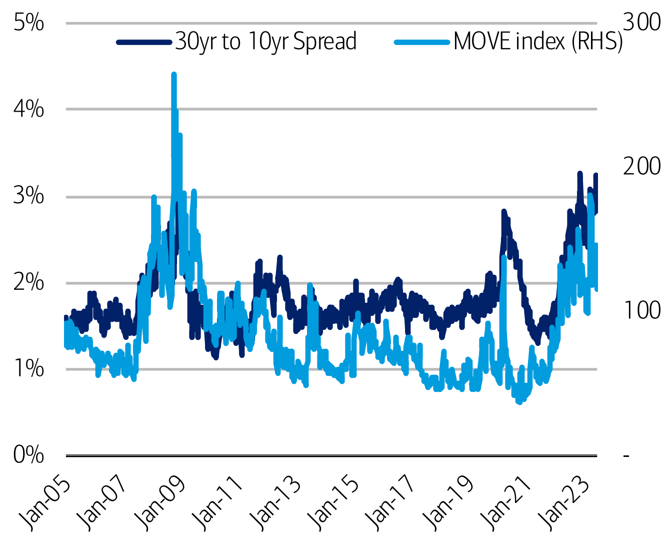
Exhibit 10: 30yr mortgage spread vs. MOVE index*
Although a surge in volatility may keep spreads elevated



Source: Bloomberg, BofA Global Research

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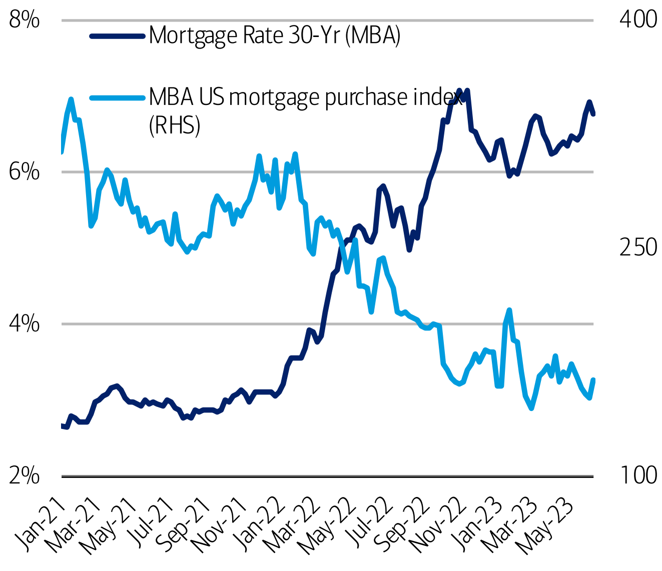
Based on BofA Rates Strategists' forecast for 10yr treasury yields (a key benchmark for mortgage rates) to decline to 3.25% by 4Q24 from 3.8% presently, and the spread to 30yr fixed mortgages reverting to its long-term average of 220bps (vs. nearly 300bps now), we estimate the 30yr mortgage rate could decline to 5.4% by the end of 2024. The Mortgage Bankers Association purchase index now stands at 152 as of June 2nd compared to 208 for the same week last year, down 27% YoY. Despite rate volatility, purchase application trends have stabilized since Oct and YoY trends have sequentially improved through the year (was down -44% at the start of the year). Mortgage applications are a strong leading indicator for home volumes (see ex 19) and recent trends give us confidence that volumes have troughed.

Exhibit 11: MBA purchase index and 30-Yr fixed mortgage rate

Homebuyers are sensitive to even small changes in mortgage rates



Source: Bloomberg

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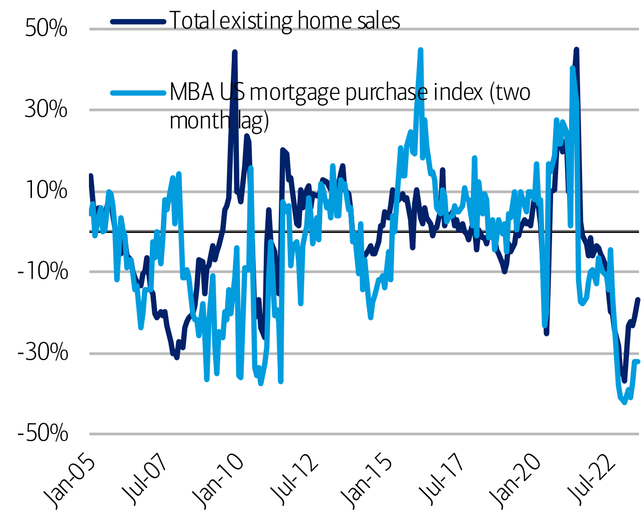
Exhibit 12: Existing home vols vs. mortgage purchase applications YoY

