William Tylko 4/8/19

$ZG / $Z Thesis and Tension Points:

Zillow drives massive value for consumers by aggregating home listings into a website. They monetize this world-class resource with a low-quality lead generation product – Premier Agent. High growth rates achieved through the use of a boiler-room-esque salesforce and aggressive price hiking techniques have masked a low-quality product which is hated by most of its addressable market. In 2018, modifications to the lead generation process aimed at improving lead quality caused leads to drop considerably, accelerating churn among existing brokers. At the same time, Zillow's pivot into a skeptical, asset-heavy business model with substantial near term losses has frightened investors. We think that it is probable that expectations of fundamentals will deteriorate shortly, due to further weakness in Premier Agent and larger than expected Zillow Homes losses, providing an opportunity to acquire shares at a further discounted price.

Nonetheless, Zillow's management is repositioning Premier Agent for long term growth through a transition into a freemium product enabling Zillow to receive 50% more per effective lead while increasing the agent's willingness to use the platform through the reduction of risks associated with a 6-month contract. Immediate liquidity for homes is ultimately the future, with Zillow Homes quickly positioning itself to become a market leader. We also think that Zillow Homes will integrate Zillow directly into the value chain, allowing Zillow to demand a more significant percentage of transactions through products like mortgages and title in addition to identifying seller leads and higher quality buyer leads for the Premier Agent business. In the distant future, Zillow will be able to leverage Zillow Homes to compete with brokers for the entire commission.

Linear extrapolation of likely subpar near-term results will dominate short-term returns, target $25-30.

1) Premier Agent (Rev est. 2% Q1 2019 Y/Y growth) could easily miss in the short-run.

- **a)** Premier Agent subscriptions are 6-month commitment cycles. The late April 2018 rollout of PA4 began to impact subscription churn in July. To limit churn, Zillow discounted recommitments on 6-month subscriptions and temporarily applied recommitment waivers for sales teams. The impact from these short-term tactics would logically reappear in January '19.
- **b)** Anonymous comments from Premier Agent sales teams identify a hostile working environment with management focused on short-term results. A decent amount of these reviews indicate that sales churn in Q1 is worse than the previously reported high churn over the summer.
- **c)** 53% of realtors are independent individual realtors. These individual realtors might have been encouraged to skip an expensive 6-month recommitment to Zillow given in Q4 existing home sales slide -8% y/y, consumer confidence materially evaporated, and a massive equity market shock occurred. On the other side, lower mortgage rates pushed existing home sales materially higher in Q1, possibly accelerating demand for Premier Agent.
- **d)** Zillow's roll-out of Flex over the next several years will decelerate revenue recognition, as Flex revenue is recognized at home sale, 45 days after the lead generation, versus current Premier Agent revenues which are recognized at lead generation. Flex is now live in Florida and specific parts of New England and the Midwest.
- **e)** In the short-run, we believe PA's $900mn in revenue is at/approaching its applicable TAM.
  - a. 6mn house sales per year, 45% find their home from the internet = 2.7mn real leads. Zillow's 55% share of the internet real estate traffic would equate to Zillow producing 1.5mn of the leads. As current leads are worth ≈ $1,500, we assume Zillow's applicable tam is $2.25bn.
  - b. Applicable TAM must be further adjusted to reflected discount deals with larger brokerages and TAM that has already been churned. We estimate TAM is reduced by 30% when considering Zillow's discount deals with the largest brokerages, which represent 50% of brokers. Assuming a lenient 5% per year churn since inception, $200mn of TAM has already churned. Thus, Zillow's applicable TAM is close to $1.4bn.
- **f)** Management guidance of Q1'19 PA revenue growth of $3mn and IMT ebitda decline of $15mn indicates costs are increasing, contradicting their FY'19 guide of PA revenue growth of $20mn and IMT ebitda growth of $7mn.
- **g)** Zillow is not planning on increasing prices in the short-run due to the negative feedback on PA4.

2) Zillow Homes (ZH) profitability is years away.

