Zillow Group (NASDAQ: ZG) | SHORT

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Company Summary: Zillow Group operates the largest portfolio of real estate and home-related brands on mobile and web focusing on all stages of the home lifecycle. The company currently has two business segments: Internet, Media & Technology (96% of revenue) and Homes (4% of revenue). In 2018, Zillow had $1.3 billion of total revenue, 157 million average monthly unique users and boasts over 110 million homes in the database.

Situation Overview: In April 2018, Zillow Offers entered the business of buying and selling homes, also known as "iBuying". It provides homeowners in certain markets with the opportunity to receive offers to purchase their home from Zillow. If seller agrees, Zillow will charge them a fee (~7%) and take ownership of the home, thus covering all costs that the seller would incur. After buying a home, Zillow makes small renovations and then re-lists the home for sale on the market. During the 4Q18 earnings call, Zillow announced an aggressive growth initiative into the iBuying market where they plan to buy 60,000 homes in 3-5 years. ZG also brought on a new CEO, Rich Barton, to lead the company through this new growth stage. While the street and management believe this will create long-term value, <u>the unit economics of the Homes segment are extremely poor</u> and will lead to <u>value destruction and cash burn.</u>

Investment Thesis

1) <u>Zillow can't cut out agent commission fees:</u> Competitors such as Opendoor, Offerpad and RedfinNow have a better business model. They can bypass agent commissions and net that additional fee. ZG simply can't cut out agents as their entire business model of Premier Agents (IMT segment) depends on Zillow's relationship with them. Thus, competitors have much better unit economics and are better positioned to dominate the market. They can compete better on price for higher quality homes, leaving Zillow to win bids on lower quality homes.
2) <u>Competition will drive Zillow fees lower:</u> Sellers are very price sensitive and will compare offers from the different platforms (people even compare Uber vs. Lyft prices). A $5,000 difference in price goes straight to the seller's pocket. Loss aversion theory will also push sellers to ultimately go with the higher priced offer. Currently, all iBuyers are in overlapping markets with each other. This will drive competition between platforms and ultimately lead to reduction in fees for Zillow.
3) <u>Majority of profits come from home price appreciation:</u> In 2018, Zillow averaged a $2,500 net profit from every home they sold. Based on my estimates, roughly $6,500 of that profit was due to home price appreciation in the hottest markets in the U.S. As ZG expands to newer markets, these will be less attractive and decrease profitability. Also, a small decline in home appreciation price can quickly wipe out any profits from homes sold. Additionally, ZG buys more expensive homes than Opendoor and Offerpad ($320,000 vs.$230,000) which can negatively affect turnover in a downturn.
4) <u>Capital intensive and operationally challenging business:</u> Contrary to Zillow's core advertising business, home buying is capital intensive and requires operational expertise and discipline to keep turnover high. I believe the operational risk that Zillow faces is greatly underappreciated by the street. Zillow's lack of operational experience in a capital-intensive business such as home buying and selling will cause it to face multiple headwinds and challenges. As Zillow grows into new markets, inventory risk compounds. With headwinds from operational challenges and a cooling housing market, stale inventory will lead to higher holding costs and higher interest expense.
5) <u>Ancillary revenue won't be enough to overturn losses:</u> Bulls claim that the Holy Grail of the iBuying business is seller leads that manifest from ZG bidding on homes. A smaller additional stream of revenue comes from cross-selling mortgages to buyers from Zillow Offers inventory. While seller leads is the largest opportunity of the two ancillary streams of revenue, the street models "pie in the sky" scenarios. Even the best-case scenario for seller leads won't be enough to offset losses from Homes segment.

Summary: While the IMT segment seems to be understood and well followed by the sell side, my differentiated view and short thesis hinges on the unit economics of the Homes segment which is not well understood and modeled by the street. Both management and sell side believe the Homes business can be profitable on its own. I believe that ZG will have a <u>net loss of $8,900 on every home</u> they sell. **<u>Short ZG with a 2020 price target of $23, representing a 24% IRR to current stock price.</u>**

Risks

- <u>Operational execution:</u> Management operates the homebuying business well, keeps inventory turnover high and minimizes losses on each home sold.
- <u>Home prices continue to increase:</u> Continued strength in the economy and housing market can continue to push home prices up
- <u>Consolidation:</u> Consolidation among the other players can potentially drive competition away and keep fees high

