Internet/e-Commerce

Real estate FinTech market appraisal

Industry Overview

17 March 2023

Equity
United States

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Housing trends are showing some signs of stabilization

Overall, most real estate metrics remained challenged in February as unfavorable home affordability weighed on home sales. However, we are starting to see some signs of stabilization as rates appear to have peaked and pricing is softening. We also note that volumes are now 22% below 2019 levels. The MBA mortgage purchase index (a strong leading indicator for homes volumes, see Exhibit 12) has held in the 40% range since October (including down 39% for the week of 3/10) despite high interest rate volatility. Takeaways from our latest real estate expert call (see below) were also positive on a potential inflection in demand. We expect volume trends to trough in 1Q and improve through the year on lower 30yr mortgage rates and home pricing compression. We forecast that home transactions will accelerate to 11% growth in 2024.

Transactions to trough in 1Q and improve through 2023

Existing home prices increased 1.3% YoY in Feb., below 2.2% in Jan. and vs. +10.4% in 2022. We forecast existing home prices to decrease 3% on average in 2023 and increase 3% in 2024. Existing home volumes in Feb. declined 36.7% YoY vs. -34.0% in Jan. We forecast existing home volumes to decrease 19% on average in 2023 and increase 8% in 2024. We expect total real estate transactions to decline 21% YoY in 2023 (+11% in 2024) which compares to -8/-12/-55% for our ZG/RDFN/OPEN 2023 revenue ests. For 1Q23, we forecast transactions to decline 34% YoY compared to -19/-9/-49% for our ZG/RDFN/OPEN 1Q23 revenue ests which are +2/0/+1% vs. the Street.

February real estate web traffic down 6% YoY

Web traffic for the largest online real estate websites remained soft in February at -6.2% YoY, inline with January. Web traffic to the largest online rental websites was -13.0% YoY in February on average, compared to -10.9% YoY in January. Web traffic to brokerage websites declined 1.8% vs. -1.0% in January and iBuyer site traffic declined 24.3% vs. -20.0% in January. ZG/RDFN/OPEN web traffic was -0.3/-1.3/-22.5% in February vs. +0.9/-0.3/-17.2%% in January.

Real estate expert call takeaways

We co-hosted an expert call with home building and building product analyst Rafe Jadrosich and real estate industry experts Andrew Doyle and James Wexler (experienced brokers in Atlanta and Phoenix, respectively). Overall the tone and commentary from the speakers was bullish on the start of a potential housing market recovery this year after a very difficult 2022. The biggest takeaways were that despite still challenging home affordability: 1) underlying homebuyer demand is very high; 2) buyers are becoming much more accepting of higher mortgage rates and 3) the spring selling season is off to a good start. It is too early to tell if recent banking and credit disruptions will have an impact on the housing market but so far neither speaker observed a pullback in trends. Pending a significant downturn in the economy or increase in rates this year, the call was optimistic and supportive of our view that the market is nearing a trough and should improve through the year. See our full note, published 3/17/23.

Glossary

IMT = Internet Media and Technology

MBA = Mortgage Brokers Association

Refer to important disclosures on page 14 to 18. Analyst Certification on page 12. Price Objective Basis/Risk on page 11.
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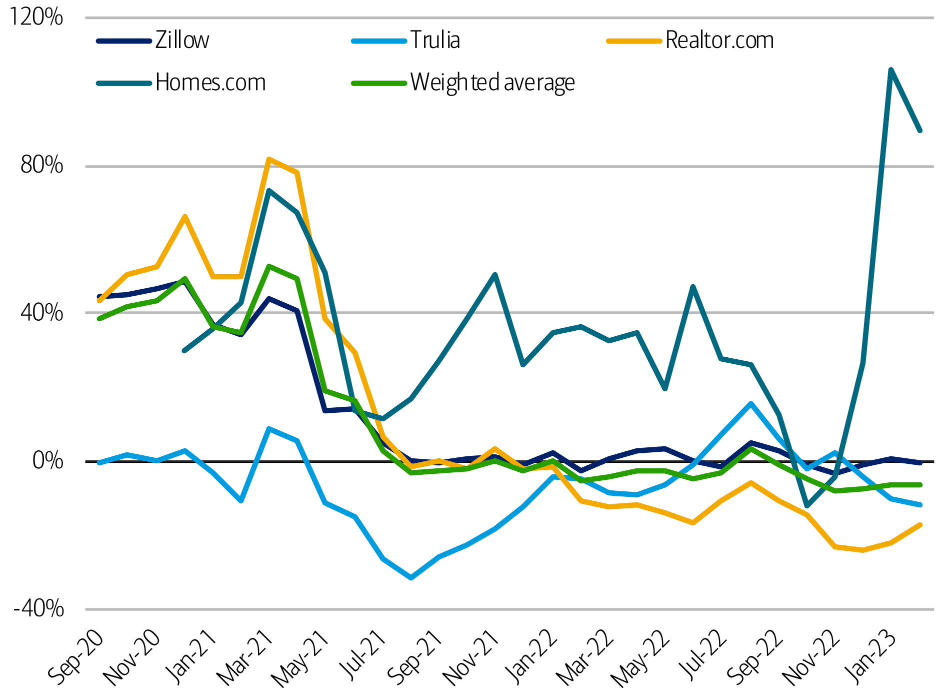
Timestamp: 17 March 2023 05:00AM EDT

Monthly real estate appraisal

Real estate web traffic mixed in February

Web traffic to the largest online real estate advertising websites was -6.2% YoY in February on average, compared to -6.3% in January and -7.1% in December. Two-year trends were -11.4% vs. -5.9% in January. Zillow traffic declined 0.3% YoY, versus +0.9% growth in January and decelerated 5.9pts to -2.9% on a 2yr basis. Trulia (owned by Zillow and less than 20% the traffic of Zillow) web traffic saw a YoY decline of 11.8%, compared to a 10.3% decline in January, and decelerated to -16.4% on a 2yr basis. Realtor.com (Zillow's largest competitor) accelerated 4.6pts to -17.4% on a YoY basis but decelerated 4.5pts to -27.8% on a 2yr basis. Homes.com had the best performance (albeit on a very small base), with traffic increasing +89.7% YoY in February, but decelerating compared to its +106% growth in January. We note that web-traffic historically picks up in March as the spring home-buying season shifts into gear.

