Voyant Americas

Comprehensive Analysis

Opendoor Technologies Inc. (OPEN – $14.47) December 01, 2021*

Opendoor Technologies Inc. (OPEN) operates a digital platform that buys and sells residential real estate. The Company charges sellers a service charge that covers the costs of buying, maintaining, marketing, and selling the home. After acquiring the home, Opendoor makes the necessary renovations/repairs before listing it for sale. In addition to home sale revenue, Opendoor generates revenue from certain adjacent services (e.g. title insurance and escrow services, listing and real estate brokerage services, and mortgage services). Founded in 2003, Opendoor is headquartered Tempe, AZ and its fiscal year ends on 12/31.

Thesis Summary

We are concerned Opendoor's business model may be dependent on home price appreciation and a relatively limited baseline contribution margin suggests extended holding periods and/or home price depreciation may erode profitability. Our concerns are heightened given a labor shortage may elongate near-term holding periods and limited selling efforts may make home sales more challenging in a cooler housing market. In our view, algorithmically driven home purchases with limited inspections may increase the risk of overpayment and missed necessary repairs. Zillow's iBuyer market exit and a recent inventory impairment heighten our concerns. We believe buy-box expansion may have driven recent growth and may increase overpayment/missed necessary repairs risk as the Company expands to older homes and homes in poorer conditions. Given (1) the Company acknowledged higher-than-expected acquisition demand and (2) certain homes were held through the entire Q3 21 period, we are concerned the Company may have overpaid for certain homes, home inventory may be aged, and home sale velocity may have slowed. Our inventory/holding period concerns are heightened given Q4 21 guidance implies material Q3 21 inventory will be carried into Q1 22. In addition, we believe elevated work in progress levels and buy-box expansion driven purchases highlight purchase of older/poorer condition homes which may extend holding periods and/or repair costs and increase impairment risk. Further, we believe iBuyers may be over-indexed to certain markets and may materially impact local housing markets. Our concerns are heightened given recent CEO selling, material weaknesses, and an FTC investigation. **We are initiating OPEN on *The Short List.***

Catalysts and Timing

- Home purchase overpayment drives margin pressure and/or material inventory impairment
- Margins deteriorate materially in a cooler housing market
- Home purchasing slows as the Company reassesses buy-box expansion and market opportunity

Company Data

Country/Exchange	US/NASDAQ
Shares Outstanding (mil)	604.6
Float (mil)	355.1
Short Interest (mil)	48.5
% of Float Short	13.7%
Average Volume (mil)	$205.1
52 Week Range	$13.44 – $39.24
Dividend Yield	0.0%
Market Cap (bil)	$8.9
Net Debt (bil)	$4.1
Enterprise Value (bil)	$13.0
FY 20 Rev (mil)/Rev Growth	$2,583.1 / (45.5%)
FY 20 Adj. EBITDA (mil)	($98.0)
FY 20 Adj. GM %/Change	8.2% / 190 bps
FY 20 Adj. EBITDA %/Chg	(3.8%) / 80 bps

Historical Earnings

	Actual	Expected	Surprise
Q3 21	($0.09)	($0.17)	--
Q2 21	($0.24)	($0.34)	--
Q1 21	($0.48)	($0.48)	--

Estimate Drift

	EST	1M Ago	6M Ago	1YR Ago
Q4 21 Rev	$3,142	$2,917	$1,806	--
FY 21 Rev	$7,340	$6,829	$5,089	--
FY 22 Rev	$14,987	$14,987	$9,327	--
Q4 21 EPS	($0.20)	($0.19)	($0.22)	--
FY 21 EPS	($1.03)	($1.08)	($1.22)	--
FY 22 EPS	($0.73)	($0.73)	($0.84)	--

Peers Mentioned In This Report

Zillow Group, Inc. (ZG)

*** All research is completed as of 4:00PM – 4:15PM Eastern Time unless otherwise noted.**
Please refer to the end of this report for an updated version of *The Short List*.

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Background and Bull Story

Company Background

Company description: Opendoor Technologies Inc. (OPEN) operates a digital platform that buys and sells residential real estate. The Company charges sellers a service charge that covers the costs of buying, maintaining, marketing, and selling the home. After acquiring the home, Opendoor makes the necessary renovations/repairs before listing it for sale. In addition to home sale revenue, Opendoor generates revenue from certain adjacent services (e.g. title insurance and escrow services, listing and real estate brokerage services, and mortgage services). Opendoor is headquartered Tempe, AZ and its fiscal year ends on 12/31.

Background on SPAC transaction: On 10/18/19, Social Capital Hedosophia Holdings Corp. II (SCH) was formed for the purpose of effecting a merger, share exchange, asset acquisition, share purchase, reorganization, or similar business combination (i.e. a Special Purpose Acquisition Company (SPAC)). In its FY 20 10K, Opendoor disclosed it entered into a merger agreement with SCH on 09/15/20. On 12/18/20, Opendoor and SCH completed the merger which was accounted for as a reverse recapitalization and Opendoor became a publicly traded company. Given the relatively recent SPAC transaction, there is limited disclosed historical financial data.

Revenue recognition background: In its FY 20 10K, the Company disclosed it generates revenue through home sales and ancillary real estate services (insurance facilitation, closing and escrow services, real estate broker commissions, and gain/loss on sale of mortgage loans). The Company disclosed ancillary services represented an "insignificant" portion of total revenue. Home sale revenue consists of selling residential real estate to customers. Home sale revenue fluctuates based on (1) the number of homes sold and (2) the price-per-home sold. The price-per-home sold depends on (1) macro-economic home price fluctuations, (2) the price Opendoor paid for the home, and (3) Opendoor repairs/renovations.

Cost of revenue and service charge for home purchases: In its FY 20 10K, the Company disclosed cost of revenue includes the property purchase price (i.e. the price Opendoor paid to acquire the home net of its service charge), acquisition related costs, direct costs to renovate/repair the home, and real estate inventory valuation adjustments, if any. The costs are accumulated in inventory during the property holding period and charged to cost of revenue when the property is sold. In addition, the Company disclosed it charges a 5.0% to 8.0% service charge when it acquires a home to cover the costs of buying, maintaining, marketing, and selling the home. On its Citi Global Technology Virtual Conference Call on 09/14/21, the Company represented it charged a 5.0% fee across its markets. Upon home acquisition, the Company records the acquired home as real estate inventory net of the service charge.

> We do charge a 5% fee across our markets today. Really, we're trying to keep fees simple for consumers, and we're charging a fee today that's at or below what most traditional brokers would charge, and that's really resonated with consumers. So over time, how might that evolve, I mean, having a low cost structure and continue to invest in that cost structure will, in turn, let us continue to charge lower fees. And then having the pricing capabilities we talked about earlier, what lets us price accurately, that's ultimately in services higher net proceeds back to customers. So 5% fees is working really well so far. (CFO Ms. Carrie Wheeler, Citi Global Technology Virtual Conference Call, 09/14/21)

Unit economics and key metric disclosures related to homes sold during the period: In its quarterly (10Q) and annual (10K) filings, the Company discloses certain non-GAAP metrics including adjusted gross profit, contribution profit, and contribution profit after interest. Adjusted gross profit is calculated as GAAP gross profit plus inventory impairment in the current period related to homes that remain in inventory less inventory impairment in prior periods related to homes sold in the current period. Contribution profit is calculated as adjusted gross profit less direct selling costs (broker commissions, external title and escrow-related fees, and transfer taxes) for homes sold in the current period, holding costs (utilities, property taxes, and insurance) recognized in the current period for homes sold in the current period, and holding costs recognized in prior periods for homes sold in the current period.

Contribution profit after interest is calculated as contribution profit less interest recognized in the current period on homes sold in the current period and interest recognized in prior periods on homes sold in the current period.

Unit Economics Analysis
Revenue (home sales and other ancillary real estate services)
Cost of revenue (purchase price net of service charge, acquisition/repair costs, impairment)
Gross profit
Plus: impairment on homes remaining in inventory at period end
Less: impairment recognized in prior periods on homes sold in current period
Adjusted gross profit
Less: direct selling costs of homes sold in current period
Less: holding costs recognized in current period for homes sold in current period
Less: holding costs recognized in prior period for homes sold in current period
Contribution profit
Less: interest recognized in current period for homes sold in current period
Less: interest recognized in prior period for homes sold in current period
Contribution profit after interest

Holding period and impact on costs: In its Q3 21 10Q, the Company disclosed the average hold period for homes purchased since January 2020, from acquisition to resale, ranged from 70 to 100 days and varied by market. The Company disclosed efficiently turning inventory, inclusive of repairing, listing, and reselling the home was important to its financial performance because it bears holding costs (including utilities, property taxes, and insurance) and financing costs (e.g. mortgage interest) during its ownership period. The holding period may be impacted by the amount of repairs/renovations and/or the time to complete repairs/renovations, the listed price of the home, and macro-economic impacts on the housing market.