Mortgage activity points to a possible trough in home volumes



Source: Bloomberg

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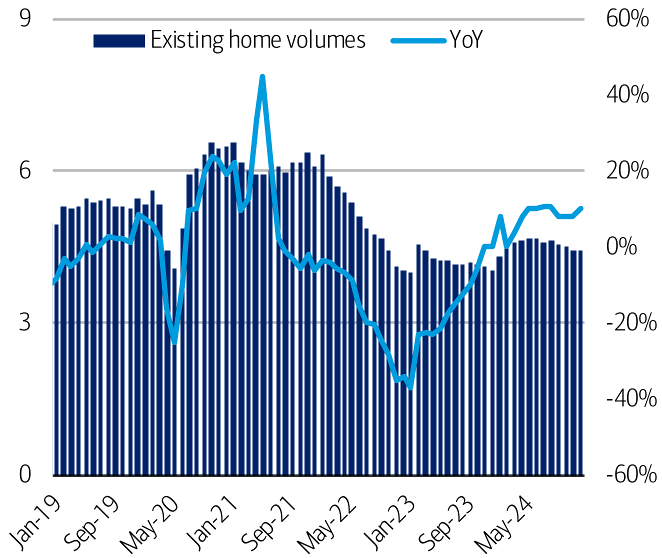
Existing home sales and inventory

Volumes at the end of April were down 23.2% YoY versus down 22.1% in March and an improvement from -27.4% for 1Q23. Fannie Mae's net good time to buy home index improved slightly to -54 in April vs. -60 in March. Fannie Mae's net good time to sell home index improved to 23 in April from 18 in March but is down from 51 last year.

Inventory levels are challenged and still near multi-decade lows. The ratio of existing homes sold to inventory is at 0.26 in April vs. an average of 0.24 over the past twelve months. We believe both buyers and particularly "rate-locked" sellers are on the sidelines, waiting for more favorable direction for home prices and rates.

We forecast existing home volumes to decrease 17% YoY in 2023 and increase 8% on average in 2024.

Exhibit 13: Monthly existing home volumes (MN's) and Y/Y % change
Volumes at the end of April were down 23.2% YoY



Source: Bloomberg, BofA Global Research

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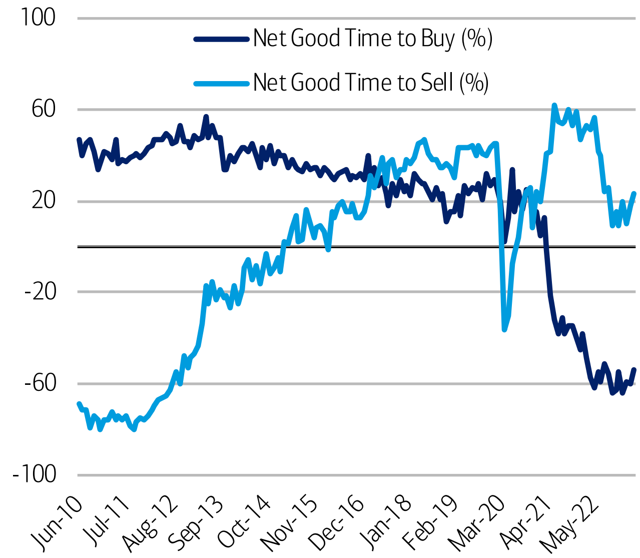
Exhibit 14: Mae net good time to buy vs. sell surveys
Prospective home buyers & sellers are negative on market conditions



Source: Bloomberg, BofA Global Research

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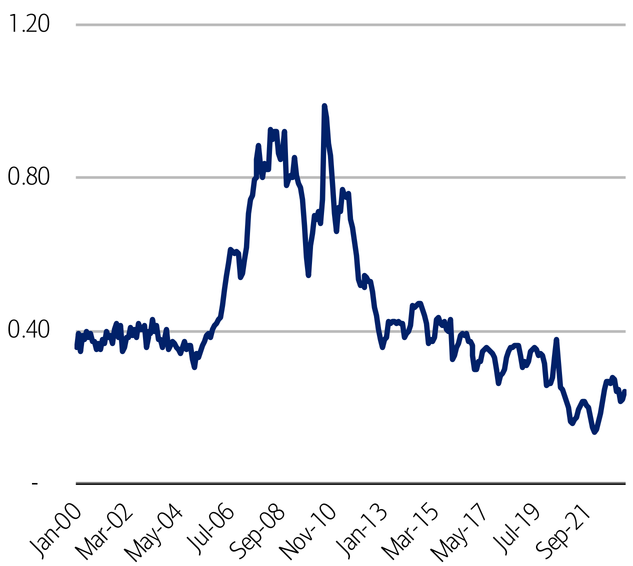
Exhibit 15: Existing home inventory to existing home sales
Inventory has improved although it is due to aging listings