Exhibit 1: US online real estate marketing web traffic (YoY %)
Total traffic improved very slightly in February



Source: SimilarWeb

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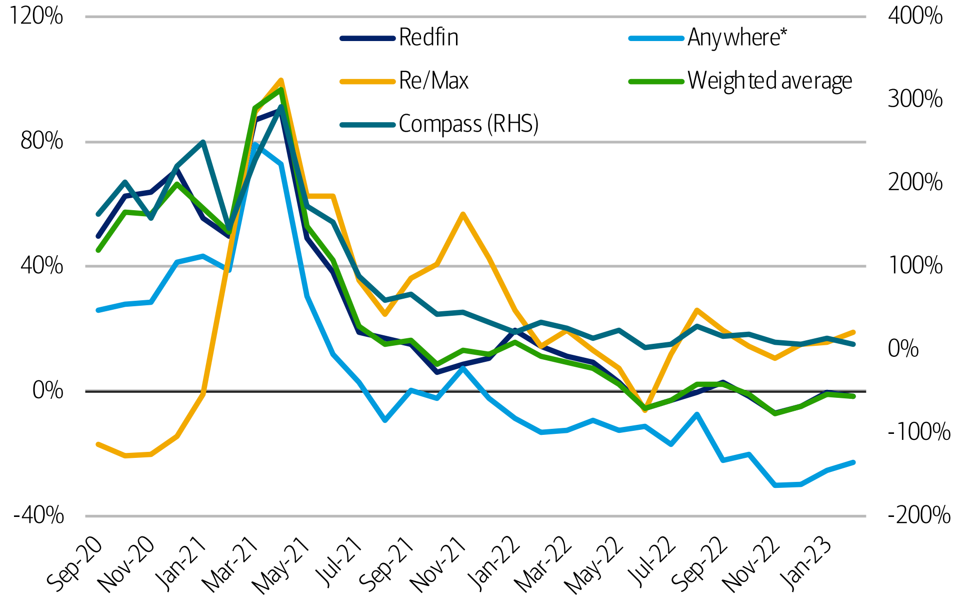
Web traffic to brokerages was -1.8% YoY in February on average, compared to -1.0% in January and -5.1% in December. Two-year trends decelerated 5pts to +9.5%. For Redfin, YoY traffic decelerated 1.3% in February from -0.3% in January and decelerated 7pts to 12.7% on a 2yr basis. Anywhere web traffic was -23.0% (decelerating 2pts on a 2yr basis to -36.2%) while Compass was +6.7% (accelerated 4pts to +39.1% on a 2yr basis) and Re/Max was up 18.8% (decelerated 8pts to +33.3% on a 2yr basis).

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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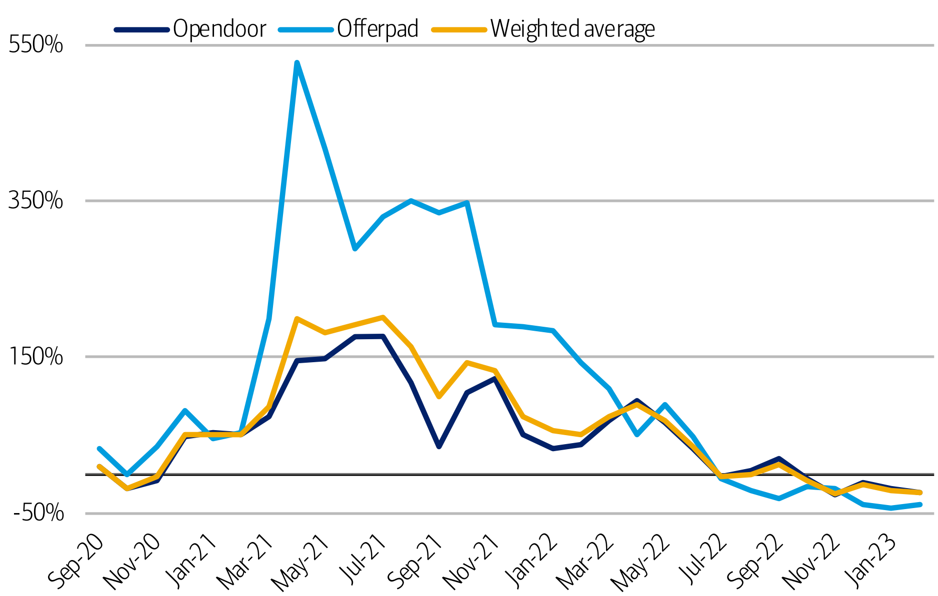
Web traffic to iBuyers was -24.3% YoY in February on average, compared to -20.0% in January and -13.7% in December. Two-year trends decelerated 9pts to +27.9%. For Opendoor, YoY traffic declined 22.5% in February from -17.2% in January and decelerated 2pts to 15.4% on a 2yr basis. For Offerpad, YoY traffic declined 38.9% in February from -43.1% in January and decelerated 37pts to 103.5% on a 2yr basis. Excluding a short-lived improvement last December, web traffic for OPEN has consistently weakened over the past couple months. All else equal, lower site traffic could elongate the time needed to clear inventory.

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



Source: SimilarWeb

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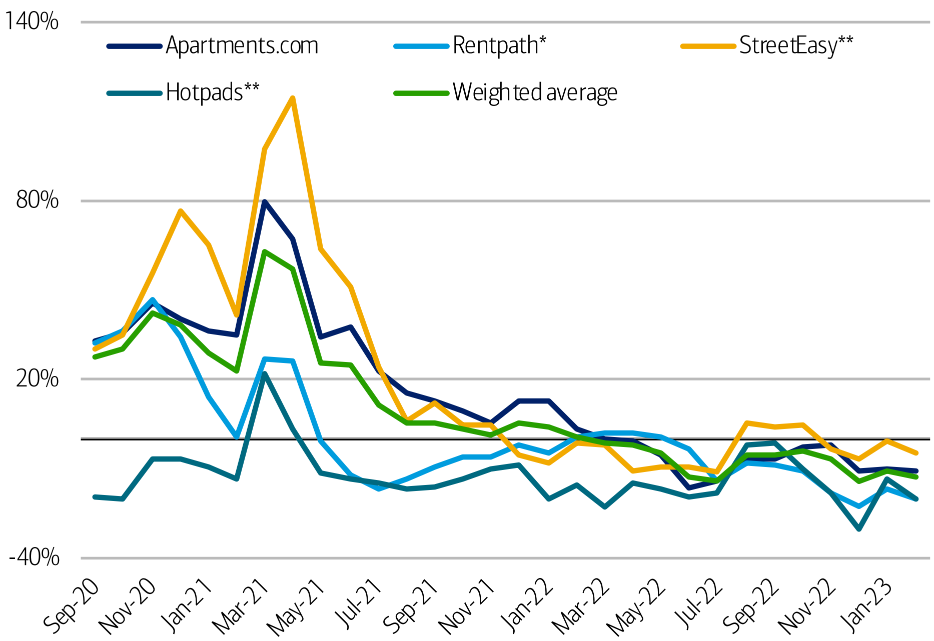
Web traffic for apartment and home rental marketing sites decelerated in February, after briefly accelerating in January. In February, traffic was down 13.0% on average from -10.9% YoY in January and was -12.4% on a 2-Yr basis compared to January which was at -6.6%. In February, StreetEasy performed best at -4.8%, while RentPath web traffic declined 20.4%.

Exhibit 4: Apartment and home rental web traffic (YoY %)
After a brief acceleration in January, traffic continued its deceleration in February



Source: SimilarWeb

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Housing trends are showing some 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 premier agent revenues and OPEN's ability to profitably sell homes. We expect affordability to continue to worsen in 1H23, albeit at a significantly lower rate than last year (monthly cost of a 30yr mortgage was up nearly 50%) but begin to improve in 2H23 on lower home prices and rates. We expect existing home volumes to decline 36% in 1Q23 and steadily improve to a decline of 3% by 4Q23. For 2023, we forecast volumes to decline 19% YoY.