Seasonality: In its FY 21 10K, the Company disclosed the residential real estate market was seasonal with greater demand from buyers in the spring and summer and weaker demand in the late fall and winter. The Company indicated the demand seasonality impacted the quantity, speed, and price of transactions on its platform.

> The residential real estate market is seasonal, with greater demand from home buyers in the spring and summer, and typically weaker demand in late fall and winter, resulting in fluctuations in the quantity, speed and price of transactions on our platform. (FY 21 10K)

Competition: In its core home purchases and sales business, Opendoor competes with traditional, offline real estate brokers and agents, and other iBuyers (companies that use technology for online residential real estate transactions) such as Offerpad Solutions Inc. (OPAD). In its FY 20 10K, Opendoor disclosed its 5.0% to 8.0% service charge for home purchases was comparable to the traditional listing process broker fee of 5.0% to 6.0% and the traditional process may include additional costs such as resale concessions, inspection costs, double mortgage payments on two homes, and additional moving and storage costs. In its ancillary services business Opendoor competes with other service providers including mortgage originators, title and escrow companies, and home warranty and insurance providers.

Bull Story: Strategic Priorities, Benefits Relative To Realtors, & Pricing Accuracy

Strategic priorities focused on existing market, new market, and product/service expansion: In its FY 20 10K, the Company highlighted its strategic priorities were (1) increasing penetration in existing markets, (2) new market expansion, and (3) product and service offering expansion. We have outlined certain progress/guidance in relation to the strategic priorities below:

- **Buy-box expansion increases existing market coverage:** Buy-box coverage relates to the homes Opendoor is willing/able to purchase based on factors including price range, age, condition, etc. In its Q2 21 Shareholder Letter on 08/11/21, the Company disclosed it expanded its buy-box coverage by over 50.0% compared to the end of FY 19. Opendoor highlighted the buy-box expansion enabled it to serve the majority of homes in all of its existing markets and guided for the market coverage gains to be a "tailwind for growth."

  > It is worth highlighting that since the reacceleration of our acquisition growth late last year, we have expanded our buybox coverage by over 50% compared to the end of 2019 and are now able to serve the majority of homes in all of our markets. The gains that we have made in market coverage to date will be a tailwind for growth as we strive towards servicing all homeowners nationwide. (Q2 21 Shareholder Letter, 08/11/21)

- **New market expansion progress:** In its FY 20 10K, the Company represented it had an opportunity to expand from 21 markets as of 12/31/20 to the top 100 markets in the US and guided to double the markets it serves in FY 21. In its Q3 21 10Q, the Company disclosed it operated in 44 markets. Accordingly, the Company more-than-doubled its serviceable markets in the nine months ended Q3 21 relative to the number of markets served as of Q4 20.

Opendoor Markets Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q4 19	Q4 18
Active Opendoor markets at quarter-end	44	39	27	21	21	18

- **Increased adjacent product/service revenue contribution guided to drive longer-term margin expansion:** In its Q3 21 Shareholder Letter on 11/09/21, the Company guided for a near-term contribution margin of 4.0% to 6.0% annually. In addition, the Company guided for a long-term contribution margin of 7.0% to 9.0% as the penetration of higher-margin services increases over time. In its Q3 21 10Q, the Company guided for margin-accretive adjacent services (e.g. title insurance and escrow services, Buy with Opendoor, and Opendoor Home Loans) to increase as a percent of revenue as it grows its existing services and adds new services over time.

  > We are confident in our ability to manage Contribution Margins of 4.0% to 6.0% on a sustained, annual basis, driven by our cost structure and strength of our pricing and operational capabilities. Longer-term we continue to expect Contribution Margins to be in the range of 7.0% to 9.0%, as the penetration of higher-margin services increases over time. (Q3 21 Shareholder Letter, 11/09/21)

Selling to Opendoor compares favorably to selling through traditional real estate agent: In its 09/24/20 Investor Presentation, Opendoor highlighted certain benefits for homeowners selling to Opendoor compared to selling with a real estate agent (i.e. the traditional process). Specifically, Opendoor highlighted the traditional process was complex (multiple counter-parties to manage), uncertain (~20.0% of transactions fall-through and inflexible closing timelines), time-consuming (average of 87 days to close on the market), and offline. In comparison, Opendoor highlighted it offered a simple (integrated digital experience), certain (guaranteed close on the home seller's timeline with no unforeseen costs), and fast (flexible closing in as fast as three days) home purchasing. In its FY 20 10K, the Company highlighted homeowners can avoid the stress of open houses, home repairs, overlapping mortgages, and uncertainty by selling to Opendoor. Further, the Company highlighted its typical 5.0% to 8.0% service fee (depending on the market) compared favorably to the traditional agent 5.0% to 6.0% broker fee plus additional costs (e.g. resale concessions, inspection costs, double mortgage payments, and additional moving/storage costs).

> By selling to Opendoor, homeowners can avoid the stress of open houses, home repairs, overlapping mortgages and the uncertainty that can come with listing a home on the open market… For customers who sell directly to us, we collect a service charge that covers the costs of buying, maintaining, marketing and selling the home. In 2020, our service charge was typically 5% to 8% and varied by market. Our final offer provides the homeowner with certainty and transparency as to their expected sale proceeds. This compares

favorably to the traditional listing process, which typically includes an average broker fee of 5% to 6%, as well as a number of additional costs, such as resale concessions, inspection costs, double mortgage payments on two homes, and additional moving and storage costs. (FY 20 10K)

Proprietary data points and pricing algorithm accuracy improvements: In its FY 20 10K, the Company highlighted its proprietary offline data driven by over 180,000 home assessments during which it collected over 100 data points on each home and its surroundings led it to make over one billion annotations and corrections to Multiple Listing Service (MLS) and tax assessor data and build out non-traditional geospatial data assets (e.g. power line proximity and road noise level). The Company highlighted its offline proprietary data provided a competitive data "moat." In addition, Opendoor highlighted its proprietary data worked with its pricing algorithms that used machine learning to drive pricing decisions through demand forecasting, outlier detection, risk pricing, and inventory management. The Company indicated it improved the pricing accuracy of its models overtime.

Valuation: On 11/10/21, the Company reported Q3 21 revenue (adjusted EBITDA) of $2,266.4 million ($34.5 million), 12.6% (41.1%) above the consensus estimate of $2,013.1 million ($24.5 million). As of the date of this publication, Opendoor traded at 0.92x Enterprise Value (EV)-to-FY 22 revenue and 148.2x EV-to-FY 22 EBITDA.

Voyant's Earnings Risk Assessment

We are concerned Opendoor's business model may be dependent on home price appreciation and a relatively limited baseline contribution margin suggests extended holding periods and/or home price depreciation may erode profitability. Our concerns are heightened given a labor shortage may elongate near-term holding periods and limited selling efforts may make home sales more challenging in a cooler housing market. In our view, algorithmically driven home purchases with limited inspections may increase the risk of overpayment and missed necessary repairs. Zillow's iBuyer market exit and a recent inventory impairment heighten our concerns. We believe buy-box expansion may have driven recent growth and may increase overpayment/missed necessary repairs risk as the Company expands to older homes and homes in poorer conditions. Given (1) the Company acknowledged higher-than-expected acquisition demand and (2) certain homes were held through the entire Q3 21 period, we are concerned the Company may have overpaid for certain homes, home inventory may be aged, and home sale velocity may have slowed. Our inventory/holding period concerns are heightened given Q4 21 guidance implies material Q3 21 inventory will be carried into Q1 22. In addition, we believe elevated work in progress levels and buy-box expansion driven purchases highlight purchase of older/poorer condition homes which may extend holding periods and/or repair costs and increase impairment risk. Further, we believe iBuyers may be over-indexed to certain markets and may materially impact local housing markets. Our concerns are heightened given recent CEO selling, material weaknesses, and an FTC investigation. **We are initiating OPEN on *The Short List.***

Business Model May Be Dependent On Home Price Appreciation, In Our View

Disclosure suggests business model based on service fee/adjacent products not transaction price spread: In its FY 20 10K, the Company indicated its business model was designed to generate margins from the service fee charged to home sellers and adjacent products/services associated with a home purchase. Opendoor highlighted its business model was not dependent on the spread between the acquisition price and resale price (i.e. margin was not dependent on home price appreciation). On its Q3 21 Conference Call on 11/10/21, the Company indicated it was a "market maker" and its model works in up, flat, and down markets.

