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(NASDAQ: CARG) CarGurus

Ticker: CARG Sector: Comm. Services Industry: Interactive Media & Services Recommendation: **SELL**

Valuation Summary	
Current Price (as of 12/14/18)	$34.76
Target Price	$26.34
Downside	24.2%
52-Week High/Low	$57.25/$28.52
Price/Earnings (2019E)	112.1x
EV/EBITDA (2019E)	70.1x

Valuation Derivation		
Valuation Method	Price	Weight
Discounted Cash Flow	$30.06	50%
CompCo—Biz. Model	$25.92	25%
CompCo—Direct Comps	$19.30	25%
Blended Price Target	$26.34	-

Source: FactSet Charting Function (2018 YTD)

CarGurus Inc. ("CARG" or "the company") is an online marketplace for users to buy and sell cars. The company is currently overvalued by the market. Our valuation applies favorable assumptions to CARG's fundamentals, yet we arrive at a fair value estimate below the current market price. Returns expectations, dealership budgets, and the infrastructure of international markets do not justify the company's high valuation. The reasons for CARG's market value to contract are as follows:

Investment Thesis

1) The Market's Outlook Implies Unrealistic Returns and Margin Expansion Expectations

Using a top-down revenue build, we estimated an annual compounded return based on our revenue and earnings forecasts. Consensus expectations include a 29.6% revenue CAGR and the management team's 33% EBIDTA margin target by 2020. Our forecasts for the company include an 85% overall market share by 2026 and a reduced Selling and Marketing ("S&M") margin of 45% by 2024 (starting at 72% today). Based on these assumptions, selling CARG's equity at an 18x exit multiple would give investors a 9.1% compounded annual return, which is comparable to the sum of the S&P500's earnings and dividend yield of 8.7% but with much greater unsystematic risk and volatility.

2) Dealer Mix and Macro-Driven Advertising Trends are Headwinds for CARG

CARG's freemium model has attracted a considerable number of both independent and franchise auto dealers thus far. The ratio of paying independent to franchise dealers is currently 40%/60% for CARG. The largest independent dealers generate 50%-60% of franchise dealer revenues and have advertising budgets that are only ~5% of a comparable franchise's average budget. Based on calls with various dealerships, independent dealers will find CARG's platform attractive but the customer's lifetime value is capped. Declining advertising spend among both types of dealers in a late stage macro-economic cycle will cause CARG's top-line growth to decline faster than expected.

3) The Street is Overvaluing CARG's International Growth Potential

CARG's business model does not align well with international markets. As a result, there will be continued international cash burn longer than the market expects. The auto-marketplace landscape in Europe and Canada is more fragmented and less valuable than that of domestic markets on the basis of dealer ad/marketing spend. Income from operations after international losses has fallen 41% Y/Y as of Q3 2018. CARG continues to spend heavily in foreign markets and destroy value with worsening investment opportunities. These strategic issues will delay growth opportunities for long enough to reduce ROIC and compress the stock's high trading multiples to reasonable levels.

INVESTMENT SUMMARY

1. The Market's Outlook Implies Unrealistic Returns and Margin Expectations

CARG has built a marketplace with significant network effects but that does not mean that its price is reasonable given the company's growth expectations. Based on our analysis, CARG's forward trading multiples (112.1x 2019E P/E and 5.8x 2019E EV/Sales) are unsustainable based on alternative investment returns with less unsystematic risk. Even with ambitious assumptions, CARG's potential returns are comparable to a basket of diversified companies but with the high risk of attaining market share and international profitability. We forecast that CARG will take up to 85% market share in the United States by 2023 and replicate their domestic success by reaching 85% market share in Europe by 2026. The Street consensus expects the company to grow sales at a 29.6% CAGR through 2020. CARG's management highlights a "long-term adjusted EBITDA margin" of 33%. Based on our top-down valuation approach, we find it unlikely that these goals can be achieved before 2024. The company is vague as to when they expect to hit these targets, but we argue that these returns are built more on hope than expectations.