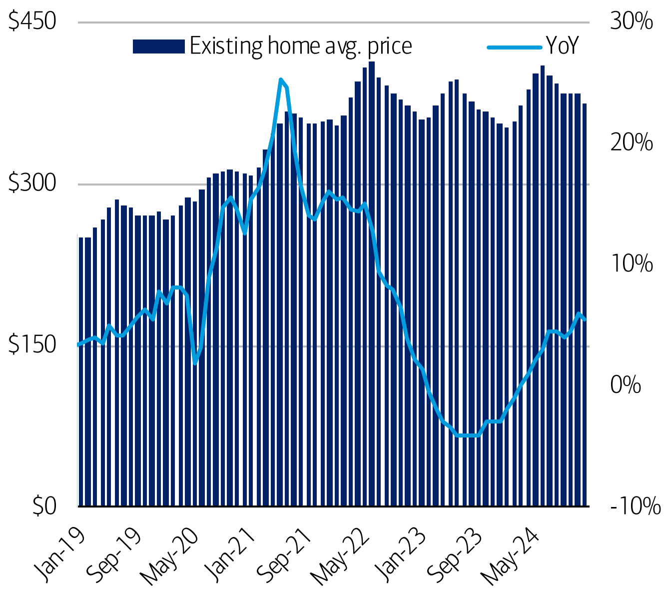
Home pricing continues to cool

Home prices are softening after two years of very solid growth. Per the Case Shiller home price index, prices increased 6.0% YoY in December (latest available), compared to 7.6% in November. Pricing growth for existing homes also softened, up 1.3% in January, down from December at 2.1% and below 10.4% for 2022. We expect pricing growth to continue to cool through 2023. According to Zillow rent data, pricing for single family home rentals continued to outpace home price growth in December (7.45% vs. 6.0% YoY).

We forecast existing home prices to decrease 2.8% 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

Home prices are now nearly flat to last year



Source: Bloomberg, BofA Global Research

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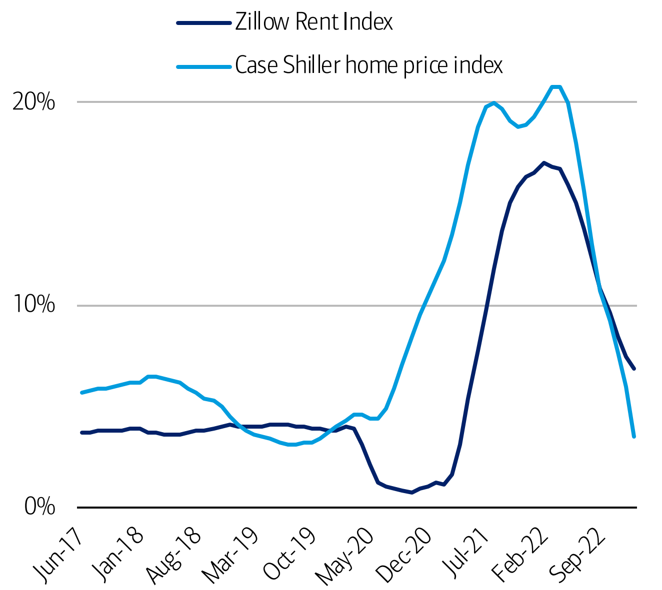
Exhibit 6: Single family rent index vs. Case Shiller home price index

Home prices are trending below rents



Source: Bloomberg, Zillow

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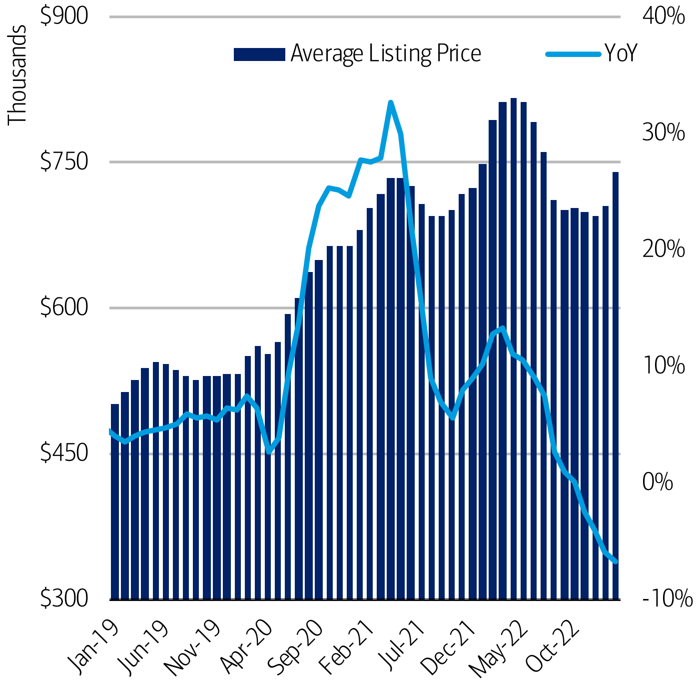
Average home listing prices peaked at $815,542 in April 2022, before declining 9% to $739,614 in February 2023. The average home listing price for the month of February increased 5% MoM, while median listing prices rose 6% MoM to $414,950, still 8% lower than the $450,000 peak in June. The increase in listing prices coincides with lower mortgage rates in early February and the beginning of the spring home-selling season. 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. However, we note that the MoM listing price increase this February is unusually strong. We believe this to be driven by the lower 30-Yr rate (which has increased in March), and a push into the market by buyers that were previously sidelined, but also note that higher home listing prices do not necessarily translate into higher home prices. 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.

Price increases, bidding wars and homes sold above asking price were common throughout the pandemic. However, with softer volumes, price reductions are quickly returning to pre-pandemic levels. Price reductions in February were 164K, up 126% YoY, but still below 411K in July 2019. Price increases, on the other hand, for the month of November were 18K, significantly lower than at the average throughout the last five years and a 55% YoY decline.

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



Source: Federal Reserve of St. Louis

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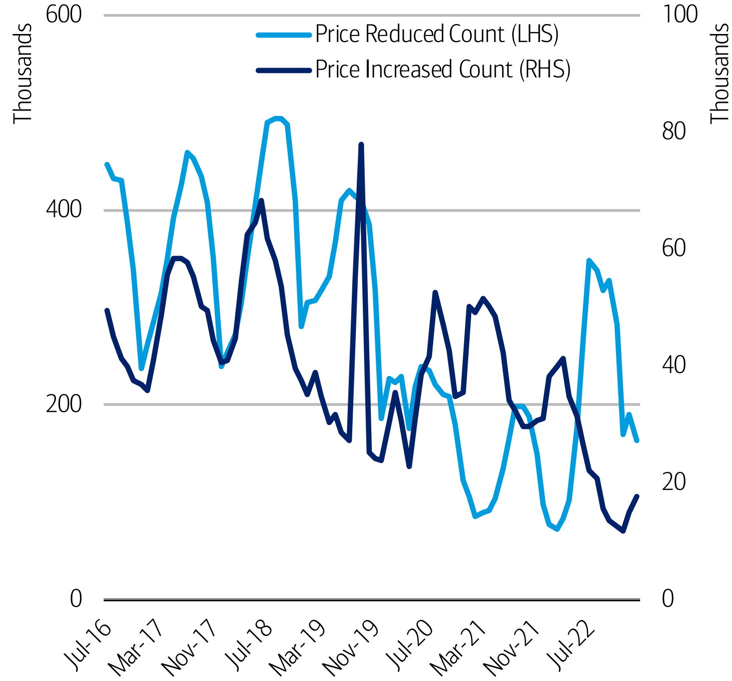
Exhibit 8: Price increase/decrease count
Price cuts are back to pre-pandemic levels