Source: Bloomberg

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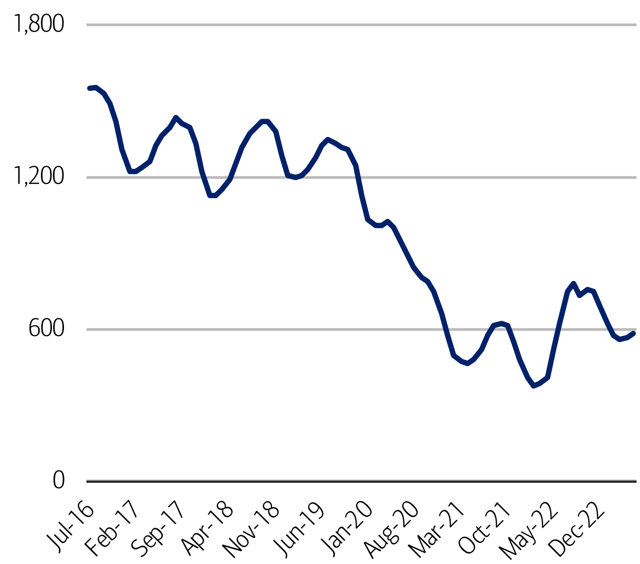
Exhibit 16: Active US home listings (thousands)
So far, active listings have declined in early 2023



Source: FED

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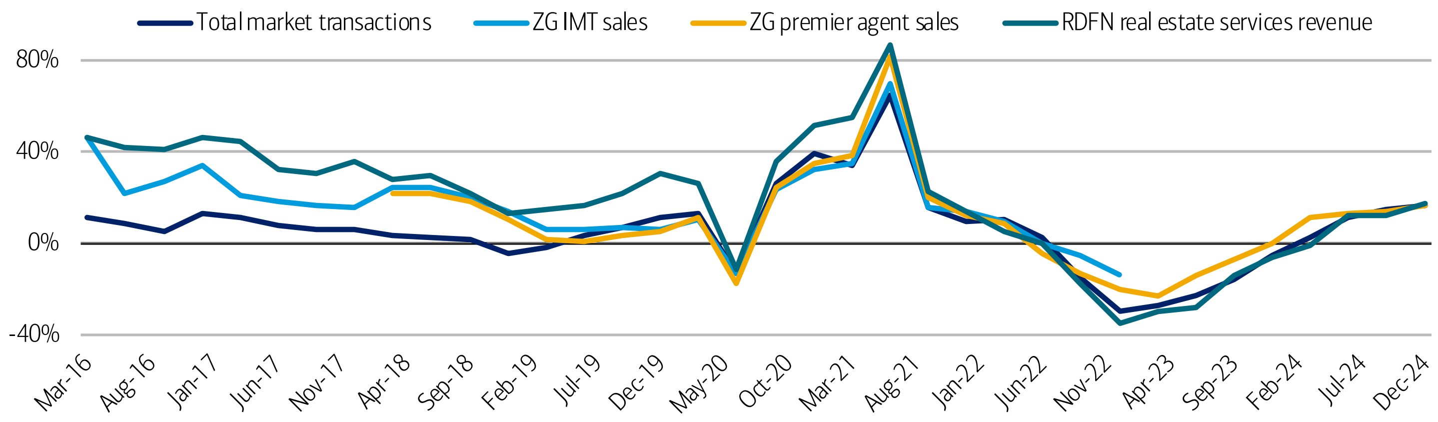
Total real estate transactions

Over the past few years, sales performance for ZG's real estate agent lead generation business (now under Residential Services, previously IMT/Premier Agent) and RDFN's brokerage segment have narrowed relative to total real estate transactions (total existing home volumes times average existing home prices) and ZG is now outperforming by low double-digits. In 1Q23, total transactions declined 27.4% YoY (vs. -29.6% in 4Q) compared to down 14% for ZG Residential Services and down 28% for RDFN real estate services revenues. For 2Q23, we forecast transactions of -22.8% YoY versus -12% for ZG and -28% for RDFN.

Using our home volume and price forecasts, we estimate total market transactions to accelerate to +11% in FY2024. We estimate ZG Residential and RDFN real estate services revenues to decline 7% and 20% respectively in 2023 and increase 13% and 10% in 2024.