> Our business model is designed to generate margins from our service charge to sellers and adjacent products and services associated with a transaction, and **not** from the spread between acquisition price and resale price. (FY 20 10K) [emphasis added]

Contribution margin after interest background and drivers: As mentioned, the Company discloses contribution margin and contribution margin after interest related to homes sold in the disclosed period. Contribution margin after interest is impacted by (1) the spread between the home sale price and Opendoor's purchase price (including repair/acquisition costs and purchase price net of the service fee), (2) ancillary services sold, (3) direct selling costs, (4) holding costs, and (5) interest. We discuss the contribution margin after interest drivers below:

- **Spread between the home sale price and Opendoor's purchase price:** The spread between the home sale price and Opendoor's purchase price is impacted by (1) macro-economic home price fluctuations during Opendoor's holding period, (2) Opendoor's purchase price, (3) Opendoor's service fee (real estate inventory is recorded net of the service charge), and (4) the net impact of repair/renovation costs (i.e. incremental benefit to the home sale price less repair costs).

- **Ancillary services:** As mentioned, the Company offers ancillary real estate services including insurance facilitation, closing and escrow services, real estate broker commissions, and gain/loss on sale of mortgage loans. The number ancillary product/service offerings and penetration of the offerings will impact ancillary services revenue.

- **Direct selling costs:** Direct selling costs relate to costs for Opendoor to sell purchased homes and primarily include broker commissions, external title and escrow-related fees and transfer taxes. In its Q3 21 10Q, the Company disclosed it markets its homes through a variety of channels including its own website/app and across real estate portals. We believe broker commissions primarily relate to commissions paid to the buyer's agent. To the extent Opendoor can act as the buyer's agent (i.e. sell Opendoor owned homes directly to customers) direct selling cost levels may benefit. However, to the extent homes are not selling as quickly as anticipated Opendoor may be compelled to increase direct selling costs and/or reduce the home sale price.

- **Holding costs:** Holding costs relate to utilities, property taxes, insurance, and other costs Opendoor recognizes during its holding period (i.e. period between time Opendoor purchases a home and resells it). Holding costs are primarily impacted by the length of the holding period.

- **Interest:** Interest costs relate to financing costs for Opendoor owned homes during its ownership period. Interest costs are primarily impacted by the length of the holding period and interest rates.

Contribution margin decline attributed to resale mix normalization and improved underwriting accuracy: In Q3 21, contribution margin (contribution margin after interest) declined 330 basis points (330 basis points) sequentially to 7.5% (7.0%). In its Q3 21 Shareholder Letter on 11/10/21, the Company attributed the sequential contribution margin decline to the normalization of resale mix as inventory was no longer over-indexed to recently acquired homes and improved underwriting accuracy relative to market home price appreciation. In addition, the Company guided for annual contribution margin of 4.0% to 6.0% and a long-term contribution margin of 7.0% to 9.0% as penetration of higher-margin services increases over time.

Contribution Margin Analysis (as % of revenue)	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Contribution margin	7.5%	10.8%	10.2%	12.6%	5.9%
Sequential change	*(330 bps)*	*60 bps*	*(240 bps)*	*670 bps*	*320 bps*
Contribution margin after interest	7.0%	10.4%	9.8%	12.2%	4.8%
Sequential change	*(330 bps)*	*60 bps*	*(240 bps)*	*730 bps*	*330 bps*

Limited contribution margin excluding home price movement highlights transaction spread dependence: Given the Company's disclosures highlighting (1) its business model was not dependent on the spread between the home purchase price and resale price and (2) ancillary service revenue was "insignificant", we estimated a baseline contribution margin after interest excluding impacts from (1) home price movements, (2) ancillary services, and (3) the net impact of repairs. **At the current service fee rate (5.0% as of the date of this publication), we estimate baseline contribution margin after interest (based on the four quarter average of direct selling, holding, and interest costs as a percent of revenue) was 1.9%. Given the relatively low baseline contribution margin after interest, we believe the business model may be dependent on home price appreciation, ancillary services, and/or repair margins to achieve the annual 5.0% contribution margin target. In addition, we believe the relatively limited baseline contribution margin highlights material risk to the extent holding periods expand materially and/or home prices depreciate during Opendoor's holding period given the inventory (i.e. purchased homes) materiality.**

Baseline Contribution Margin After Interest Analysis (costs impact based on prior four quarter average as percent of revenue)	Baseline Contribution Margin After Interest
Service fee (based on current disclosed rate)	5.0%
Direct selling costs	(2.2%)
Holding costs	(0.5%)
Interest cost	(0.4%)
Baseline contribution margin excl. home price movement/adjacent services/repair margin (Voyant estimate)	1.9%

We have the following observations:

1. **Recent temporary margin benefit from resale mix shift suggests baseline margin may be even lower:** On its quarterly conference calls from Q4 20 through Q2 21, the Company highlighted contribution margins

(excluding the impact of home price movement) benefited temporarily from a temporary sales mix shift being over-indexed to recently acquired homes. Given our baseline contribution margin after interest analysis (above) included assumptions based on average direct selling, holding, and interest cost levels in the past four quarters, we believe baseline margins may be even lower than our estimate as holding and interest cost levels will increase as inventory sales mix normalizes to include longer held homes.

Contribution Margin Benefit Commentary Analysis	Commentary
Q4 20 Conference Call	"margins were largely driven by having a… inventory mix weighted to recently acquired homes"
Q1 21 Conference Call	"our unit economics were strong in Q1, largely driven by a combination of a very fresh book of inventory"
Q2 21 Conference Call	"we also continue to benefit from having a healthy inventory mix weighted to recently acquired homes"

2. **Labor shortage may increase near-term repair costs and/or holding periods:** On its Q3 21 Conference Call, the Company acknowledged holding periods elongated as labor constraints impacted its ability to quickly repair/renovate homes. We are concerned the elongated holding period due to labor shortages may drive incremental holding and interest cost pressure in the near-term. Further, we believe labor cost increases may increase repair costs capitalized into real estate inventory and pressure gross margin. While the Company highlighted it "generally" purchased homes in "good" condition that required "small" repair jobs, we believe recent buy-box expansion (discussed herein) to include older homes and homes in worse condition may have increased Opendoor's exposure to more costly and time consuming repairs.

   Overall, we did, as I mentioned, take steps to proactively manage the overall system period, system balance because **that holding period is elongated**… **we see some of the labor constraints** that are so prevalent across the country right now, but it's really important to call out that the homes we buy are generally in good conditions. We typically do small jobs like repairs so getting a home resell ready doesn't require specialty labor. (President Mr. Andrew N. Low Ah Kee, Q3 21 Conference Call, 11/10/21) [emphasis added]

3. **Limited direct selling efforts may drive increased holding periods/lower sale prices in a softer market:** In its Q3 21 10Q, the Company disclosed it markets homes on its website/app and other real estate portals and generates buyer awareness through Opendoor signage for listed properties. On its website, Opendoor "virtually stages" homes and offers customers the opportunity to self-tour the home. Opendoor does <u>not</u> actively stage homes for sale and does <u>not</u> host open houses. In addition, based on our review of Opendoor homes for sale, we believe the home description is algorithmically generated and limited (see table below for an example). In its 2021 Profile of Home Staging, the National Association of Realtors Research Group indicated, of the home buyer real estate agents surveyed, 23.0% said staging a home increased the dollar value offered between 1.0% and 5.0%.[1] **While Opendoor's limited direct selling cost investments may benefit margins in a hot housing market, we believe limited direct selling initiatives (i.e. no staging, no open houses for potential buyers to discuss the property with the seller/seller's agent, and limited home descriptions) may drive slower moving homes and/or lower home sale prices and pressure contribution margins.**

   Post-renovation, we market our homes across a wide variety of channels to generate buyer awareness and demand. These include the Opendoor website and mobile app, local MLS and syndication across real estate portals. We also generate buyer awareness through Opendoor signage for listed properties. (Q3 21 10Q)

[1] https://cdn.nar.realtor/sites/default/files/documents/2021-profile-of-home-staging-report-04-06-2021.pdf