Source: Federal Reserve of St. Louis

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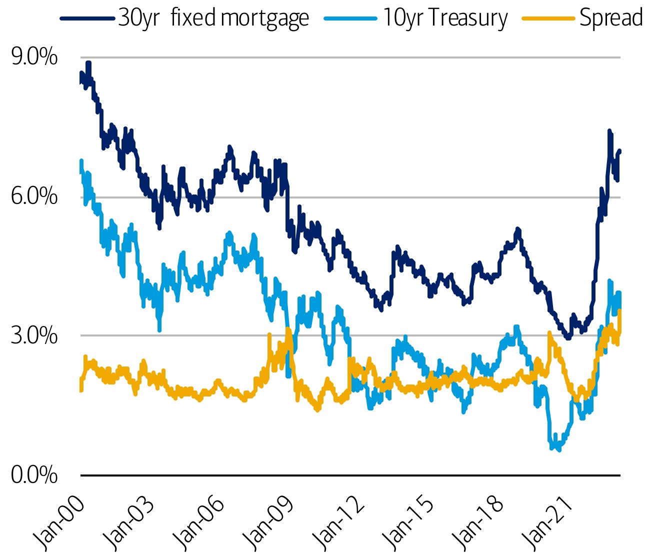
Mortgage rates still high and volatile but likely lower by year-end

Mortgage rates declined to the low 6% range in early 2023, but have since increased to 6.9% for the week of 03/10, up significantly from 4.4% 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) which are now down over 60bps from a recent peak. All else equal this should lead to lower 30yr mortgage rates. However, 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. In our view, lower mortgage costs driven by reduction in the 30-year fixed mortgage rate and a fall in existing home prices will be the most important drivers of a recovery housing volumes.

Exhibit 9: 30yr mortgage rates vs. 10yr treasury

A significant drop in March Treasury yields may cool mortgage rates



Source: Bloomberg, BofA Global Research

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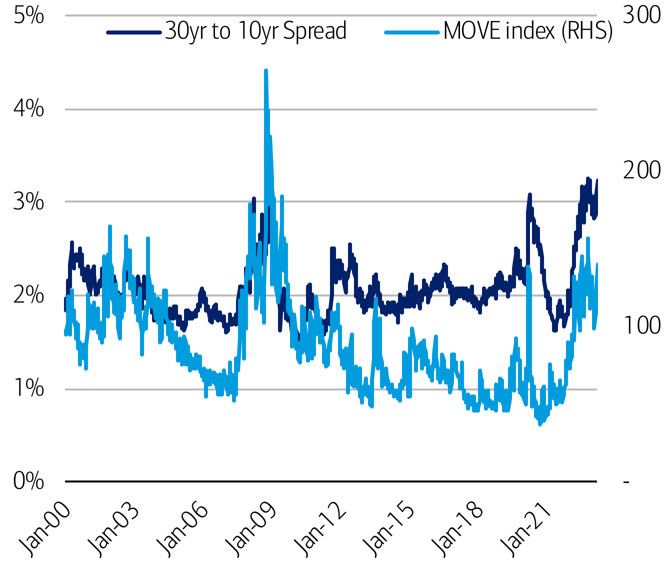
Exhibit 10: 30yr mortgage spread vs. MOVE index*

Although a surge in volatility may keep spreads elevated



Source: Bloomberg, BofA Global Research

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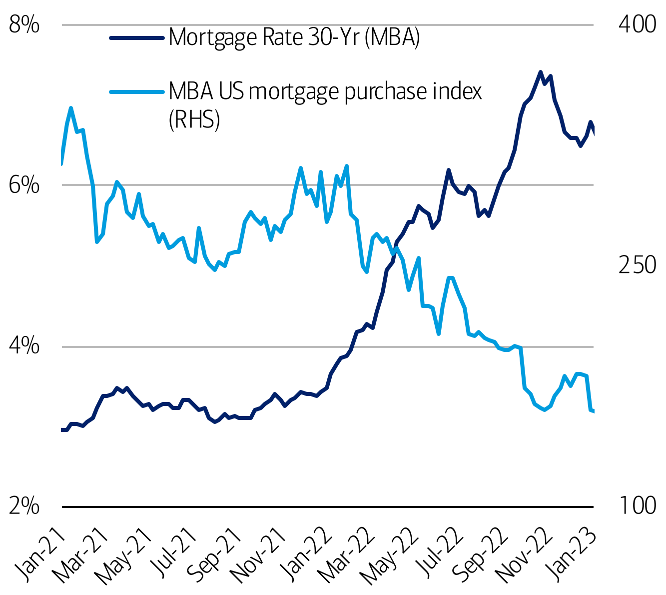
Based on BofA Rates Strategists' forecast for 10yr treasury yields (a key benchmark for mortgage rates) to decline to 3.25% by 4Q24 from 3.5% presently, and the spread to 30yr fixed mortgages reverting to its long-term average of 220bps (vs. over 300bps now), we estimate the 30yr mortgage rate could decline to 5.4% in 2024. The Mortgage Bankers Association purchase index now stands at 166 as of March 10th from 277, down 39% YoY. Despite rate volatility, YoY trends for mortgage applications have held in the 40% range since October. Mortgage applications are a strong leading indicator for home volumes (see ex 12) and recent trends give us confidence that volumes may troughing.

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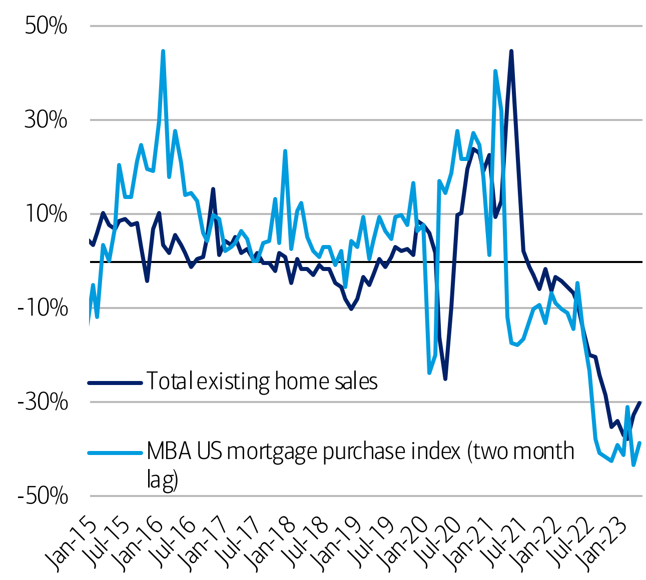
Exhibit 12: Existing home vols vs. mortgage purchase applications YoY

Mortgage activity points to a possible trough in home volumes



Source: Bloomberg

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Existing home sales and inventory