	0	1	2	3	4	5	6	7	8	9	10
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Market Capitalization	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220
Enterprise Value	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220
Operations:											
Revenue		657,084.5	896,438.5	1,139,697.3	1,354,181.5	1,497,587.5	1,620,982.6	1,752,127.2	1,881,624.9	1,969,571.5	2,061,750.3
Revenue Growth%			*36.43%*	*27.14%*	*18.82%*	*10.59%*	*8.24%*	*8.09%*	*7.39%*	*4.67%*	*4.68%*
Net Earnings		44,646.3	89,377.7	149,688.9	224,830.0	297,344.6	396,089.7	428,438.0	460,779.9	482,947.4	506,363.3
Net Margin %		*6.8%*	*10.0%*	*13.1%*	*16.6%*	*19.9%*	*24.4%*	*24.5%*	*24.5%*	*24.5%*	*24.6%*
EV/Revenue		**5.8x**	**4.2x**	**3.3x**	**2.8x**	**2.5x**	**2.3x**	**2.2x**	**2.0x**	**1.9x**	**1.8x**
P/E		**85.3x**	**42.6x**	**25.4x**	**16.9x**	**12.8x**	**9.6x**	**8.9x**	**8.3x**	**7.9x**	**7.5x**
Capital Event:											
Purchase Price	(3,806,220)										
Dividends		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exit Proceeds											9,114,539
Cash Inflows (Outflows	**-$3,806,220**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$9,114,539**
IRR		**9.12%**									

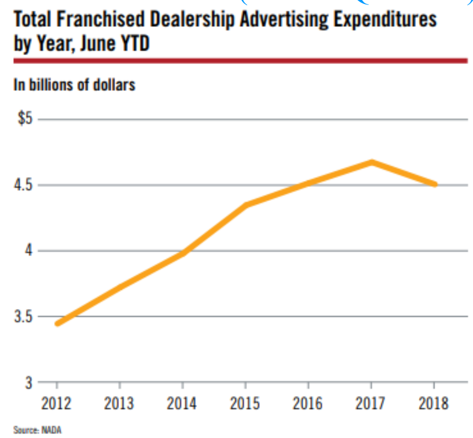
Exit Multiple	**18.0x**
Current Price	**$34.76**

Source: Team-Generated Excel Model

We calculated an annual return derived from CARG's equity and net earnings. Based on net margin projections and an 18x exit multiple, the annual compounded return would be 9.1%. As an alternative investment, the S&P500 currently has a median earnings yield of 6.79% and a dividend yield of 1.9% (for a total return of ~8.7%). CARG's compounded annual return is comparable to owning a diversified basket of large-cap companies but only if CARG can attain an 85% market share in major global markets with high pricing power. By holding CARG, investors would earn 43 more basis points but with significantly more unsystematic risk. For instance, if CARG's market share or revenue growth decelerates, then the stock's multiples will compress to adjust for lower expectations. In order to account for this risk/return profile, we view the opportunity cost of CARG's equity to be 13% (which reflects companies with similar risks and growth prospects such as Zillow and Netflix).

2. Dealer Mix and Macro-Driven Advertising Trends are Headwinds for CARG

Although CARG offers both used and new cars, not all of its dealers are of equal value. The spending habits of CARG's dealer mix will limit the maximum achievable Average Annual Revenue per Subscribing Dealer ("AARSD"). Greater than 40% of CARG's U.S. dealers are "independent" (vs. 30% for CARS and 34% for TRUE). The largest independent dealers generate revenues that are 50%-60% of franchise dealer revenues; the majority of independent dealers spend under $20,000 on advertising, which is less than 5% of the average franchise's advertising budget. The freemium model that CARG employs will attract independent dealers whose lifetime values are capped. According to the National Independent Automobile Dealers Association, annual advertising spending of $21,000 to $50,000 has fallen 7.3% while the spending range between $0 to $20,000 rose by 14.2% (between 2015 and 2016). These secular trends within the realm of dealer spend will diminish the value of the independent dealer. In the franchised dealership market (data sourced from the National Automobile Dealers Association), advertising expenses have fallen 3.1% from 2017 to 2018. On a per-listing basis, the advertising cost per new unit sold remained stable between 2017 and 2018. Both aforementioned metrics are trending downwards, which creates a secular obstacle for CARG given that franchise dealers are ~60% of revenues. We assume that CARG will develop significant pricing power and that the dealers will have limited bargaining power. However, that pricing power is subject to the ROI ceilings that dealers are constrained to. In a late economic cycle, reduced consumer appetite for buying cars will force dealers to tighten budgets which then reduces the upper-limit for AARSD in domestic and foreign territories. In this economic climate, CARG's customers will become less valuable. As a result, the company's trading multiples will contract.