Exhibit 17: ZG Residential Services and RDFN brokerage growth vs U.S. existing home transactions
ZG and RDFN revenues appear to be closely tied to overall industry trends and we expect an improvement in trends starting in mid-2023



Source: Bloomberg, BofA Global Research, company reports

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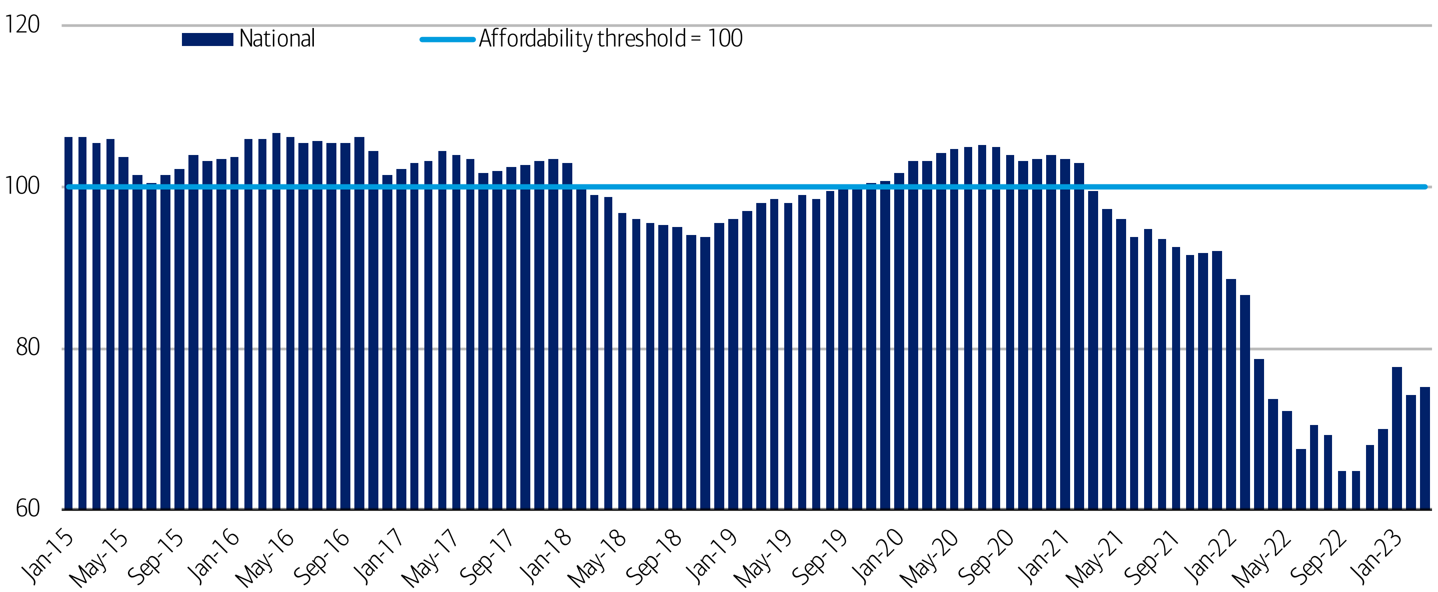
Home affordability still below GFC low but has modestly improved

We continue to see home affordability as a headwind near term but have observed a stabilization in overall affordability driven by weaker home prices and a lower 30yr mortgage rate. We note that March affordability calculations (latest available) are based on a 6.3% 30-Yr mortgage rate (well below 6.8% for the week of 6/8). While mortgage rate volatility could be a headwind in early 2023 readings, we expect rates to end the year lower and home pricing continues to soften. All else equal, this should drive an improvement in home affordability.

Exhibit 18: Home ownership affordability through December (100=affordability threshold)
Affordability has modestly improved on lower pricing and rates