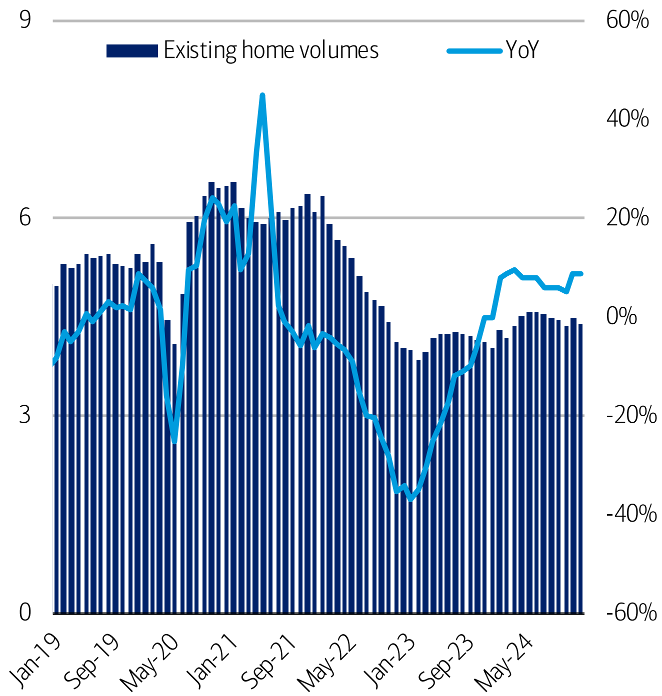
Existing home volumes declined 17% YoY in 2022 after growing 6/8% in 2020/2021. Volumes at the end of February were down 36.7% YoY versus 34.0% in January. This is reflected in Fannie Mae's net good time to buy home index which was -64 in January versus -44 a year ago. However, Fannie Mae's net good time to sell home index improved to 20 in January from 9 in December (though less than half reading last year). This could indicate some sellers capitulating to tough market conditions and may help to ease tight inventory levels. Combined with lower rates and home prices, volumes could start to improve.

Inventory levels have improved from over the past several months but are still near multi-decade lows. The ratio of existing homes sold to inventory at 0.25 in January vs. an average of 0.21 over the past twelve months. We believe this improvement so far has been driven by aging listings and not more homes coming on the market.

We forecast existing home volumes to decrease 19% YoY in 2023 and increase 8% on average in 2024.

Exhibit 13: Monthly existing home volumes (MN's) and Y/Y % change

We expect volumes to bottom this spring



Source: Bloomberg, BofA Global Research

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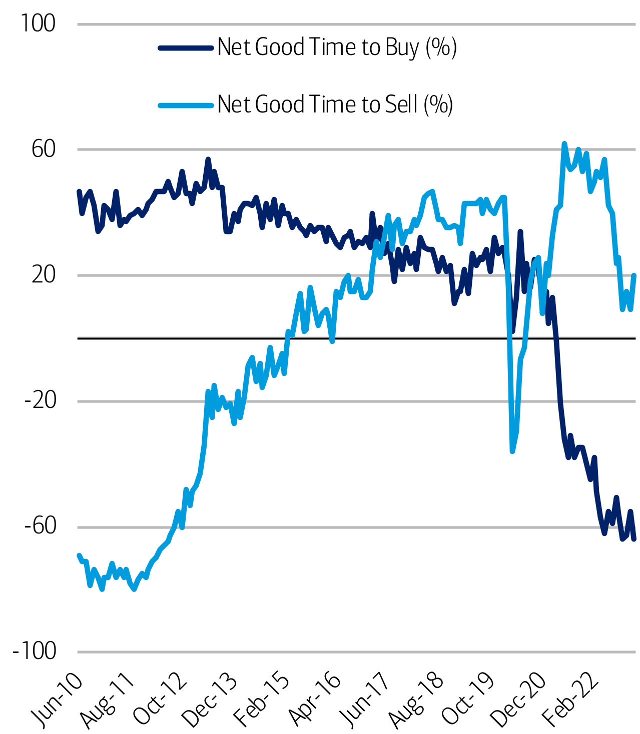
Exhibit 14: Mae net good time to buy vs. sell surveys

Prospective home buyers & sellers are negative on market conditions



Source: Bloomberg

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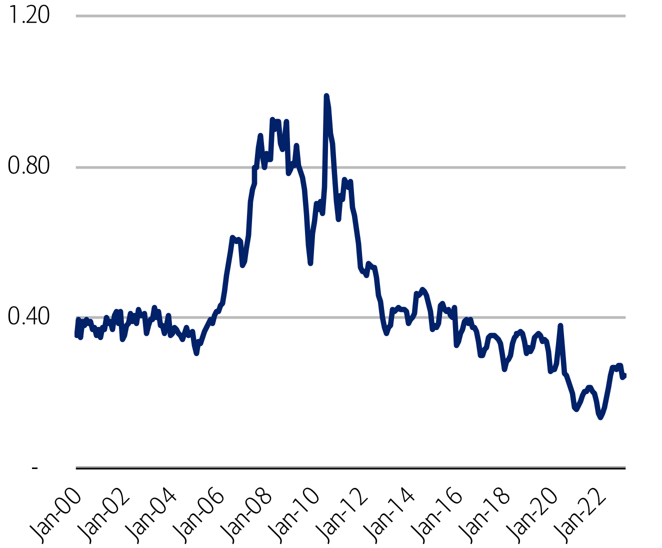
Exhibit 15: Existing home inventory to existing home sales
Inventory has improved although it is due to aging listings



Source: Bloomberg

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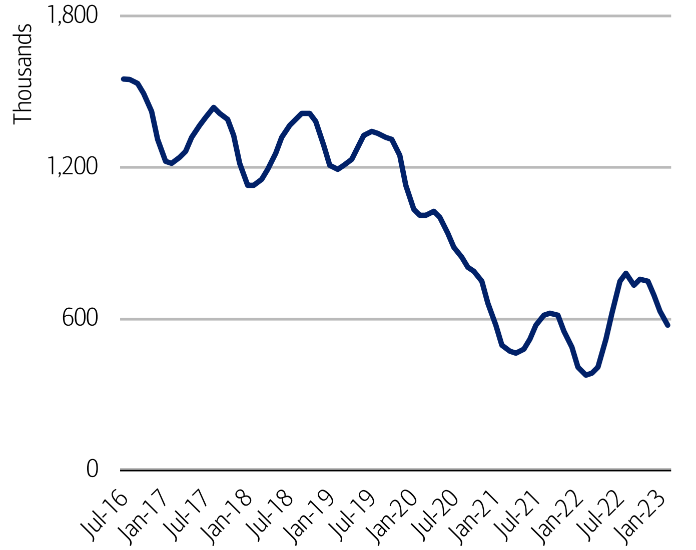
Exhibit 16: Active US home listings (thousands)
So far, active listings have declined in early 2023