- **a)** Our analysis of over 500 ZH properties shows that ZH is earning a 9.7% net revenue margin, through a 7% closing fee and 2.7% price appreciation. ZH's net revenue is 5.3% below competitor Opendoor (OD), which is estimated to have a 15% net revenue margin, through a 7.2% closing fee and 7.8% price appreciation.
- **b)** OD believes they can net a 4.7% income margin on each home. A similar cost structure with lower ZH revenues would point towards a -0.4% unit margin. This is optimistic as OD has reduced unit costs by removing some

aspects of the traditional broker. In the near term, Zillow's reliance on brokers for its Premier Agent product restricts ZH from reducing broker/agent costs. This will change in the long term as Zillow integrates itself into the homes value chain, eventually repositioning itself into a position with leverage on brokers.

c) Assuming operating expenses were almost all fixed rate, ZH would need to sell about 10,000 homes per year to break even. Fixed rate Opex isn't remotely feasible as Opex includes "directly attributable selling expenses" and "holding costs" which will grow with units. 10K homes per year is likely 3 years off. **Based on Zillow's current markups and run rate operating expenses, we expect ZH losses to swell to $200mn in 2019.**

d) Without seeing a change in strategy with price appreciations in listings or a move to eliminate broker buying costs, it is unrealistic that ZH can reach management's 2-3% ebitda margin in the near term.

e) Analysts will be quick to judge operational success on average holding times; our analysis of 500 Zillow Homes shows that this metric is likely to worsen.

3) The combination of these theses will result in poor fundamentals, pushing the stock lower.

a) We expected Zillow to post negative ebitda this year, versus street consensus of $60mn.

b) IMT: Revenue of $1,264mn vs. $1,263mn management, ebitda of $182mn vs. $253mn management. Our estimates adjust for the indicated $15mn increased spending in Q1 with stagnant PA revenue growth.

c) Homes: Revenue of $882mn vs. no guidance and ebitda of -$170mn vs. no guidance. 2.7K homes vs. 177 in 2018.

d) Mortgages: Management's guidance of $108mn revenue and $-35mn ebitda.

4) Considerable management turnover likely indicates near term issues.

a) In February of 2019 Zillow announced Rich Barton would be returning as CEO, replacing Spencer Rascoff, who has been the CEO since 2010. Rich owns 6% of Zillow, and represents 31.5% of voting power. Rich has previously founded Expedia, Zillow, and Glassdoor. Rich also serves on multiple boards including Netflix, and was a venture partner at Benchmark.

i. Rascoff seemed widely liked by employees; his departure came after a year of terrible operating results. These results followed years of Zillow significantly outspending their peers on sales and marketing. In 2016, Rascoff moved to LA and began commuting to Zillow's Seattle HQ via private jet.

ii. Executive Departure Agreement contains a Non-Disparagement clause and a Co-Founder clause. Non-disparagement clauses are normal, but this one seems to be tilted towards not discussing Rascoff's performance externally. The Co-Founder clause also assigns Co-Founder status to Rascoff, something he previously did not claim. We speculate that the Non-Disparagement and Co-Founder clauses were negotiated concessions, possibly indicating Rascoff was asked to leave.

b) In October of 2018, Amy Bohutinsky stepped down as COO after three years. Amy had been with Zillow since 2005 and served as CMO prior to serving as COO. This was the same route Rascoff took, and may indicate she was a possible successor Rascoff. Zillow has decided not hire a replacement COO at this time.

c) In May of 2018, Zillow's CFO of three years, Kathleen Phillips, left the company on short notice. Kathleen was replaced with Allen Parker, who was previously a VP of finance at Amazon from 2005 to 2018.

These near-term results will cloud Zillow's transformation into a <u>healthy</u> business.

1) Zillow's strong consumer brand enables Zillow to be the first thought when exploring home options. This will become a material advantage in cross-selling new products.

a) Zillow continues to dominate traffic and traffic acquisition. Google searches for "Zillow", "Reatlor", and "Redfin" indicate Zillow has continued to capture 75% of branded searches for the last three years. Comscore shows that across all network sites, Zillow, Realtor, Redfin, and Re/Max, Zillow continues to capture 55% of all traffic, and closer to 60% when considering time spent online. These numbers indicate a market dominance close to that of Rightmove in the UK.

b) For U.S. based consumers, Zillow is as much of a generic term as is Google. Among conversations with peers, Zillow is first to mind when thinking about internet and real estate, directly followed by Trulia.

c) According to NAR, the first step of 44% of home buyers is looking at real estate properties online, and 45% of home buyers purchase a home they find on the internet.

d) The big picture: As long as consumers continue to visit, advertisers will continue to pay.