Opendoor Owned Home Listing Example	Non-Opendoor Owned Home Listing Example
This Dallas home has one story. This home has been virtually staged to illustrate its potential.	Custom Built Ranch Home on Acerage. Located in sought-after South Paulding community. Country living with the convenience of shopping and schools nearby. Over-sized Master with his and her BATHROOMS. Country Kitchen and large Walk-in Pantry. Walk-in Closet in all bedrooms. Beautiful vaulted ceiling in living room with fireplace, waiting for you to call it your Home.
Source: Redfin.com	

4. **Fee increases in flat/down housing market may pressure seller demand & may not offset increased risk:** On its Citi Global Technology Conference Call on 09/14/21, the Company highlighted its 5.0% service fee "really resonated" with customers, it was a "market maker and liquidity provider," and its model was designed to work in up, flat, and down markets. Specifically, the Company highlighted if interest rates increase or home price appreciation (HPA) moderated it could offset the impact by increasing the service fee charged to customers (currently 5.0%). In our view, one of the major benefits in selling to Opendoor compared to a traditional agent is the lower fee (i.e. 5.0% flat fee for Opendoor versus ~6.0% for traditional agent sales). While we acknowledge there are certain other benefits (e.g. convenience and no need to stage/repair the home prior to sale), we believe many sellers prioritize total return over other benefits given their home is often their largest asset. For example, in its FY 20 10K, the Company disclosed its real seller conversion rate was 40.0% when it charged a 6.0% fee and 20.0% (i.e. half) when it charged a 10.0% fee.[2] Our concerns are heightened given commentary about the 5.0% fee "resonating" with customers. Therefore, we believe increased service fees in a softer housing market/higher interest rate environment may pressure seller demand (i.e. the amount of sellers willing to sell to Opendoor). In addition, the fee increase would have to offset increased interest/holding costs and/or the increased risk of home price depreciation in a softer housing market.

    Our model is really designed to work in up and flat and down markets. I think of us as a market maker and liquidity provider. So if interest rates were to rise or home price appreciation, HPA, moderates, we charge a fee. I think of that as our spread, and we may look to increase spreads to account for that decline. So any **declines in, say, home price appreciation could be offset by increased fees that we charge to customers**. (CFO Ms. Carrie Wheeler, Citi Global Technology Conference Call, 09/14/21) [emphasis added]

5. **Non-GAAP metric disclosure related to homes sold in the period may obfuscate analysis, in our view:** As mentioned, the Company's non-GAAP metric disclosure (i.e. adjusted gross profit, contribution profit, and contribution profit after interest) only relate to homes sold in the period. We believe the disclosure may mask the profit/margin impact of the Company's lowest quality real estate inventory (i.e. homes that are taking longer-than-average to sell). While contribution margin may have benefited recently from the mix shift to more recently purchased homes, we believe margin may have also benefited from the Company's inability to sell certain lower quality homes and we believe margin deterioration may accelerate given evidence of aging inventory (discussed herein).

Algorithmically Driven Purchases & Marketing May Increase Overpayment Risk

"Fully automated" home valuation expansion may be unwarranted given heterogeneous asset characteristics: In its FY 20 10K, the Company disclosed its algorithms used machine learning to drive pricing decisions and it improved the pricing accuracy of its models over time. The Company highlighted the improved accuracy enabled it to increase the number of "fully automated" home valuations. While we acknowledge certain homes may lend themselves to automated valuation, we believe homes are generally heterogeneous assets and homes with the same floor plan on the same street may have vastly different characteristics that may be difficult to value using automation (e.g. wear and tear, renovations, bug/water damage, etc.). Accordingly, we believe the increased utilization of "fully automated" valuations may increase the risk of overpayment. Our concerns are heightened given the Company recently expanded to purchase older and poorer conditioned homes (discussed herein).

[2] In its FY 20 10K, the Company defined "real sellers" as homeowners that either entered into a contract to sell their home to Opendoor or listed their home on the Multiple Listing Service (MLS) within 60 days. The disclosed real seller conversion rate is calculated as real sellers that accepted an Opendoor offer as a percent of real sellers that received an Opendoor offer.

> As we have continued to demonstrate improving accuracy, we have also been able to increase our number of fully automated home valuations. (FY 20 10K)

Virtual inspections may increase risk of missed repair issues prior to home purchase, in our view: In its FY 20 10K, the Company disclosed it was dependent on information supplied by prospective sellers to make offer decisions. In addition, the Company highlighted using virtual video walkthroughs to conduct pre-closing visual inspections. The Company acknowledged the virtual inspections may not be as effective at identifying undisclosed issues than an in-person inspection. Based on our research, we believe Opendoor's home purchase offer process includes an initial automated offer range, an approximately thirty minute video walkthrough, an exterior assessment, and a final offer. **We are concerned reliance on seller information, a virtual walkthrough, and exterior assessment (i.e. no onsite inspection prior to final offer) may increase the risk Opendoor misses certain costly repair items prior to extending an offer to purchase a home, and therefore, overpays for the home.**

> We make offers based on our review of offer requests completed by the prospective seller. While we may seek to confirm or build on information provided in such an offer request through our own due diligence, **we rely on the information supplied to us by prospective sellers to make offer decisions**, and we cannot be certain that this information is accurate. If owner-supplied information is inaccurate, we may make poor or imperfect pricing decisions and our portfolio may contain more risk than we believe. **We are also experimenting with conducting our pre-closing visual inspections of homes remotely through videos submitted to us by the sellers** and this shift has been accelerated by health concerns associated with COVID-19, and **this change may become permanent**. It is possible that these video inspections **may not be effective in identifying undisclosed issues, conditions or defects that an in-person inspection might otherwise reveal**, which could result in us incurring unforeseen costs during the resale process. (FY 20 10K) [emphasis added]

Background on Zillow Offers wind-down: In its FY 20 10K, Zillow Group, Inc. (ZG) disclosed its Zillow Offers business launched in April 2018. Through Zillow Offers, Zillow purchased homes, made certain repairs/upgrades, and sold homes back into the market (i.e. a direct iBuyer competitor to Opendoor). On its Q3 21 Conference Call on 11/02/21, Zillow announced plans to wind-down Zillow Offers. Zillow attributed the decision to the risk and volatility of continuing to scale up the Zillow Offers business, highlighted a $304.0 million inventory write-down, and guided for an additional $240.0 million to $265.0 million of inventory losses for homes under contract to purchase at quarter end.

> This afternoon, we announced financial results for the third quarter and, most notably, **our decision to wind down our Zillow Offers operations**…in our short tenure operating Zillow Offers, we've experienced a series of extraordinary events: a global pandemic, a temporary freezing of the housing market and then a supply-demand imbalance that led to a rise in home prices at a rate that was without precedent. We have been unable to accurately forecast future home prices at different times in both directions by much more than we modeled as possible…**the price forecasting volatility we have observed and now must expect in the future, we have determined that the scale would require too much equity capital, create too much volatility in our earnings and balance sheet and ultimately result in a far lower return on equity than we imagined**. (ZG CEO Mr. Richard Barton, Q3 21 Conference Call, 11/02/21) [emphasis added]

Rapid Zillow Offers deterioration highlights forecasting volatility and risk, in our view: On its Q2 21 Conference Call on 08/05/21, Zillow highlighted it was "excited" about how well the Zillow Offers business was performing and it was "more confident" in the business. Accordingly, Zillow highlighted confidence in the Zillow Offers business <u>three months</u> before announcing the business wind-down and recognizing material inventory impairment. **In our view, the rapid Zillow Offers deterioration and Zillow's commentary about price forecasting challenges and volatility highlight the risk of algorithmically driven home purchases. Our concerns are heightened given Zillow Offers operated in certain Opendoor core markets (discussed herein) and may have driven unsustainable home price appreciation through its aggressive purchasing.**

> **I confess to being quite excited by how well Zillow Offers is doing in such a hot sellers' market**, which has mean for one, kind of probing at the perimeter of my kind of penetration and TAM expectations here, and thinking about just how -- we don't know, of course, but just how much of the market will end up

moving towards an iBuying and Zillow Offers solution, I don't know, but **I'm comparatively more confident now than I was even a quarter ago**, so even a quarter ago. (ZG CEO Mr. Richard Barton, Q2 21 Conference Call, 08/05/21) [emphasis added]

Marketing & attractive pricing may incentivize unlikely sellers and increase overpayment risk: Opendoor conducts certain outbound marketing (e.g. direct mail campaigns) to educate homeowners on its brand and potentially drive homeowners to sell their house to Opendoor (e.g. a direct mail campaign may include a range of what Opendoor will offer for the homeowner's house). In our view, the outbound marketing and potentially attractive pricing may incentivize certain homeowners who were not considering selling their home before receiving the marketing material to sell their home to Opendoor. While we acknowledge these purchases may be less competitive than homeowners actively selling, we believe these homeowners may only be incentivized to sell at very attractive prices and overpayment risk may be elevated.