Source: FED

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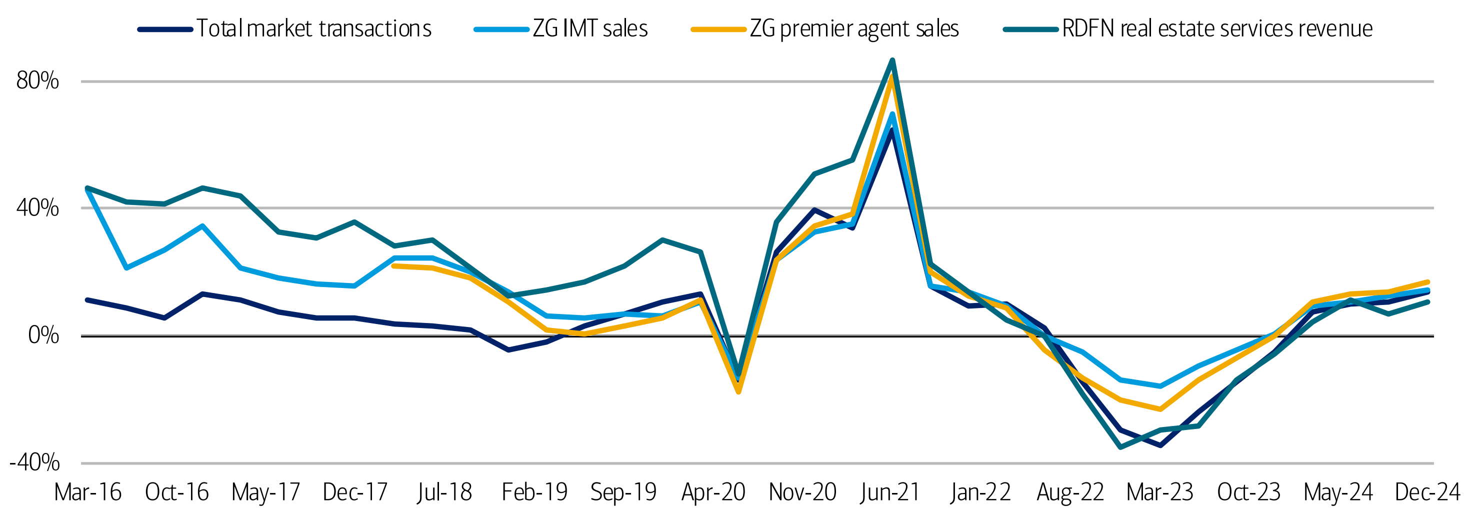
Total real estate transactions

Over the past few years, sales performance for ZG's real estate agent lead generation business (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). In 4Q22, total transactions declined 30% YoY (vs. -15% in 3Q) compared to down 14/20% for ZG IMT/Premier Agent and down 35% for RDFN real estate services revenues.

Using our home volume and price forecasts, we estimate FY2023 will decline 21% YoY and increase 11% in 2024. We estimate ZG IMT and RDFN real estate services revenues to decline 7% and 20% respectively in 2023 and increase 14% and 8% in 2024.

Exhibit 17: ZG IMT/Premier Agent 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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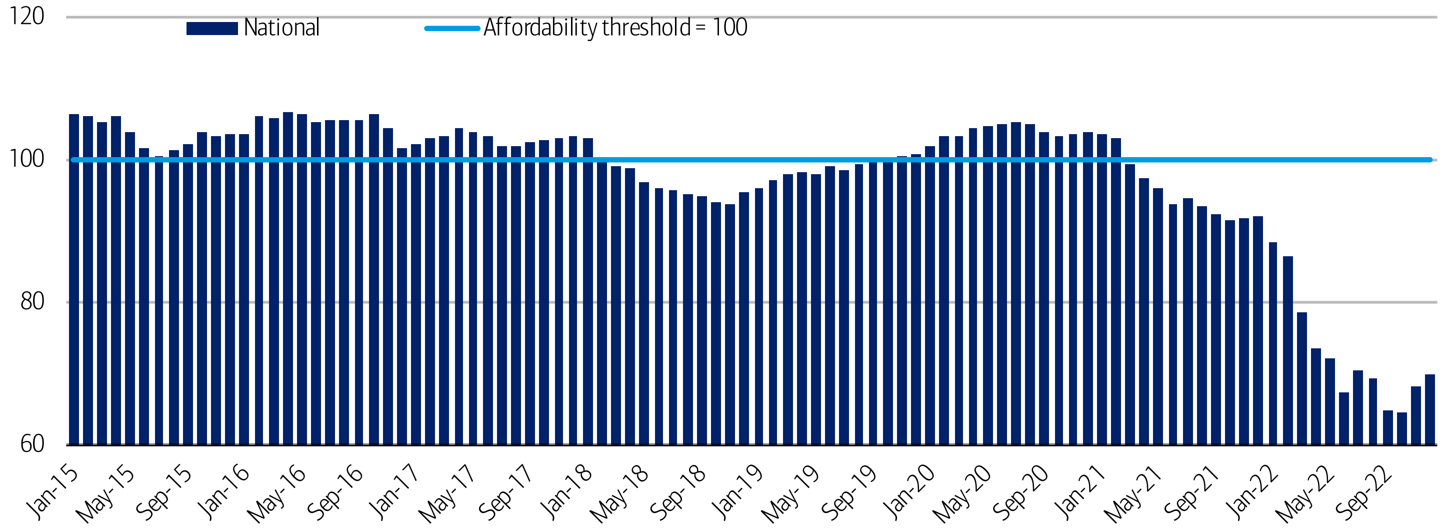
Home affordability still below GFC low but set for improvement

We continue to see home affordability as a headwind near term but have observed improvements due to weaker home prices and a lower 30yr mortgage rate. We note that December affordability calculations (latest available) are based on a 6.4% 30-Yr mortgage rate. 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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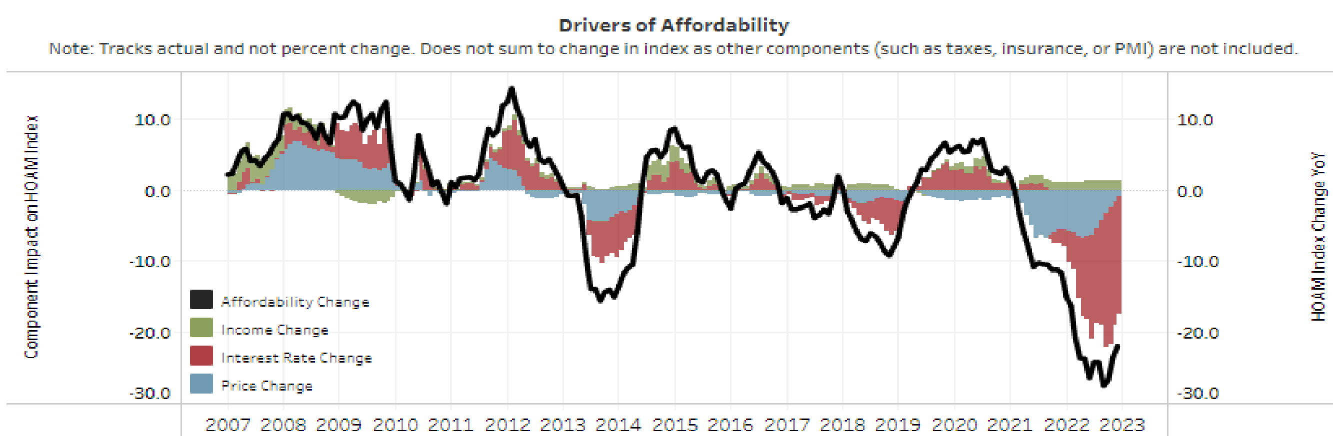
Exhibit 19: Federal Reserve Bank of Atlanta drivers of home affordability
Rates remains a major drag on affordability but pricing pressure has dissipated