Source: Federal Reserve Bank of Atlanta

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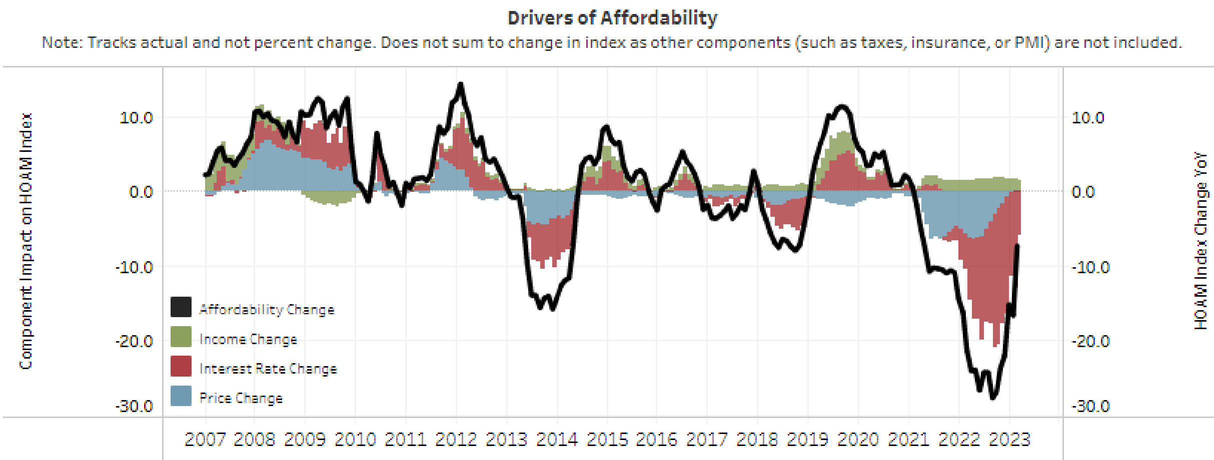
Exhibit 19: Federal Reserve Bank of Atlanta drivers of home affordability

Rates remains a major drag on affordability but pricing pressure has largely dissipated



Source: Federal Reserve Bank of Atlanta

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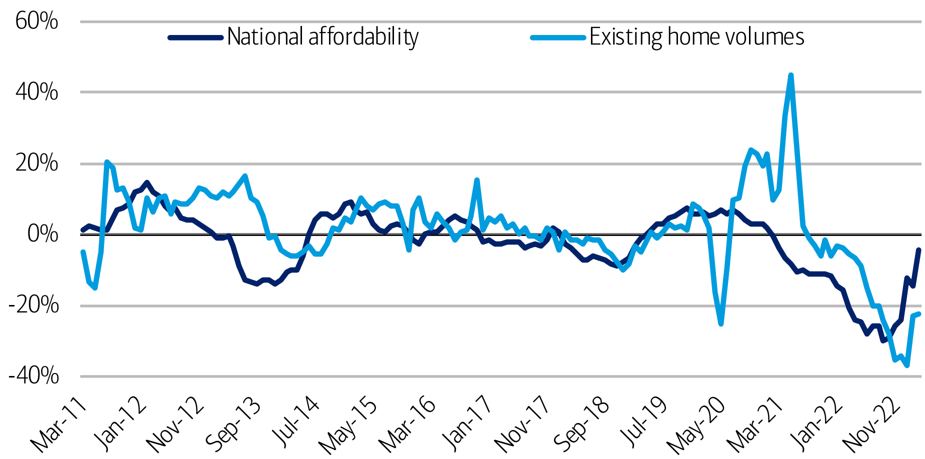
Unsurprisingly, there does appear a relatively close link between home ownership affordability and home turnover. Over the past eleven years (our dataset begins in 2011), the two periods of multi-month negative home turnover in 2013 and 2018 were preceded by a decline in affordability roughly six to nine months prior. This also holds for 2021/22 when affordability began to decline YoY in March and home turnover growth turned negative in September.

Exhibit 20: Home affordability versus volumes (YoY %)

Affordability appears to be inflecting which should help home volume growth



Source: Federal Reserve Bank of Atlanta, Bloomberg

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Exhibit 21: Stocks mentioned
Rating, PO and price summary of OPEN, RDFN, ZG and Z

Stock	RATING	Rating	Price	PO
Stocks Mentioned				
OPEN	C-3-9	3 - Underperform	$2.94	$1.50
RDFN	C-3-9	3 - Underperform	$10.52	$4.25
ZG	C-1-9	1 - Buy	$45.22	$55.00
Z	C-1-9	1 - Buy	$46.12	$55.00

Source: BofA Global Research, Bloomberg

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Price objective basis & risk

Opendoor Technologies (OPEN)

Our $1.50 price objective is based on 1.25x 2024E EV/gross profit. This is below other low margin online companies including real estate fintech peers. We believe a discount is warranted given much lower gross margins which limits long-term profit potential and the high cyclicality of OPEN's underlying industry.

Downside risks to our PO are: slower than expected conversion of home inventory, weaker gross margins on slowing home price appreciation and limited home service attachment and a softer than expected housing market.

Upside risks to our PO are: greater than expected shares gains as OPEN expands into new markets, better than expected pricing spreads as OPEN improves its pricing models, higher growth post Zillow's exit of the iBuying market and stronger attachment of high margin home services.