Inventory impairment surge highlights overpayment, in our view: In Q3 21, the Company recorded a $31.7 million inventory valuation adjustment (i.e. impairment), the highest quarterly impairment in at least seven quarters. In our view, the material inventory impairment surge highlights potential home purchase overpayment in recent periods. While the inventory impairment surged materially, it remained relatively immaterial relative to the Q3 21 inventory balance (i.e. 0.5% of Q3 21 inventory). Accordingly, we believe continued inventory impairment risk may be elevated. Our concerns are heightened given evidence of aged inventory and slower home sale velocity (discussed herein).

Inventory Valuation Adjustment Analysis ($ in millions)	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Inventory valuation adjustment (i.e. impairment)	$31.7	$0.7	$0.2	$0.1	$0.1

Buy-Box Expansion Drove Growth & Increases Overpayment/Holding Cost Risk

Background on buy-box: On its Citi Global Technology Conference Call on 09/14/21, the Company represented its "buy-box" was its market coverage for homes that fit within its algorithm that it could reasonably put an offer on. Opendoor highlighted buy-box included price range, home type (e.g. gated community, condo, etc.), lot size, the number of available comparables, and other factors.

> We talk about buybox. I think about that as like sort of what fits within the algorithm, what can we reasonably offer on. And there are a lot of things going to determine that. It's not just price point of home. But it's things like home type and gated community, a condo, lot size and also just how many comparables are available to us. We're looking at adjacent ZIP codes. It really varies by market. (CFO Ms. Carrie Wheeler, Citi Global Technology Conference Call, 09/14/21)

Material buy-box expansion since FY 19 may increase overpayment risk: From Q4 20 through Q2 21, the Company highlighted material buy-box expansion. Specifically, in its Q2 21 Shareholder Letter, the Company disclosed it expanded its buy-box coverage by over 50.0% compared to the end of FY 19 and it was able to "serve the majority of homes" in its markets. In our view, material buy-box expansion in a limited time period (i.e. a 50.0% increase in less than two years) may increase risk of overpayment as the Company does not have significant historical data on the performance of the expanded buy-box.

Buy-Box Expansion Commentary Analysis	Commentary
Q4 20 Conference Call	"In Q4, we expanded our buy-box by 35%"
Q1 21 Shareholder Letter	"Increased our buybox coverage…by 25% when compared to Q4 20"
Q2 21 Shareholder Letter	"15.0% increase in our buybox coverage versus last quarter"
Q2 21 Shareholder Letter	"Expanded our buybox coverage by over 50.0% compared to the end of 2019"

Certain revenue growth attributed to buy-box expansion and home price appreciation: In Q3 21, revenue-per-home sold increased 11.2% sequentially to $378,515. On its Q3 21 Conference Call, the Company attributed the increase to home price appreciation (i.e. home price increase during Opendoor's holding period) and price-related buy-box gains (i.e. increased price range Opendoor would pay for homes). Specifically, the Company represented the sequential increase was a "mix of both" home price appreciation and buy-box expansion but it was "more weighted" to the buy-box side. **In our view, revenue growth driven by home price appreciation and buy-box expansion may be unsustainable given home price appreciation may slow/reverse and price-related buy-box expansion growth is driven solely by Opendoor purchasing higher priced inventory. Given the Company highlighted it was able to serve "the majority" of homes in its markets, we believe continued buy-box related gains may be limited and create challenging comparable periods.**

> Home price appreciation and price-related buybox gains were also tailwinds to revenue, driving a sequential increase in revenue per home sold of 11%. (CFO Ms. Carrie Wheeler, Q3 21 Conference Call, 11/10/21)

Revenue-Per-Home Sold Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Revenue ($ in millions)	$2,266.5	$1,185.4	$747.2	$248.9	$338.6
Homes sold	5,988	3,481	2,462	849	1,232
Revenue-per-home sold	$378,515	$340,530	$303,506	$293,152	$274,848
Sequential change	*11.2%*	*12.2%*	*3.5%*	*6.7%*	*8.6%*

Non-price related buy-box expansion drivers increase overpayment and/or holding period risk, in our view: On its Q3 21 Conference Call, the Company highlighted buy-box expansion included purchasing older homes and homes in poorer condition (i.e. homes that need more repair work before being resold). While poorer condition homes may provide an opportunity for Opendoor to drive price appreciation through repairs/renovation, buy-box expansion to poorer conditioned/older homes may increase overpayment risk given the homes have a higher risk of material repairs (e.g. plumbing issues) that may be unidentified in Opendoor's virtual inspections. In addition, we believe increased repair requirements may drive elongated holding periods and increase repair/holding costs. Our concerns are heightened given near-term labor shortages and repair cost inflation.

> Around buybox changes, as Carrie mentioned, that's really expanding our coverage of homes that we can offer on. We want to delight more customers with the experiences we offer, and that could be any number of dimensions that drive that expansion. **<u>It could be an older home</u>. It could be the home price. <u>It could be a little bit around home condition</u>.** It could be -- take your pick of a long list of different attributes that drive that expansion. (President Mr. Andrew N. Low Ah Kee, Q3 21 Conference Call, 11/10/21) [emphasis added]

Home Inventory May Be Aged & Home Sale Velocity May Have Slowed, In Our View

Background on inventory valuation: In its FY 20 10K, the Company disclosed real estate inventory included acquired property purchase price, acquisition costs, and direct costs to renovate/repair the home less real estate valuation adjustments, if any. The Company records the property purchase price <u>net</u> of its service charge and the recorded purchase price represents the cash proceeds paid to the home seller. The Company carries inventory at lower of cost or net realizable value and reviews inventory on a quarterly basis for impairment.

> Real estate inventory is carried at the lower of cost or net realizable value. Real estate inventory cost includes but is not limited to the property purchase price, acquisition costs and direct costs to renovate or repair the home, less real estate inventory valuation adjustments, if any. **Property purchase price is net of our service charge** and represents the cash proceeds paid to the home seller. Real estate inventory is reviewed for impairment on a quarterly basis and as events or changes in circumstances indicate that the carrying value may not be recoverable. If the carrying amount is not expected to be recovered, a real estate inventory valuation adjustment is recorded to cost of revenue and the related assets are adjusted to their net

realizable value. (FY 20 10K) [emphasis added]

Inventory levels surge as acquisition demand outpaced expectations heightens our overpayment concerns: In Q3 21, inventory surged 130.1% sequentially to $6,268.1 million, while revenue increased 91.2% to $2,266.5 million. Accordingly, inventory-to-revenue surged 20.4% to 2.765. In addition, homes in inventory at the end of Q3 21 surged 115.3% to 17,164 and inventory-per-home in inventory increased 6.9% to $365,188. On its Q3 21 Conference Call, the Company highlighted acquisition demand (i.e. demand from sellers to sell homes to Opendoor) "significantly outpaced" its expectations beginning early Q3 21. In its Q3 21 Shareholder Letter, the Company indicated it "deliberately" slowed the pace of acquisitions at the end of Q3 21 and guided for Q4 21 acquisition volumes to decline sequentially to "manage systemwide capacity." We are concerned material inventory growth driven by "significantly" higher-than-expected acquisition demand suggests Opendoor may have overpaid for recent home purchases. Guidance for moderated sequential home purchases heighten our concerns.