Source: Federal Reserve Bank of Atlanta

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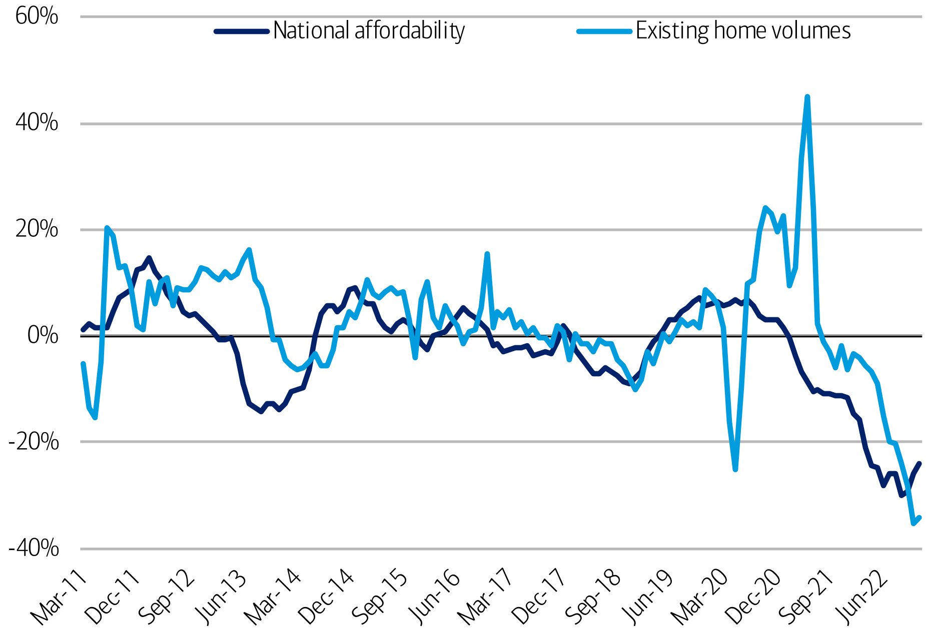
Unsurprisingly, there does appear a relatively close link between home ownership affordability and home turnover. Over the past eleven years (our dataset begins in 2011), the two periods of multi-month negative home turnover in 2013 and 2018 were preceded by a decline in affordability roughly six to 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 %)
Home affordability appears to be inflecting, this should drive an improvement in volumes



Source: Federal Reserve Bank of Atlanta, Bloomberg

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Exhibit 21: Stocks mentioned
Rating and price summary

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
OPEN	OPEN US	Opendoor	US$ 1.67	C-3-9
RDFN	RDFN US	Redfin Corp	US$ 8.74	C-3-9
RH	RH US	RH	US$ 248.29	C-1-9
ZG	ZG US	Zillow A	US$ 40.85	C-1-9
Z	Z US	Zillow C	US$ 41.53	C-1-9

Source: BofA Global Research

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Price objective basis & risk

Opendoor Technologies (OPEN)

Our $2.10 price objective is based on 1.5x 2024E EV/gross profit. This is below other high growth 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 $3.60 price objective is based on a 1.0x 2024E EV/Core real estate and rental sales multiple. We believe a 1.0x core 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.

RH (RH)

Our price objective on RH is $338, which is based on 15x average 2023/24 P/E. Our valuation is in line with the average multiple of 15x on a proven track record of consistently growing margins as well as several large and long-term revenue opportunities that could deliver upside.

The upside risks to our price objective are continued upside potential from RH's gallery conversion strategy, international growth, operating leverage on sales growth, and supply-chain cost reductions and greater-than-expected share repurchases.

Downside risks to our price objective are weakness in discretionary spending or a recession, which would likely have an outsized impact on RH's luxury brand.

Zillow (ZG / Z)

Our $54 price objective for both Class A and Class C shares is based on 21x '24E IMT and mortgages EBITDA estimate. This is inline with ZG's average historic IMT and mortgage 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
	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
	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
	Upwork Inc	UPWK	UPWK 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				
	1stDibs.com	DIBS	DIBS US	Curtis Nagle, CFA
	Airbnb	ABNB	ABNB US	Justin Post
	AppLovin	APP	APP US	Omar Dessouky, CFA
	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
	Playtika	PLTK	PLTK US	Omar Dessouky, CFA
	Snap	SNAP	SNAP US	Justin Post
	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
	Purple Innovation	PRPL	PRPL US	Curtis Nagle, CFA
	Redfin Corp	RDFN	RDFN US	Curtis Nagle, CFA
	SciPlay	SCPL	SCPL US	Omar Dessouky, 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

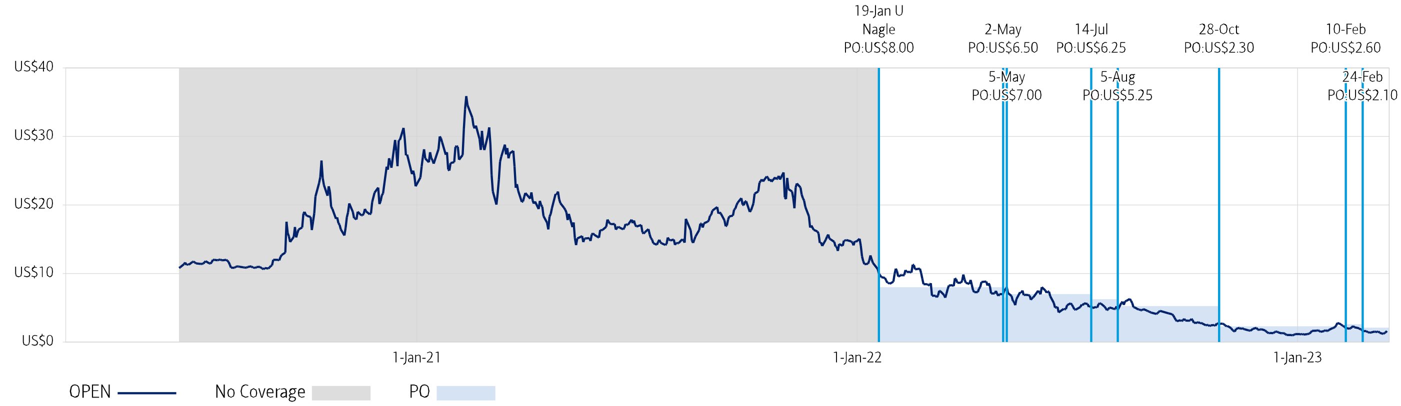
US - Internet Coverage Cluster

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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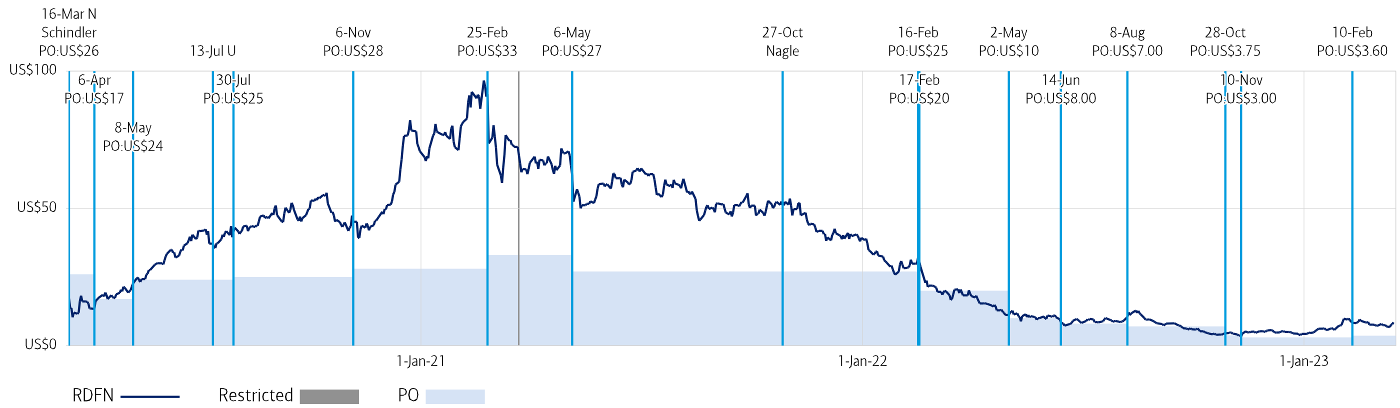
Redfin Corp (RDFN) Price Chart