Redfin Corp (RDFN)

Our $4.25 price objective is based on a 1x 2024E EV/sales multiple. We believe a 1x sales multiple is warranted given significantly lower revenue growth than prior years and it is inline with other high sales growth eCommerce names with gross margins in the 30's range

Upside risks: 1) faster than expected new product uptake expanding long term margins, 2) faster market share growth in core markets, 3) new product announcements driving stronger automation, and 4) better than expected housing market trends.

Downside risks: 1) housing market recession, 2) stronger price competition from traditional brokers, and 3) slower market share growth in core markets.

Zillow (ZG / Z)

Our $55 price objective for both Class A and Class C shares is based on a 21x EV/EBITDA estimate. This is inline with ZG's average historic EBITDA multiple of nearly 21x (excluding Zillow Offers) given continued industry volatility but opportunity for meaningful market share expansion over the next several years. Our 21x multiple is above the peer lead generation average of 15x which given our forecast for double digit EBTIDA growth in 2024-25.

Downside risks are: 1) a more prolonged U.S. housing market downturn, 2) potential for multiple compression and 3) execution risk around new growth initiatives and 4) increased competition from Costar's new residential advertising marketplace.

Upside risks are: 1) faster-than-expected growth and S&M leverage,2) better than expected trends in the US existing home market, and 3) faster than expected progress in ZG hitting its new long term targets.

Analyst Certification

I, Curtis Nagle, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Internet Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	ACV Auctions	ACVA	ACVA US	Nat Schindler
	Alphabet	GOOGL	GOOGL US	Justin Post
	Alphabet	GOOG	GOOG US	Justin Post
	Amazon.com	AMZN	AMZN US	Justin Post
	AppLovin	APP	APP US	Omar Dessouky, CFA
	Arhaus, Inc	ARHS	ARHS US	Curtis Nagle, CFA
	Bumble, Inc.	BMBL	BMBL US	Nat Schindler
	Chewy Inc	CHWY	CHWY US	Nat Schindler
	Digital Turbine, Inc	APPS	APPS US	Omar Dessouky, CFA
	DoorDash	DASH	DASH US	Michael McGovern
	Duolingo	DUOL	DUOL US	Nat Schindler
	Expedia	EXPE	EXPE US	Justin Post
	Fiverr	FVRR	FVRR US	Nat Schindler
	Intact Financial	YIFC	IFC CN	Grace Carter, CFA
	LendingTree	TREE	TREE US	Nat Schindler
	Match Group	MTCH	MTCH US	Nat Schindler
	Meta Platforms Inc	META	META US	Justin Post
	NerdWallet Inc	NRDS	NRDS US	Nat Schindler
	Peloton	PTON	PTON US	Justin Post
	RH	RH	RH US	Curtis Nagle, CFA
	Roblox Corp. Class A	RBLX	RBLX US	Omar Dessouky, CFA
	Shutterstock	SSTK	SSTK US	Nat Schindler
	Squarespace Inc	SQSP	SQSP US	Nat Schindler
	Take-Two Interactive	TTWO	TTWO US	Omar Dessouky, CFA
	Tempur Sealy International Inc.	TPX	TPX US	Curtis Nagle, CFA
	TripAdvisor	TRIP	TRIP US	Nat Schindler
	Uber	UBER	UBER US	Justin Post
	Udemy Inc	UDMY	UDMY US	Nat Schindler
	Wayfair	W	W US	Curtis Nagle, CFA
	Wix.com	WIX	WIX US	Nat Schindler
	Xometry	XMTR	XMTR US	Nat Schindler
	Zillow	ZG	ZG US	Curtis Nagle, CFA
	Zillow	Z	Z US	Curtis Nagle, CFA
NEUTRAL				
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	Airbnb	ABNB	ABNB US	Justin Post
	Beachbody	BODY	BODY US	Joanna Zhao
	Booking Holdings Inc	BKNG	BKNG US	Justin Post
	Carvana Co	CVNA	CVNA US	Nat Schindler
	eBay	EBAY	EBAY US	Curtis Nagle, CFA
	Electronic Arts	EA	EA US	Omar Dessouky, CFA
	Etsy, Inc.	ETSY	ETSY US	Curtis Nagle, CFA
	LegalZoom	LZ	LZ US	Nat Schindler
	Overstock.com Inc	OSTK	OSTK US	Curtis Nagle, CFA
	Pinterest	PINS	PINS US	Justin Post
	Snap	SNAP	SNAP US	Justin Post
	Upwork Inc	UPWK	UPWK US	Nat Schindler
	Viant	DSP	DSP US	Nat Schindler
UNDERPERFORM				
	AdTheorent	ADTH	ADTH US	Nat Schindler
	Cardlytics	CDLX	CDLX US	Nat Schindler
	Lyft, Inc.	LYFT	LYFT US	Michael McGovern
	Opendoor Technologies	OPEN	OPEN US	Curtis Nagle, CFA
	PLAYSTUDIOS, Inc. Class A	MYPS	MYPS US	Omar Dessouky, CFA
	Playtika	PLTK	PLTK US	Omar Dessouky, CFA
	Purple Innovation	PRPL	PRPL US	Curtis Nagle, CFA
	Redfin Corp	RDFN	RDFN US	Curtis Nagle, CFA
	System1	SST	SST US	Nat Schindler
	The RealReal	REAL	REAL US	Michael McGovern
	Trivago NV	TRVG	TRVG US	Nat Schindler
	Upstart	UPST	UPST US	Nat Schindler
	Wish	WISH	WISH US	Michael McGovern