Source: NADA 2018 Franchise Dealers Deport

3. CARG's Business Model Misaligning with International Markets will Reduce ROIC and Stunt Subscription Growth Opportunities

CARG's recent entrances into Italy and Spain expand the firm's addressable international market to 55,000 dealers. The company's freemium subscription model has found success in America but costly international expansion will continue to destroy value through 2020. We forecast capital expenditures to increase by a 42% CAGR mostly attributable to international spending. These issues will be reflected through ongoing cash burn and delayed growth opportunities for longer than analyst expectations. There are major auto platforms in the UK (AutoTrader), Germany (Mobile.de), and Canada (AutoTrader.ca). CARG's increased spending alongside structural differences in these markets will result in declining incremental returns going forward.

CARG Income (Loss) from Operations ($ in thousands)		
Metric	Nine Months Ended 9/30/2018	Nine Months Ended 9/30/2017
United States	$33,658	$33,617
International	($24,657)	$(18,375)
Income Differential	$9,001	$15,242

Source: CARG Form 10-Q (Q3'18)

Italy & Spain

These new countries will be minimal revenue contributors in the medium-term due to low car transaction volume and existing partnerships. Their combined transaction volume of 7.1M new and used cars is 40% of America's volume in 2017. Agreements between local auto manufacturers and established corporations (such as Fiat and Amazon) add another obstacle forcing CARG to invest heavily in new growth. Although CARG raised its international dealer base by ~43%, more S&M spending is needed to reach investor growth ideals and outpace firms already making headway in automotive listings.

The UK

The United Kingdom's car market is most similar to the U.S, but one marketplace, AutoTrader (LN: AUTO), has already established a brand presence. In the UK, used car sales are 82% of the country's automotive transaction volume (vs. 67% in the U.S.). Auto advertising spend was $2.5B in 2017. 76% of that spending was directed towards digital advertising, which surpasses the 64% proportion of digital spend in the U.S. AutoTrader leads the UK market with 72% market share. Although the UK shows more promise than other countries in terms of digital advertising spend, CARG does not have enough brand presence to gain subscription traction; only ~9% of AutoTrader users have used CARG as well and AutoTrader receives 29x more unique visitors.

Germany

CARG is targeting Germany to address the potential of 21,000 additional dealerships (which represents 49% of the U.S. market). Despite having more cars sold than the UK, Germany's auto dealers spend 38% less (~$800M) per year. CARG's singular digital platform is mismatched with German tastes given that German dealers spend just 35% of their overall budgets on digital advertising. CARG's nascent presence in Germany is apparent through traffic disparity between marketplaces. The firm's 446,000 visits per month is 0.8% of the traffic generated by Mobile.de, the Ebay-owned German auto marketplace.

Canada

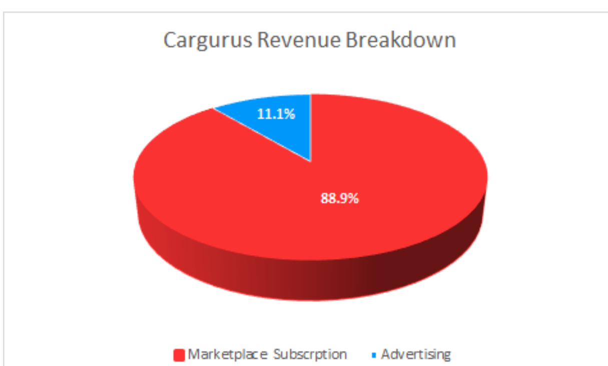
America's northern neighbor outpaces Germany and the UK in terms of people per dealer (6,138 as of Q2'18), but a study from News Media Canada shows that just ~18% of Canadian automotive buyers use third-party sites regardless of progress in the car-buying process. Given that advertising spending per car on a percentage basis is half of that in America, CARG's incremental spending in Canada will prevent the company from reaching growth expectations.