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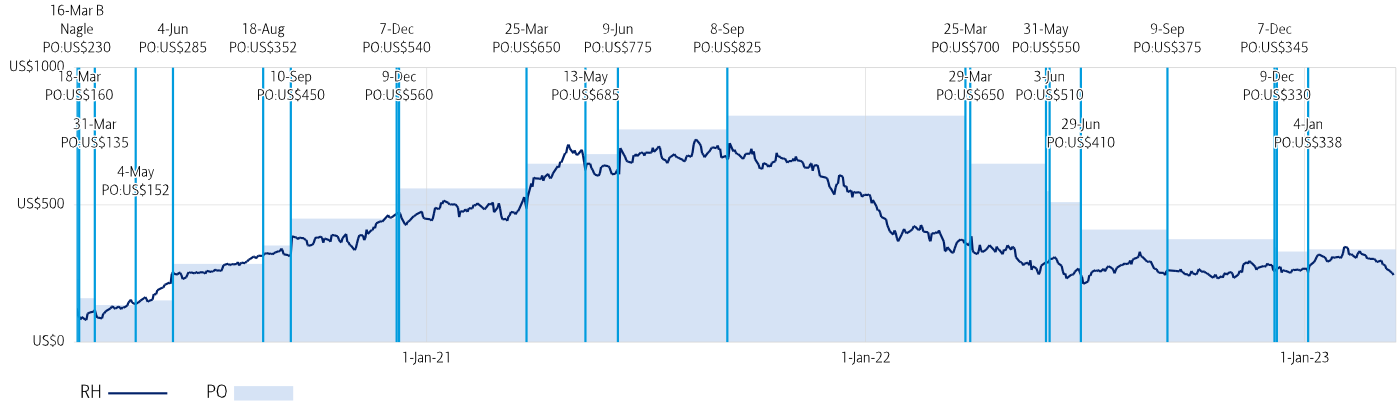
RH (RH) Price Chart



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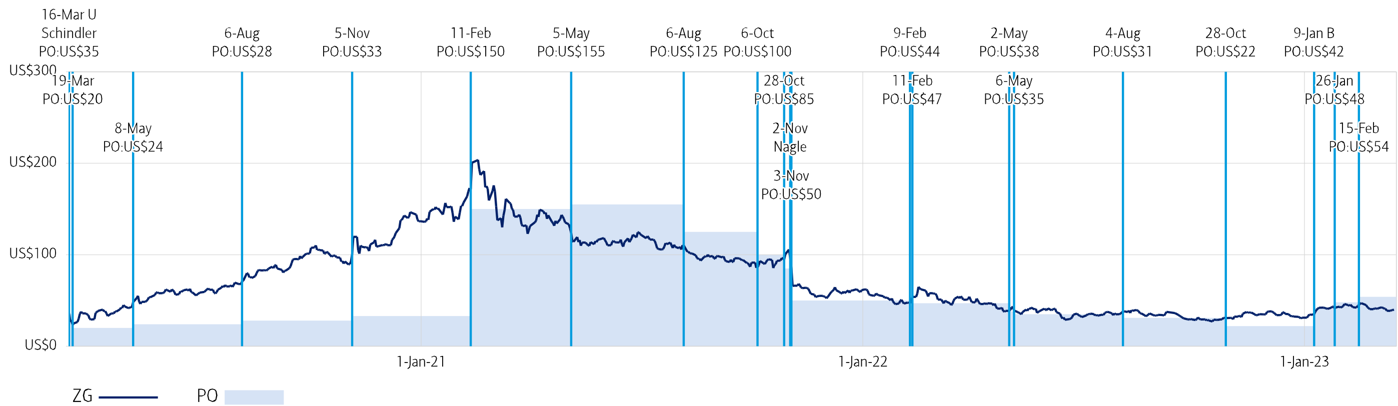
Zillow A (ZG) Price Chart



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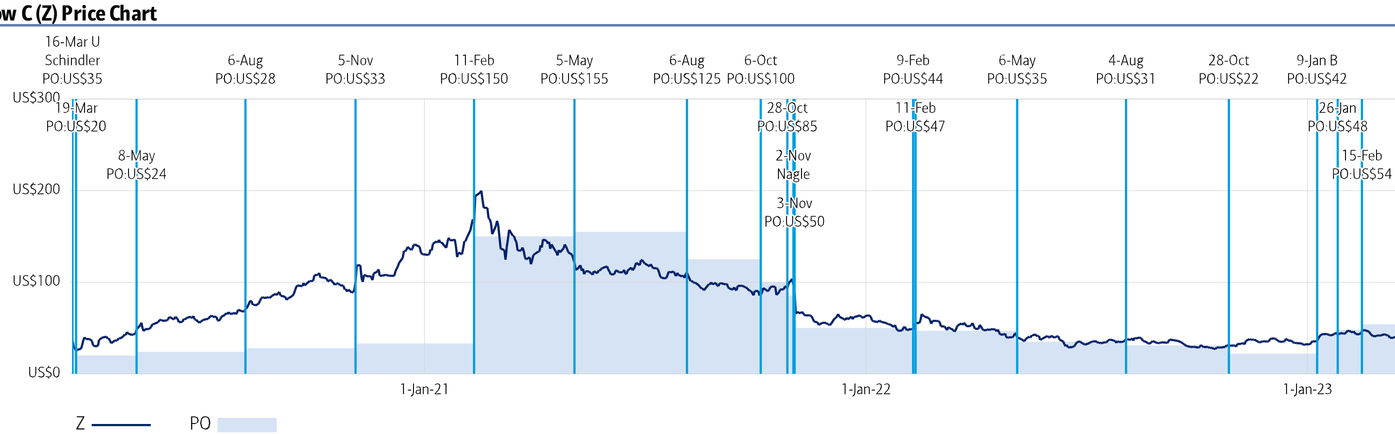
Zillow C (Z) Price Chart



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Equity Investment Rating Distribution: Retailing Group (as of 31 Dec 2022)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	88	55.70%	Buy	44	50.00%
Hold	27	17.09%	Hold	12	44.44%
Sell	43	27.22%	Sell	20	46.51%

Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2022)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	216	50.35%	Buy	113	52.31%
Hold	119	27.74%	Hold	58	48.74%
Sell	94	21.91%	Sell	31	32.98%

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Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
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Hold	840	23.84%	Hold	493	58.69%
Sell	831	23.58%	Sell	404	48.62%

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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
Buy	≥ 10%	≤ 70%
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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