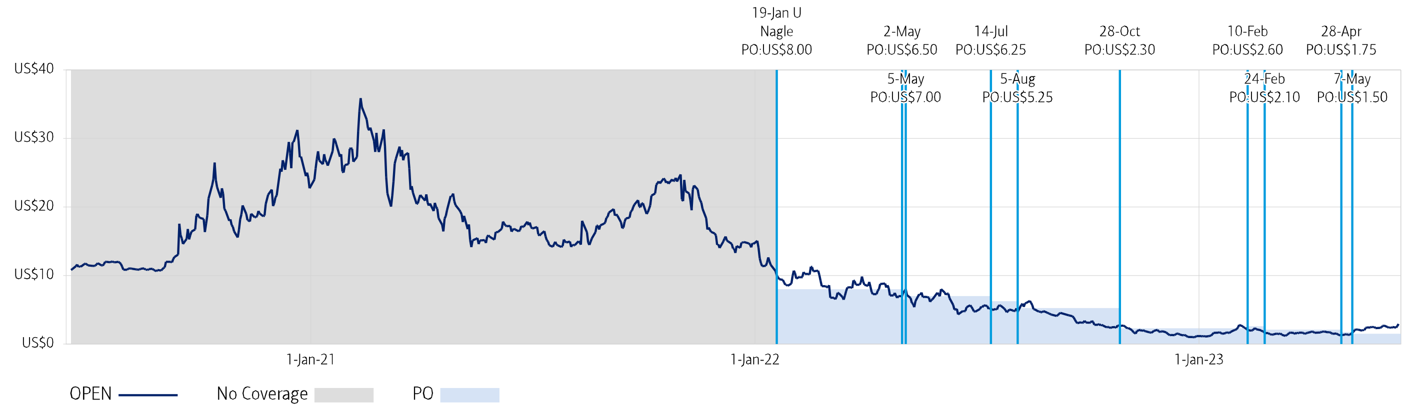
US - Internet Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst

Disclosures

Important Disclosures

Opendoor (OPEN) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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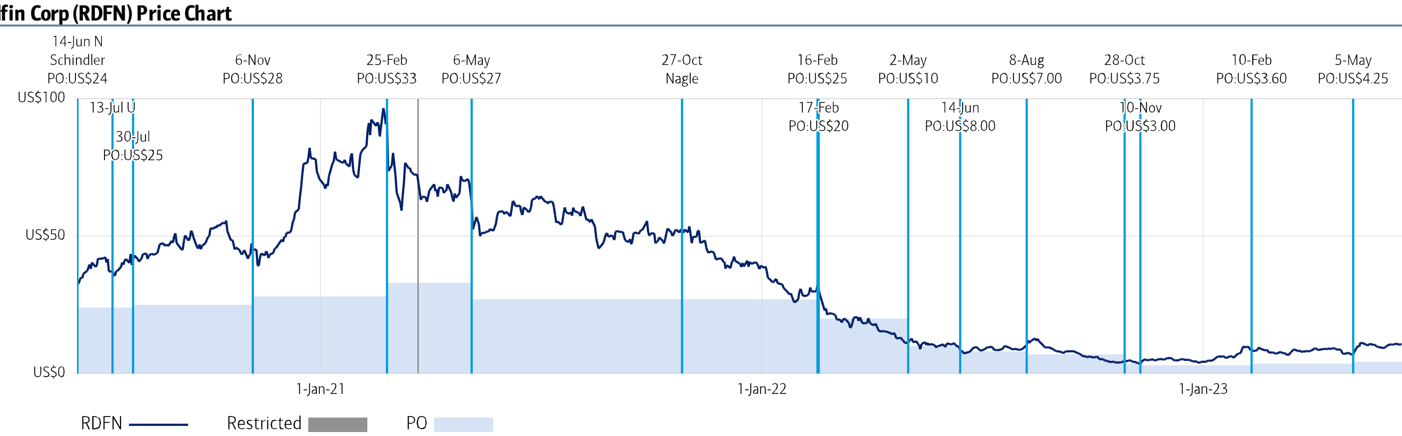
Redfin Corp (RDFN) Price Chart