PRIMARY RESEARCH

To develop our thesis and model assumptions, we performed some primary research by having in-depth conversations with car dealers. We called dealerships from various parts of the U.S. (New England, New York, Texas, and the West Coast) to prevent regional bias. We used these conversations mainly to gauge CARG' lead generation capability relative to other platforms as well as their pricing power. Dealer price sensitivity is an important input within our model and thus we focused on this factor the most. Most dealerships did not concretely state cost and lead generation information. Out of 33 calls conducted, 21 in-depth conversations provided us with insights that helped to generate our model assumptions. Most of the responses were qualitative, however we aggregated and summarized responses to two of our main questions in Exhibit 4. ~80% of the dealerships we spoke with claimed that CARG brought in the most leads for them relative to other car marketplaces like Cars.com and Truecar. These dealerships even claimed that CARG brought in more than 50% of their total leads. We also found that two-thirds of dealers we spoke to would continue to subscribe to CARG if they raised prices by 50%. These findings helped us determine factors in our model such as subscription growth rates, price sensitivity barriers, and CARG's value relative to its competitors.

BUSINESS DESCRIPTION

CARG is an online automotive marketplace for customers to list, buy, and sell cars (both used and new). The firm creates value from two major sources: subscription income from car dealers and auto-brand advertising revenues. The main drivers for growth are internet consumer traffic (demand for used/new cars) and dealership spending.



Source: CARG 2017 10K Filing

Technology

CARG utilizes its proprietary search algorithms to generate an Instant Market Value ("IMV")--this listing metric estimates what the appropriate price is for a given vehicle. Designations such as "great/good deal" or "fair deal" to maximize transparency. CARG's IMV algorithm applies 20 ranking signals and more than 100 normalization rules for data points including (but not limited to) make, model, features, condition, geographic location, mileage.

Dealer Benefits and Subscriptions

Dealers using CARG have access to basic, enhanced, and featured listing; the latter two features require a paid subscription. CARG's mobile-centric platform helps dealers manage listings and maximize volume. Enhanced or featured listing benefits allow vendors to publish dealership information for promoting brand recognition. CARG's paid dashboards provide estimates on local auto market conditions as well as pricing tools for dealers.

Advertising

CARG earns additional income from display ads. Dealer-paid ads can be customized to target particular geographies and segmented areas of demand. CARG also offers search engine marketing (SEM) and social media tools for dealers to calibrate traffic acquisition. Auto manufacturers purchase ads from CARG to expand brand exposure and awareness.

INDUSTRY OVERVIEW/COMPETITIVE POSITIONING

CARG's Offering to the Auto-Marketplace Landscape

CARG is a platform for a two-sided market: consumer traffic aiming to purchase cars and the dealers' inventory of vehicles. Although the company earns revenue from dealers, digital traffic and car-buying consumer sentiment plays an indirect role in how much dealers will spend on the platform. Therefore, CARG and competing auto marketplaces highlight buyer activity (average # of monthly unique visits), dealer penetration (# of paying dealers), and AARSD to keep score. CARG's advantage stems from its proprietary algorithm and high site traffic. Around 52% of all time that U.S consumers spend on car marketplaces is spent at CARG.com. This online presence grants CARG an edge over other marketplaces when convincing dealers to pay for enhanced listings. The ROI of used cars through CARG tends to exceed other OMs. This trend was confirmed in our primary research where we called dealers and found that >80% of them claimed CARG was their best lead generator for used listings. These findings alongside CARG's favorable growth history influence why the stock is currently trading at a high multiple. As of its Q3'18 filing, CARG has ~37M average monthly unique U.S. visitors, 30,593 total paying dealers (up 15% Y/Y), and ~$13,077 consolidated AARSD (up 18% Y/Y). Total paying U.S. dealers eclipsed 27,100 (~63% U.S. market penetration). Internationally, CARG improved its monthly unique visitors to 4.4M (up ~70% Y/Y), increased paying dealers to 3.4M (up ~55% Y/Y), and raised int'l AARSD to $4,820 (up 2.3% Y/Y).

CARG's Pure Competitors

Similar and competing auto-marketplaces include Cars.com (NYSE: CARS) and Truecar (NASDAQ: TRUE). In terms of income production, Cars.com has a comparable model of dealer subscription and advertising services (subscription vs. ad revenues are split ~80%/20%). CARS generated 97% more revenue than CARG in FY2017 and continues to produce EBITDA margins between 35% and 39%. CARG continues to outspend its competitors in SG&A (91.6% of sales vs. 42.8% of sales for CARS) to prioritize consumer traffic, search engine optimization, and dealer conversions more than margin expansion. CARS places higher-paying dealers at the top of a search queue (even if the offered vehicle is overpriced) while CARG promotes deals with the best market value for the consumer. Additional online marketplaces ("OMs") such as Truecar and Carvana (NYSE: CVNA) compete for consumer attention with different value propositions. TRUE relies on transaction fees to generate income while CVNA delivers vehicles directly to the consumer.