Inventory Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Inventory ($ in millions)	$6,268.1	$2,723.6	$840.6	$465.9	$151.5
Revenue ($ in millions)	$2,266.5	$1,185.4	$747.2	$248.9	$338.6
Inventory-to-revenue	2.765	2.298	1.125	1.872	0.447
Sequential change	*20.4%*	*104.2%*	*(39.9%)*	*318.4%*	--
Homes in inventory at end of period	17,164	7,971	2,958	1,827	*661*
Sequential change	*115.3%*	*169.5%*	*61.9%*	*152.3%*	--
Inventory-per-home in inventory	$365,188	$341,695	$284,189	$255,028	$229,216
Sequential change	*6.9%*	*20.2%*	*11.4%*	*11.3%*	--

Limited inventory sell-through highlights home sale velocity slowdown and aged inventory, in our view: In Q3 21, Opendoor had 7,971 homes in inventory at the beginning of the period and sold 5,988 homes during the period. Accordingly, homes sold as a percent of homes in inventory at the beginning of the period declined 4,260 basis points sequentially to 75.1%. In our view, at least 1,983 (i.e. 24.9%) homes in inventory at the beginning of Q3 21 remained unsold at the end of Q3 21. Accordingly, we believe the limited sell-through suggests certain holding periods may have been extended (i.e. certain homes were held for at least 90 days) and home sale velocity may have slowed. We believe slowing home sale velocity may be driven by (1) longer repair periods, (2) softer housing demand, and/or (3) too high list prices, among other drivers. **Regardless of the primary home sale velocity slowdown driver(s), we believe the slowdown highlights increased (1) holding costs and/or (2) risk of overpayment and inventory impairment as the longer a home is on the market the higher the risk of price reductions.**

Inventory Aging Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Homes sold in the period	5,988	3,481	2,462	849	1,232
Homes in inventory at beginning of period	7,971	2,958	1,826	660	1,094
Homes sold as % of beginning balance	75.1%	117.7%	134.8%	128.6%	112.6%
Sequential change	*(4,260 bps)*	*(1,710 bps)*	*620 bps*	*1,600 bps*	--

Zillow Offers inventory sell-through deterioration highlights home sale velocity pressure: In Q3 21, Zillow Offers had 3,142 homes in inventory at the beginning of the period and sold 3,032 homes during the period. Accordingly, Zillow Offers homes sold as a percent of homes in inventory at the beginning of the period declined 5,020 basis points sequentially to 96.5%. In our view, at least 110 (i.e. 3.5%) homes in inventory at the beginning of Q3 21 remained unsold at the end of Q3 21. We believe Zillow Offers Q3 21 home sell-through deterioration highlights the home sale velocity pressure. Our concerns are heightened given Opendoor's sell-through of homes in inventory at the beginning of the period was materially worse than Zillow Offers.

Zillow Offers Inventory Aging Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Zillow Offers homes sold in the period	3,032	2,086	1,965	923	583
Zillow Offers homes in inventory at beginning of period	3,142	1,422	1,531	665	3,142
Zillow Offers homes sold as % of beginning balance	96.5%	146.7%	128.3%	138.8%	132.5%
Sequential change	*(5,020 bps)*	*1,830 bps*	*(1,040 bps)*	*630 bps*	*5,230 bps*

Q4 21 guidance implies home sale velocity slowdown likely to persist, in our view: In its Q3 21 Shareholder Letter, the Company guided for Q4 21 revenue of $3,150.0 million at midpoint. Assuming revenue-per-home sold remains flat sequentially, we estimate the guidance implies 8,322 homes sold in Q4 21.[3] We believe the Q4 21 revenue guidance implies Q4 21 home sales as a percent of Q4 21 beginning balance homes in inventory of 48.5%. **Accordingly, we believe the guidance implies Q4 21 home sales may be <u>less than half</u> of the homes in inventory at the end of Q3 21 and our concerns about a home sale velocity slowdown, elevated holding costs, and increased overpayment/impairment risk are heightened.**

Baseline Homes Sold Guidance Analysis	Q4 21
Q4 21 revenue guidance at midpoint	$3,150,000,000
Revenue-per-home sold in Q3 21	$378,515
Implied Q4 21 home sales guidance (Voyant estimate at Q3 21 revenue-per-home sold)	8,322
Q3 21 homes in inventory (i.e. beginning balance Q4 21 homes in inventory)	17,164
Implied Q4 21 home sales as % of beginning balance inventory	48.5%

Buy-box expansion driven acquisitions heighten our inventory concerns: In Q3 21, the Company purchased 15,181 homes, a 78.7% sequential increase. On its Q3 21 Conference Call, the Company highlighted 45.0% of Q3 21 homes purchased related to its buy-box expansion since FY 19 (discussed above). Specifically, the Company indicated the buy-box expansion driven purchases related to increasing the amount of homes it would purchase in existing markets driven by increased price, home age, or other characteristic. Given our concerns buy-box expansion increases holding period and/or impairment risk, the material buy-box expansion driven acquisition growth heightens our inventory/margin concerns.

> Buybox expansion provided a strong tailwind with **more than 45% of the homes acquired in Q3 coming from our expanded buybox** since the end of 2019. (CFO Ms. Carrie Wheeler, Q3 21 Conference Call, 11/10/21) [emphasis added]

Inventory Purchases Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Homes purchased in the period	15,181	8,494	3,594	2,016	799
Sequential change	*78.7%*	*136.3%*	*78.3%*	*152.3%*	--

Elevated WIP levels highlights holding period increase, labor shortage impact, and/or increased repair costs: In Q3 21, work in progress (WIP) as a percent of inventory increased 640 basis points sequentially to 44.0%, the highest level reported. Elevated WIP levels suggest a higher percent of inventory was in the repair/renovation stage

[3] We believe using Q3 21 revenue-per-home sold in our baseline analysis is conservative given (1) persistent revenue-per-home sold growth in recent periods due, in part, to buy-box expansion that has persisted throughout FY 21 and (2) increased inventory-per-home in inventory levels which suggest higher-per-home price for homes in inventory.

at period end. We are concerned higher WIP levels highlight (1) labor shortage driven repair delays and/or (2) increased purchases of older/poorer conditioned homes that require higher repair levels (i.e. buy-box expansion driven inventory build). In either scenario, the higher WIP levels heighten our concerns about elongated holding periods and elevated holding costs. Given repair costs are capitalized into inventory, we believe repair/renovation completion may increase inventory levels and margin/impairment risk.

Inventory Composition Analysis ($ in millions)	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Work in progress (WIP)	$2,760.0	$1,026.0	$206.9	$183.0	--
Finished goods	$3,508.1	$1,697.7	$633.7	$282.9	--
Inventory	$6,268.1	$2,723.6	$840.6	$465.9	--
WIP as % of inventory	44.0%	37.7%	24.6%	39.3%	--
Sequential change	*640 bps*	*1,310 bps*	*(1,470 bps)*	--	--

Inventory build into seasonally slow selling period heightens our margin concerns: In its FY 20 10K, the Company highlighted the residential market was typically weaker in the late fall and winter. Given the material inventory build into the seasonally slowest real estate selling season, we believe the Company may be compelled to carry inventory longer (i.e. into higher demand seasons) and/or sell inventory at a lower-than-expected price. Accordingly, our concerns about elongated holding period, elevated holding costs, and impairment risks are heightened.

> The residential real estate market is seasonal, with greater demand from home buyers in **the spring and summer**, and **typically weaker demand in late fall and winter**, resulting in fluctuations in the quantity, speed and price of transactions on our platform." (FY 20 10K) [emphasis added]

Purchase commitments may make inventory moderation difficult, in our view: As mentioned, the Company guided for Q4 21 home acquisitions to be lower than Q3 21 as it moderated the pace of acquisitions to manage systemwide capacity and ensure it can deliver a "seamless customer experience." In its Q3 21 10Q, the Company disclosed it had 6,231 homes under contract to purchase at quarter-end for $2,259.9 million. While homes under contract declined 23.6% sequentially, we believe over 6,000 homes under contract at the end of Q3 21 and the Q4 21 guidance implying fewer Q4 21 home sales than beginning balance homes in inventory (discussed above) suggests near-term inventory moderation may be difficult.

Purchase commitments Analysis ($ in millions)	Q3 21	Q2 21	Q1 21	Q4 20	Q3 20
Homes under contract to purchase at period end	6,231	8,158	4,027	1,742	--
Sequential change	*(23.6%)*	*102.6%*	*131.2%*	--	--
Purchase commitments for homes under contract	$2,259.9	$2,962.3	$1,302.5	$466.4	$2,259.9
Sequential change	*(23.7%)*	*127.4%*	*179.3%*	--	--

Over-Indexation To Certain Markets May Increase Risk, In Our View

Opendoor accelerates new market expansion: In its FY 20 10K, the Company highlighted one of its strategic priorities was to expand to new markets. Specifically, the Company represented it had an opportunity to expand from 21 markets as of 12/31/20 to the top 100 markets in the US and guided to double the markets it serves in FY 21. In its Q3 21 10Q, the Company disclosed it operated in 44 markets. Accordingly, the Company more-than-doubled its serviceable markets in the nine months ended Q3 21 relative to the number of markets served as of Q4 20.

Opendoor Markets Analysis	Q3 21	Q2 21	Q1 21	Q4 20	Q4 19	Q4 18
Active Opendoor markets at quarter-end	44	39	27	21	21	18

Prior disclosure highlights majority of revenue concentrated in five largest markets: In its FY 20 10K, the Company disclosed as of 12/31/20 it was in 21 markets across the US. However, the Company represented a "majority" of FY 20 revenue was generated in its top five markets. While we acknowledge Opendoor expanded into significantly more markets in FY 21, we believe the disclosure highlights Opendoor's dependence on certain key markets.