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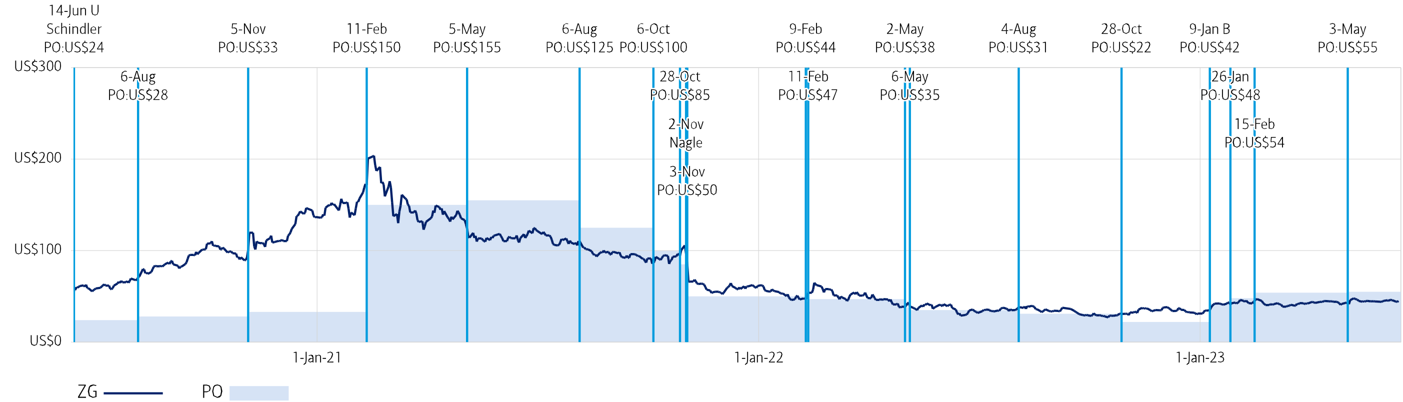
Zillow A (ZG) Price Chart



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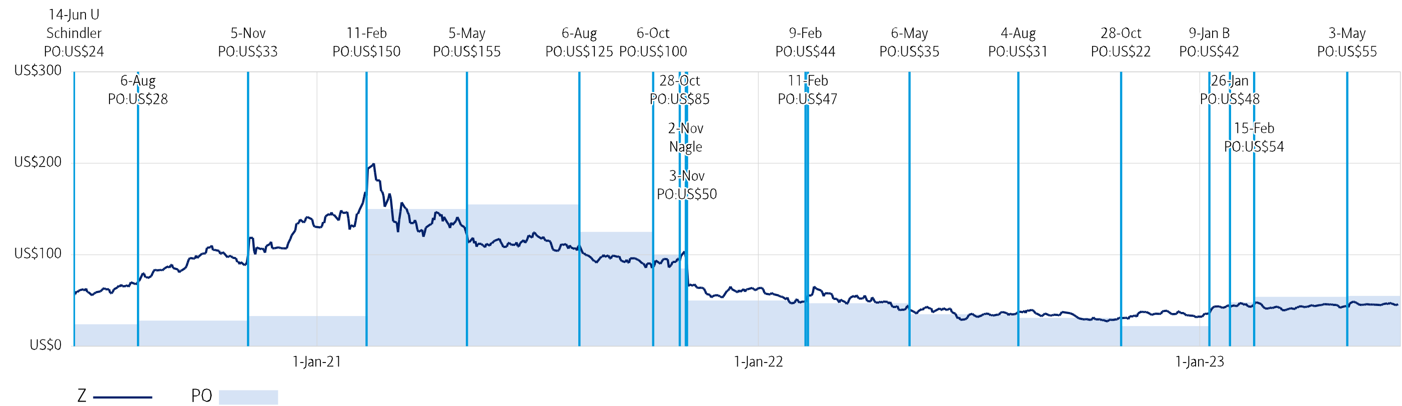
Zillow C (Z) Price Chart



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Equity Investment Rating Distribution: Technology Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	229	53.88%	Buy	107	46.72%
Hold	105	24.71%	Hold	50	47.62%
Sell	91	21.41%	Sell	29	31.87%

Equity Investment Rating Distribution: Global Group (as of 31 Mar 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1869	53.01%	Buy	1030	55.11%
Hold	827	23.45%	Hold	476	57.56%
Sell	830	23.54%	Sell	389	46.87%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
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Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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