Supplier Power

CARG's suppliers are consumers actively seeking to purchase a vehicle. This is a highly fragmented group and has little individual power or leverage over CARG. However, each of these consumers has a choice in OMs and generally will pick one company as a primary search tool. CARG directs its SG&A expenses (91.6% of Q3'18 sales) to attract customers to the site. However, CARG is does not appear within the top three links in Google search result queries for "buying a new car" or "comparing car models."

Threat of New Entrants

The US online car marketplace is saturated with the aforementioned companies (CARS, TRUE, CARG, CVNA) and there is relatively little incentive for newcomers to enter this market. In addition, CARG has a competitive moat in the form of their purchasing behavior dataset, a consumer-centric market, and a proprietary algorithm to determine the fair pricing. This makes it difficult, but not impossible, for new entrants to successfully gain market share. CARG itself is a new entrant, penetrating the market with a cheaper AARSD and ROI-focused approach towards dealerships. A new entrant must spend the majority of its revenues on branding and search engine optimization just as CARG is doing currently in order to gain significant market share.

Buyer Power

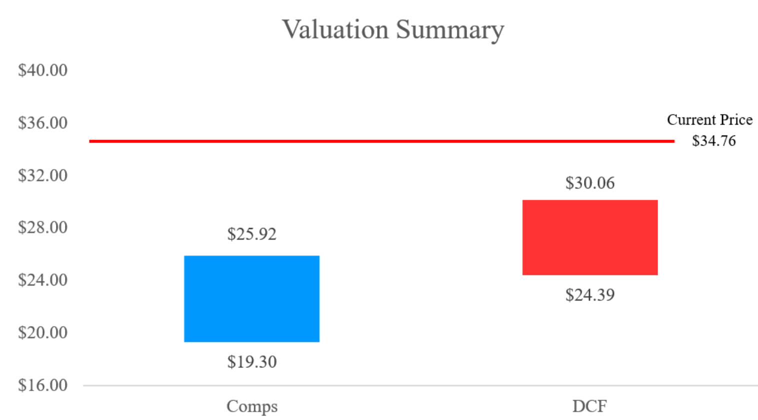
Dealerships are highly fragmented with greater than 40% of CARG's buyers being local or independent car dealerships. CARG targets these buyers with an ROI-centric process to demonstrate that CARG leads are providing returns above the subscription that the dealer pays. Car dealerships have a low switching cost to cancel subscriptions and move to another OM. Each dealerships makes an individual decision of whether or not to continue subscriptions and does so almost entirely based on profitability, both past and expected.

Threat of Substitution

There are very few threats of substitution to CARG. Market trends support the OM business model as consumers are increasingly doing car purchase research online instead of starting the buying process at a single local dealer. Online car marketplaces like CARG are the substitutes to the traditional direct-to-dealer way of purchasing cars.

VALUATION

To value CARG, we calculated a blended price target through a discounted cash flow including favorable growth assumptions and a relative valuation analysis of comparable companies ("comp-sets"). These valuation methods yield a blended price target of $26.34 which represents a 24.2% downside from the stock's current price of $34.76 (as of 12/14/18). We assigned a 50% weight to the highest DCF output ($30.06) because this method best reflects our thesis with stress-tested assumptions. The remaining 50% weight was split between two sets of comparables: one group of pure OM competitors and another group of firms with similar subscription-dependent business models.



Source: Team-Generated Excel Model

Discounted Cash Flow

Our DCF output is a 10-year forecast of free cash flow applied with a 13% cost of equity, 6% cost of debt (applied in 2024), and a 3% terminal growth rate (see the Financial Analysis section for revenue and debt assumptions). We did not use the capital asset pricing model to produce our DCF price. Rather, we chose a 13% cost of equity (reflecting comps such as Zillow and Netflix) to better reflect CARG's risk/return profile.