> As of December 31, 2020, we were in 21 markets across the United States. For the year ended December 31, 2020, a majority of our revenue was generated from our top five markets by revenue. (FY 20 10K)

Limited search functionality for recently added markets highlights large market dependence, in our view: As of the date of this publication, the home buying section of Opendoor's website (https://www.opendoor.com/homes) only allows consumers to search 16 markets.[4] We believe the limited search functionality highlights Opendoor's dependence on a limited number of "core markets." We are concerned overdependence on certain markets may expose Opendoor to outsized risk (e.g. home price pressure in one core market may materially impact Company-wide margins even if nationwide home prices are not materially pressured) and/or suggests the Company's expansion into new markets has had a limited impact growth.

iBuyers may have outsized impact on markets in which they operate, in our view: In its FY 20 10K, Opendoor disclosed online penetration represented less than 1.0% of home transactions in FY 19 and FY 20. Opendoor highlighted the "massive" offline market as an opportunity. However, given we believe Opendoor may be dependent on certain key markets and evidence of outsized exposure relative to total listed homes in certain markets (discussed next), **we believe iBuyers (and Opendoor specifically) may have an outsized impact and account for materially more than 1.0% of transactions in the markets they operate.[5] In addition, we believe highlighting under-penetration of iBuyer transactions to the entire US housing market when iBuyers only operate in certain markets (and may have out-sized influence in those markets) may be misleading.**

> Online penetration represents less than 1% of home transactions, based on iBuyer (companies that use technology for online residential real estate transactions) volumes in 2019 and 2020. (FY 20 10K)

Material Opendoor owned homes relative to total homes for sale in certain markets heightens our concerns: On its website, Opendoor allows users to view total listing and/or filter for Opendoor owned listings in its core markets (discussed above).[6] Accordingly, we analyzed Opendoor owned listings as a percent of total listings in Opendoor's core markets. As of 12/01/21, Opendoor listings accounted for over 5.0% of total listings in nine markets and up to 12.0% in Tucson, AZ. While we acknowledge our analysis is only a point in time snapshot, we believe Opendoor has a material share of total listed homes in certain core markets. **We are concerned (1) Opendoor purchased lower quality homes that are slower to sell (i.e. longer holding periods) and/or (2) Opendoor and other iBuyers may have an outsized impact on home prices in the markets they operate. Therefore, we believe a market slowdown/deterioration in Opendoor's core markets may drive material home price depreciation (and Opendoor margin pressure) as iBuyers attempt to dispose of elevated inventory levels relative to total market listings.**

[4] Users can scroll down to the bottom of the page under the "locations" section to find links to search other markets but the dropdown menu in the middle of the page only provides access to 16 markets.
[5] iBuyers are companies that use technology for online residential real estate transactions.
[6] Based on our understanding of representations made to us by Opendoor customer service, the total listings relate to all MLS listings in that market.

Opendoor Listing Analysis (as of 12/01/21)	OPEN Owned Listings	Total Listed (per Opendoor.com)	OPEN Owned as % of Total Listed
Tucson, AZ	138	1,150	12.0%
Austin, TX	170	1,442	11.8%
Charlotte, NC	234	2,454	9.5%
Phoenix, AZ	497	5,874	8.5%
Atlanta, GA	785	9,538	8.2%
Dallas-Fort Worth, TX	470	5,949	7.9%
San Antonio, TX	305	3,961	7.7%
Jacksonville, FL	88	1,530	5.8%
Sacramento, CA	32	558	5.7%
Raleigh-Durham, NC	75	1,775	4.2%
Houston, TX	462	11,364	4.1%
Riverside, CA	134	4,949	2.7%
Orlando, FL	122	4,995	2.4%
Denver, CO	30	1,315	2.3%
Los Angeles, CA	104	8,167	1.3%
Tampa, FL	37	4,732	0.8%

Zillow Offers wind-down may pressure housing price in key Opendoor markets, in our view: In FY 20 10K, Zillow disclosed it operated Zillow Offers in 25 markets. Throughout our research, we identified Zillow Offers was previously active in the sixteen markets we believe are Opendoor's core markets. In its Q3 21 Shareholder Letter on 11/02/21, Zillow disclosed it ended Q3 21 with 9,790 homes in inventory and 8,172 homes under contract to purchase. On its Q3 21 Conference Call, Zillow represented it recorded a $304.0 million inventory write-down due to the cost-basis of Q3 21 inventory being above the net realizable value and guided for an additional $240.0 million to $265.0 million of inventory losses in Q4 21 related to the homes under contract at the end of Q3 21. Accordingly, we believe as of the end of Q3 21, Zillow had 17,962 homes in inventory/under contract to purchase it will sell below its cost-basis as it winds down its Zillow Offers business. **Given Zillow Offers operated in Opendoor's markets and will likely sell homes below its cost-basis to liquidate inventory and we believe iBuyers may have an outsized impact in the markets they operate, we believe home prices in Opendoor's core markets may be pressured. Therefore, (1) Opendoor home sale velocity and/or revenue/margin-per-home sold may be pressured and/or (2) Opendoor may be compelled to recognize a material inventory impairment.**

> For inventory on our balance sheet, at period end, we compare our cost basis, our purchase price of inventory and other capitalized inventory costs to the estimated net realizable value, our estimated future selling price of those homes less estimated cost to sell. This resulted in the recognition of a $304 million inventory write-down included in Homes segment cost of revenue in Q3. We expect to recognize additional inventory losses in Q4 of approximately $240 million to $265 million. These estimated losses primarily relate to homes that were under contract to purchase as of the end of Q3 that we expect to acquire during Q4 and that we expect to resell for less than purchased. (ZG CFO Mr. Allen Parker, Q3 21 Conference Call, 11/02/21)

Sampling Of Recent Opendoor Home Sales Heightens Our Margin Concerns

Background on recent home sales sampling: We reviewed the last ~2,000 homes sold by Opendoor prior to our publication. We were only able to determine the address of the home sold by Opendoor. As such, we programmatically obtained MLS data and attempted to determine the: (1) purchase price, (2) purchase date, (3) list date, (4) list price, (5) sale date, and (6) sale price of each home sold. Due to incomplete MLS data, we were only able to obtain the above stated for 949 of the homes sold from 08/29/21 through 11/19/21. While we acknowledge the home sales sampling may be limited, we believe it is likely representative of recent Opendoor home sales.

Home price fluctuation appear volatile, in our view: On average, the homes purchased by the Company in our sample appreciated 3.9% (with certain homes fluctuating significantly). We note that 71.9% of the homes appreciated in value, while 28.1% depreciated. In addition, we note that 85.5% of the homes fluctuated more than 1.0%. We attempted to identify any trends in the sold homes to determine what, if anything, drove price fluctuations. We were unable to find any consistent patterns that explained home price fluctuations. We believe the home price fluctuations appear to be largely driven by general market dynamics. Further, we are skeptical the Company's internal processes enable it to consistently purchase homes below market value.

Homes Sold Analysis (sample of 949 homes sold from 08/29/21 – 11/19/21)	Min	Max	Average	Median
Purchase date	02/12/21	10/27/21	07/19/21	07/26/21
Listed date	03/01/21	11/03/21	08/12/21	08/21/21
Sold date	08/29/21	11/19/21	11/05/21	11/05/21
Purchase price	103,400	1,285,000	389,492	356,800
Listed price	125,000	1,283,000	414,813	385,000
Sold price	105,000	1,360,000	400,107	370,000
Home price appreciation (sold price less purchase price)	(132,700)	364,250	10,615	9,500
Home price appreciation as % of purchase price	(44.3%)	124.0%	3.9%	2.8%
Days on flip (purchase date to list date)	1	59	24	21
Days to sell (list date to sale date)	16	256	85	76
Days total	23	273	109	102

Recent sales highlight longer-than-typical holding periods, in our view: In its Q3 21 10Q, the Company disclosed its average holding period (i.e. time from purchase to resale) ranged from 70 to 100 days since January 2020 and varied by market. In our sample, on average, the Company purchased a home, listed the home, and completed the sale in 109 days. In our view, the holding period of the sample above the high end of the average range highlights elongated holding periods and heightens our concerns about elevated holding costs. We will continue to collect additional data over time and to assess if the Company can maintain its metrics as the business attempts to scale significantly.