2) Repositioning Premier Agent for quality should restore growth and ability to increase prices.

a) Brokers we talked to and read about saw conversion rates of around 3-8%, paid between $60 and $150 per lead, and saw ROI of 8x-10x, which sounds impressive.

b) However, some Brokers expressed unquantifiable costs related to the program which are absent from the ROI calculation. Zillow is working on fixing both of these issues.

i. The time commitment to follow up with Zillow leads was a major factor in the decision to spend with Zillow, especially considering only 3-8% of leads work out.

ii. Signing a 6-month contract is a major impediment for brokers – as the financial risk of Zillow not producing demands and leads is pushed on the broker.

c) Zillow's internal lead verification program will increase ROI for brokers by reducing the time commitment PA requires. Verification removes approximately 60% of the funnel. Prior to introducing lead verification in April of 2018 some brokerages had dedicated staff vetting leads while others paid lead verification services $12/lead. While Zillow immediately lost customers due to lower lead volumes, this change will improve Zillow's product over the long term as it will increase brokers' ROI.

d) **Zillow's switch to Freemium with Flex will reduce impediments for brokers, and increase the value of leads by 50%.** The program charges no upfront costs and takes a 35% commission on completed sales instead of the flat 6-month charge. Revenue per sale through Flex is 50% higher than the average rate Zillow received in 2018 and is comparable to prices charged by similar startups. Removing the fixed 6-month fee will remove impediments associated with signing long term contracts.

e) Given the attractiveness of freemium services, Zillow may be able to cut back on marketing spend.

f) To improve the consumer side of Zillow, Zillow is now collecting ratings from consumers regarding their interactions with brokers, eventually using the data to remove underperforming brokers from the platform.

3) ZH integrates Zillow into the value chain, expanding cross-sell opportunities, possibly doubling IMT TAM.

a) As an aggregation service, Zillow captures consumer demand through an easy to use transparent website and reroutes this traffic for a fee. This neither changes the dynamics of the real estate market nor creates economic value; it simply transfers value from brokers to Zillow.

b) ZH creates economic value by providing marketplace liquidity to consumers and simplifies the complicated home selling process. This process involves consumers balancing buying and selling homes at the same time, marketing their existing homes for months through events like open houses, paying for expensive renovations, and at the end of the day not having a guarantee of a timely sale. By purchasing houses instantly at a market rate less a 7% fee (1.5% above average commission) ZH will offer a streamlined, stress-free home selling process for the consumer.

c) **Regardless if consumers use Zillow Homes, consumers will be driven to Zillow for the prospect of an instant Zillow Offer**. The request alone will identify a high probability lead, and introduce them to the Zillow brand. Zillow then has additional opportunities to market high-quality seller leads and additional buyer leads, mortgages, and other services. This will further allow Zillow to integrate into the home transaction process, creating an opportunity to cross-sell an additional $1.1bn TAM in higher gross margin products in addition to Mortgages, Titles, and other products.

i. **Seller leads**: 45% of the homes which requested a Zillow Offer ended up being listed on the market, while only 1% of all requests were converted into Zillow Homes. Zillow intends to market seller leads, which are sold for 1% of the final transaction. In 2024, when management estimates they will be selling 60K homes per year, we assume Zillow will be receiving close to 1mn offer requests. Selling 1mn leads with a 30% conversion rate at 1% of the final transaction value is a $750mn opportunity. Management has noted Seller lead revenue in a "non-significant" portion of their 3-5 year guidance.

ii. **Buyer leads:** Requests for Zillow Offers will identify early on very high likely buyer leads as more than 3/4ths of home sellers are purchasing new homes. This will give Zillow the opportunity to convert a large percentage of Zillow Offer requests into vetted leads. By 2024, a 25% funnel conversion rate would represent an additional $400mn opportunity.

iii. **Mortgages:** Zillow will originate mortgages to ZH customers. Zillow currently has a 33% attach rate (below industries average of 75%) and plans to generate $8-9K per origination. Typical mortgage profitability sits at around 10% of revenue, but Zillow won't be spending the industry average 16% on customer acquisition. Zillow also believes they can scale origination with technology. Assuming a 33% attach rate, $8.5K in revenue per origination, Zillow could see another $170mn in revenue and see synergies creating a higher income margin.

iv. **Titles, Escrow, Insurance & Simplicity:** Zillow management is planning on expanding to more of these auxiliary services and interweaving them into Zillow's core product as seamlessly as Uber interweaves payment. Single choice, frictionless, and fast experiences are highly preferred by younger consumers. Zillow is demonstrating they have opportunities to reinvest in the business through combining their products.

d) As Zillow gets entangled in the transaction process, Zillow will be able to leverage its existing platform to provide competitive advantages.

i. Zillow has search and demand information for millions of consumers. They can likely accurately predict demand for certain types of house and areas based on search data, minimizing inventory risk.

ii. Searches on Zillow now return Zillow Home properties at the top of all search results.

iii. Zillow will eventually one day compete with the broker. It is testing an app in Phoenix called "Tour it Now" that lets users tour Zillow Homes without a broker.

e) With ZH, Zillow is building a one-click ecosystem for home selling and buying. This will be a hit, especially for the impatient younger generation. Zillow's brand positions them to do this better than anyone else. The opportunity also pertains to countless other reinvestment opportunities down the line.