Catalysts

- <u>Economic slowdown</u>: Lower existing home sales numbers and home price appreciation slows down
- <u>Interest rate increase</u>: A small change in the interest rate will cause a large decline in net income
- <u>Decline in IMT segment</u>: Potentially lead to more aggressive push into Homes to make up for difference

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Capitalization

Share price	$37.61
Diluted shares	205
Market capitalization	7,710
(+) Debt	848
(-) Cash	1,550
(+) Other	0
Enterprise value	7,008

Sum of Parts Valuation

	Dec-19	Dec-20	Dec-21
Core IMT Segment			
Forward revenue	1,654	1,927	2,258
(x) Multiple	3.5x	3.5x	3.5x
Enterprise value	5,791	6,744	7,904
Homes Segment			
NTM Adj. EBITDA	(61.5)	(91.5)	(172.9)
(x) Multiple	9.0x	9.0x	9.0x
Enterprise value	(554)	(823)	(1,556)

Exit Returns

	Dec-19	Dec-20	Dec-21
Total enterprise value	5,237	5,921	6,348
(-) Debt	(1,279)	(2,183)	(3,276)
(+) Cash	1,614	1,583	1,518
Equity value	5,571	5,320	4,590
Diluted shares	223	230	238
Share price	**$25.0**	**$23.1**	**$19.3**
IRR	**-42%**	**-24%**	**-21%**

Exhibit 1: Unit Economics of Homes Business

Unit Economics - Return on Homes Sold

	2018A	2019E	2020E	2021E	2022E
Revenue per home	295,847	309,161	323,832	332,830	338,819
Operating costs:					
Home acquistion cost	266,345	282,326	297,079	306,977	314,121
Renovation cost	8,847	8,443	8,884	9,180	9,393
Holding costs	2,520	2,713	2,913	3,120	3,182
Selling costs	13,260	14,116	14,854	15,349	15,706
Operating income	4,875	1,563	102	(1,796)	(3,584)
% margin	*1.6%*	*0.5%*	*0.0%*	*-0.5%*	*-1.1%*
Interest expense	2,389	3,946	4,509	5,043	5,314
Net income per home	**$2,486**	**-$2,383**	**-$4,408**	**-$6,838**	**-$8,897**
% margin	*0.8%*	*-0.8%*	*-1.4%*	*-2.1%*	*-2.6%*

Exhibit 2: Homes Stand Alone Income Statement

Homes Segment Income Statement

($ million)	2018A	2019E	2020E	2021E	2022E
Homes sold	177	2,555	8,633	22,497	41,146
Revenue	52	790	2,796	7,488	13,941
Cost of goods	(49)	(743)	(2,641)	(7,113)	(13,311)
Gross profit	3	47	154	375	630
% margin	*5.9%*	*5.9%*	*5.5%*	*5.0%*	*4.5%*
Sales & Marketing	(19)	(57)	(161)	(394)	(718)
Technology & Dev.	(21)	(29)	(39)	(51)	(63)
General and Admin.	(23)	(29)	(35)	(39)	(43)
Operating income	(60)	(69)	(80)	(109)	(194)
% margin	*-114.9%*	*-8.7%*	*-2.9%*	*-1.5%*	*-1.4%*
Interest expense	(2)	(18)	(58)	(126)	(237)
Net loss	(62)	(87)	(138)	(236)	(431)
% margin	*-119%*	*-11%*	*-5%*	*-3.1%*	*-3.1%*
Adj. EBITDA	**(45)**	**(51)**	**(62)**	**(91)**	**(173)**
% margin	*-86.2%*	*-6.4%*	*-2.2%*	*-1.2%*	*-1.2%*
FCF		(121)	(279)	(411)	(762)
FCF/share		-$0.54	-$1.21	-$1.73	-$3.13

Exhibit 3: IMT Stand Alone Income Statement

IMT Segment Income Statement

($ million)	2018A	2019E	2020E	2021E	2022E
Total revenue (inc. seller leads)	1,281	1,471	1,654	1,927	2,258
% growth		*15%*	*12%*	*16%*	*17%*
Adj. EBITDA	**246**	**316**	**381**	**491**	**632**
% margin	*19%*	*22%*	*23%*	*26%*	*28%*
FCF		184	248	346	476
FCF/share		$0.83	$1.08	$1.46	$1.96