Sample baseline contribution margin in-line with Q4 21 guidance but holding/repair costs may increase: Based on the sample home sales and the average direct selling/holding costs over the past four quarters, we estimate the sample baseline contribution margin excluding interest costs, repair costs, and adjacent services revenue was 4.9%, relatively in-line with the Company Q4 21 guidance of 5.0% at midpoint. While we acknowledge adjacent services may benefit contribution margin, we believe it is difficult to estimate the impact given the Company highlighted adjacent services were "insignificant" to revenue. In addition, we believe the baseline estimate may be optimistic given (1) it does not include repair costs that may have increased materially do the labor shortages, (2) holding costs may be higher than the prior four quarter average given evidence of elongated holding periods, and (3) home sales may slow after our sample end date (11/19/21) due to the holiday season. Accordingly, we believe Q4 21 contribution margin guidance may be difficult to achieve.

Contribution Margin Homes Sold Analysis (sample of 949 homes sold from 08/29/21 – 11/19/21)	As % of Average Home Sold Price
Service fee as % of sold price (Voyant estimate based on 5.0% of purchase price)	4.9%
Home price appreciation as % of sold price	2.7%
Average service fee plus home price appreciation as % of sold price	7.6%
Less: average direct selling costs as % of revenue over past four quarters	(2.2%)
Less: average holding costs as % of revenue over past four quarters	(0.5%)
Baseline contribution margin excluding interest, repair costs, and adjacent services (Voyant estimate)	4.9%

CEO Selling, Material Weaknesses, & FTC Investigation/Enforcement

Material recent CEO selling after Q3 21 Earnings Release heightens our concerns: From 11/16/21 through 11/18/21, CEO Mr. Eric Wu sold 2,759,111 shares, 8.5% of his beneficial ownership as of 04/09/21. In its 11/18/21 Form 4 filing, the Company disclosed of the 2,759,111 shares sold, 74,081 (2.7%) related to a 10b5-1 instruction letter to satisfy Mr. Wu's tax withholding obligation upon the vesting of previously granted equity awards. Therefore, we believe the majority of the recent sales were not completed for tax purposes. Based on the Form 4 disclosure, we believe the non-tax related share sales (2,685,030) were not pursuant to a 10b5-1 plan.[7] Given the CEO sold a material amount of shares shortly after Q3 21 results (reported on 11/10/21), our concerns about recently overbought inventory and near-term pressure are heightened.

CEO Mr. Eric Wu Insider Selling Analysis	Shares Sold	Average Price	Value Sold
11/16/21	1,613,498	$21.79	$9,156,140
11/17/21	628,348	$21.16	$13,295,800
11/17/21(sold to satisfy tax withholding obligation)	74,081	$21.67	$1,605,340
11/18/21	443,182	$20.66	$35,158,100
Total	2,759,111	--	$59,215,484

Material weaknesses over internal control highlights accounting irregularity risk, in our view: In its Q3 21 10Q, the Company disclosed it identified control deficiencies that constituted a material weakness in its internal control over financial reporting for FYE 20. The material weakness related to information technology general controls over certain accounting and proprietary systems used for financial reporting. In addition, the Company identified a material weakness related to the accounting and classification of significant and unusual transactions. Specifically, the Company's review to evaluate the accounting for the SPAC transaction (i.e. Business Combination) was incomplete and lacked a thorough analysis of warrants. The Company did not identify the second material weakness until the SEC's issuance of a Staff Statement on 04/12/21 and identification resulted in a correction to its FY 20 financial statements. The Company highlighted it completed remediation efforts to address the material weaknesses but the material weaknesses would not be considered remediated until a sufficient period of time passed to test and conclude the new controls operate effective. In our view, the material weaknesses highlight elevated accounting irregularity risk. Our concerns are heightened given one material weakness was only identified after an SEC Staff Statement highlighted the issue.

> Management identified control deficiencies that constituted a material weakness in our internal control over financial reporting for the year ended December 31, 2020 related to our information technology general controls over certain accounting and proprietary systems used in our financial reporting. Specifically, our systems lacked controls over access and program change management that are needed to ensure access to

[7] Link to Form 4

> financial data is adequately restricted to appropriate personnel… In addition,…management identified an additional material weakness as of December 31, 2020 related to the accounting and classification of significant and unusual transactions. The review performed to evaluate the accounting for the Business Combination was incomplete in that a thorough analysis of the Warrants was not performed…our management did not sufficiently analyze the propriety of this classification and did not identify the error in this accounting practice until the SEC's issuance of the Staff Statement on April 12, 2021. This material weakness resulted in the correction of our consolidated financial statements as of and for the year ended December 31, 2020… Management believes the controls designed and implemented in our remediation efforts have effectively addressed the material weaknesses…However, the material weaknesses in our internal control over financial reporting will not be considered remediated until the relevant controls are in operation for a sufficient period of time, tested and concluded by management to be operating effectively. (Q3 21 10Q)

Disclosed FTC enforcement action pursuit heightens our concerns: In its Q3 21 10Q, Opendoor disclosed the Federal Trade Commission (FTC) notified Opendoor on 12/23/20 it intended to recommend the agency pursue enforcement action against Opendoor and certain officers related to an initial FTC civil investigative demand sent to Opendoor in August 2019. The initial FTC investigative demand related to documents and information relating primarily to statements in Opendoor's advertising comparing selling homes to Opendoor with selling homes in a traditional manner (i.e. using an agent) and statements that Opendoor's offers reflect or are based on market prices. Opendoor indicated it was engaged in settlement negotiations with the FTC and accrued an "immaterial amount" for the matter. While the commentary about settlement negotiations and "immaterial" accrual suggests the FTC action may not be material to results, to the extent the Company is compelled to adjust advertising practices, we would be concerned about the impact on demand and home purchase prices.

> On December 23, 2020, the Federal Trade Commission ("FTC") notified the Company that they intend to recommend that the agency pursue an enforcement action against the Company and certain of its officers, if the Company is unable to reach a negotiated settlement acceptable to all parties. This notice is related to an initial FTC civil investigative demand sent to the Company in August 2019 seeking documents and information relating primarily to statements in Opendoor's advertising and website comparing selling homes to Opendoor with selling homes in a traditional manner using an agent and relating to statements that Opendoor's offers reflect or are based on market prices. The Company is engaged in settlement negotiations with the FTC and has accrued an immaterial amount for this matter. (Q3 21 10Q)

Risk to Our Thesis and Conclusion

Risks to our thesis: The following developments could present challenges to our thesis:

- Material home price appreciation persists.
- Opendoor works through aged inventory with limited impairment charges and/or margin pressure.
- Increased adjacent service penetration drives margin accretion.
- Limited impact from interest rate increases and/or a housing market cool down.

Conclusion: We are concerned Opendoor's business model may be dependent on home price appreciation and a relatively limited baseline contribution margin suggests extended holding periods and/or home price depreciation may erode profitability. Our concerns are heightened given a labor shortage may elongate near-term holding periods and limited selling efforts may make home sales more challenging in a cooler housing market. In our view, algorithmically driven home purchases with limited inspections may increase the risk of overpayment and missed necessary repairs. Zillow's iBuyer market exit and a recent inventory impairment heighten our concerns. We believe buy-box expansion may have driven recent growth and may increase overpayment/missed necessary repairs risk as the Company expands to older homes and homes in poorer conditions. Given (1) the Company acknowledged higher-than-expected acquisition demand and (2) certain homes were held through the entire Q3 21 period, we are concerned the Company may have overpaid for certain homes, home inventory may be aged, and home sale velocity may have slowed. Our inventory/holding period concerns are heightened given Q4 21 guidance implies material Q3 21 inventory will be carried into Q1 22. In addition, we believe elevated work in progress levels and buy-box expansion driven purchases highlight purchase of older/poorer condition homes which may extend holding periods and/or repair costs and increase impairment risk. Further, we believe iBuyers may be over-indexed to certain markets and may materially impact local housing markets. Our concerns are heightened given recent CEO selling, material weaknesses, and an FTC investigation. **We are initiating OPEN on *The Short List.***

Disclaimer and Disclosure

This report was produced by Voyant Advisors, LLC ("Voyant"). The following Research Analysts employed by Voyant contributed to this report: Alex Cook, Graeme Lazarus, Dayne Burzinski, Miles Trevelyan, and Ryan DesJardin. Voyant's home office is at 15373 Innovation Dr, Suite 365 San Diego, CA 92128. The firm's home office is where information about the valuations herein are located, unless otherwise indicated in the report.

At the time of this report, Voyant expects to provide updates on a quarterly or semi-annual basis depending on the frequency of when the above company discloses material financial results. We will cease providing updates if we are discontinuing research coverage as disclosed on the front page of this report in the Thesis Summary.

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