4) 2024 Valuation using Management's 3-5 year plan: $975mn in ebitda, 23x EV/ebitda, 1x Revenue.

a) IMT: $600mn ebitda, $2bn revenue and 26x ebitda multiple = $15.6B.

i. $2bn IMT revenue is possible given seller leads could double the existing IMT business, Flex prices are 50% higher, and Zillow Homes will likely drive more traffic to Zillow.com. 30% ebitda margin seems conservative, considering Flex should reduce need for sales and marketing spend.

ii. Multiple of 26x based on comps REA and RMV and a country premium.

b) Homes: 1.5% margin, valuation indifferent.

i. The $20bn in revenue via 60,000 homes looks aggressive, but possible given peers. OpenDoor increased their run rate home sales from 2.8K to 36K in 26 months between 10/16 and 3/19. Zillow's run rate in Q1 of 2019 will be around 2K.

ii. Valuation indifferent: We peg the valuation of Zillow Homes at its inventory, netting the impact on shareholder return assumptions. X homes with a 1.5% ebitda margin and a 16.6x multiple is equivalent to 1/4th X revenue, the required amount of inventory for this business, thus offsetting the impact on returns. For a plug, we assume Zillow hits the $20bn goal.

iii. OpenDoor was valued at $3.8bn in March of 2019.

c) Mortgages: $85mn in EBIT, 20x multiple = $1.7bn.

i. $325 in mortgage origination revenue (3k loans per month at $9000 each) and $100mn in non mortgage origination add revenue.

ii. Assumes a 20% margin.

d) Share dilution: In 5 years, outstanding shares will increase 203.6mn to 228mn. The company will receive approximately $640mn in cash for these shares. There are two convertible notes outstanding.

i. $460mn of notes due December 2021 covert at $52.36/ Class C.

ii. $373.8mn of notes due July 2023 convert at $78.37/ Class C.

e) Working capital: We assume cash equivalents will decrease by $5bn to fund homes inventory.

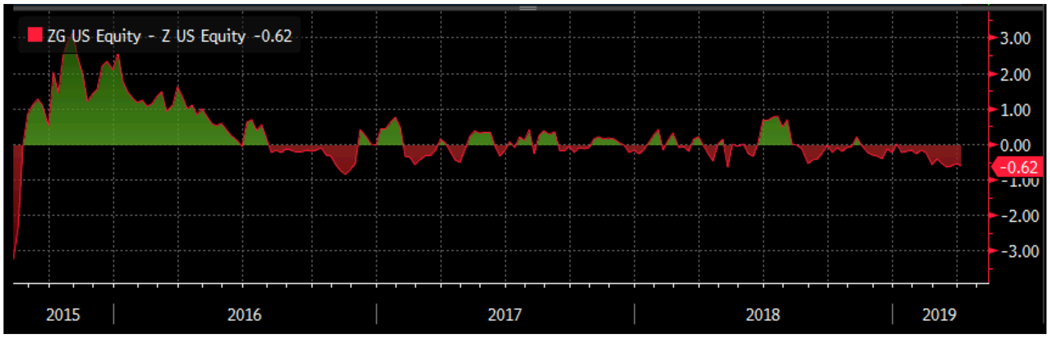
f) 2024 Return Projections: 18% 5yr IRR.

i. $22.3bn EV, ($5bn in working capital expansion, $.6bn in new cash, $.9bn in cash) $18.8bn MC = $82.5/share = 18% 5 Year IRR.

ii. 18% IRR is attractive, but probably an appropriate return considering the uncertainty around the business. We would recommend waiting for Zillow to hit $25-30 before investing.

Buy it Now IRR	**Price**	**IRR**
	$35	**18%**
	$30	**22%**
	$25	**27%**

Note on share classes:
Class A shares ($ZG) currently trade at a 62 cent discount to Class C shares ($Z), despite including a vote. Class C shares have 2.6x daily volume (30 day average volume is 2.89mn) as Class A shares. 9% and 21% of Class A and Class C floats are sold short.



Note on IMT Multiple:
We estimate IMT's terminal multiple at 26x trailing ebitda. This is a blend of comparable multiples, plus a blend of comparable relative multiples to their local indexes to reflect a country premium.

	EV/EBITDA		
	REA	RMV	ZG
Company	22.4	22.2	30.1
Local Index	11.4	8.6	13.2
Company/Index	2.0	2.6	2.3

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