	0	1	2	3	4	5	6	7	8	9	10	11
In $000s	Sep-18	Sep-19	Sep-20	Sep-21	Sep-22	Sep-23	Sep-24	Sep-25	Sep-26	Sep-27	Sep-28	Sep-29
Operating Income	$6,953	$59,670	$121,284	$204,357	$307,857	$407,740	$543,752	$588,309	$632,857	$663,391	$695,644	$729,611
Tax Rate	-438.1%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%	27.4%
EBIAT	37,413	43,321	88,052	148,363	223,504	296,019	394,764	427,112	459,454	481,622	505,038	529,697
+D&A	4,890	7,133	10,194	14,085	12,632	14,081	15,487	16,175	16,304	16,111	15,660	14,158
-CapEx	(4,500)	(7,063)	(9,635)	(12,250)	(14,555)	(16,097)	(16,288)	(16,380)	(16,273)	(15,655)	(14,944)	(14,134)
+/- Working Capital	(21,133)	(18,265)	(25,597)	(26,066)	(22,169)	(14,204)	(10,796)	(14,349)	(13,747)	(9,330)	(9,245)	(10,771)
Free Cash Flow	**16,670**	**25,126**	**63,014**	**124,133**	**199,412**	**279,799**	**383,166**	**412,559**	**445,738**	**472,748**	**496,508**	**518,950**
Discounted Cash Flow	16,670	22,236	49,349	86,030	122,303	151,864	184,042	191,220	185,106	175,899	165,520	155,004
Terminal Value											1,800,051	
Enterprise Value											3,150,290	
Less: Debt											0	
Plus: Cash											141,800	
Equity Value											3,292,090	
Shares Outstanding											109,500	
Equity Value / Share											**$30.06**	
Current Price											$34.76	
Upside/(Downside)											(13.5%)	

Source: Team-Generated Excel Model

Comparable Companies Analysis

We split the comparable companies into two groups to represent pure auto-marketplace competitors as well as firms from other sectors with subscription-based models. Each comp-set's estimated share price holds a 25% weight in our final target price. The applied trading multiples include: EV/EBITDA, EV/Sales, Price/Earnings, and PEG. These four multiples are weighted equally in each comp-set's target price. After speaking with dealerships, it was clear that CARG is more effective at generating leads for used vehicles at a discount relative to other competing marketplaces. If only median multiples were applied to CARG's relative valuation, then the auto marketplace comp-set price would be $9.05. Given that more than two-thirds of dealers in our call sample would pay for CARG even if prices rose by 50%, we applied a 100th percentile within the comp-set (except for using an average on EV/Sales) to reflect that CARG should at least trade at the top of its direct competitors. This comp-set results in a price of $19.30.

Trading Comparables Model - Online Auto Marketplace

									EBITDA Margin		Profit Margin		Enterprise Value EBITDA		PEG		EV / Sales		Price / Earnings	
$ in millions	Exchange: Ticker	Share Price ($)	Shares Outstanding	Market Cap	(Cash)	Debt	Minority Interest	Enterprise Value	2018E	2019E	2018E	2019E	2018E	2019E	2018E	2019E	2018E	2019E	2018E	2019E
Cars.com Inc.	NYSE: CARS	$23.63	69.7	$1,648	($18)	$723	-	$2,352	34.2%	34.3%	21.5%	24.2%	10.3x	9.6x	0.1x	0.8x	3.5x	3.3x	11.5x	10.2x
TrueCar Inc.	NASDAQ: TRUE	$9.80	102.1	$1,000	($198)	$29	-	$831	10.3%	12.5%	4.2%	7.6%	22.3x	15.9x	(0.4x)	0.5x	2.3x	2.0x	65.3x	36.3x
Auto Trader Group Plc.	LON: AUTO	£448.30	9.4	$4,214	($4)	$341	-	$4,551	70.5%	71.2%	53.9%	59.3%	18.5x	17.2x	0.0x	2.0x	13.1x	12.3x	22.4x	20.4x
Average		$206.86	$47.65	$2,527.98	($56.12)	$338.91	-	$2,811	38.3%	39.3%	26.5%	30.4%	17.0x	14.2x	(0.1x)	1.1x	6.3x	5.8x	33.1x	22.3x
Median		$184.68	$39.57	$2,448.79	($11.35)	$301.81	-	$2,352	34.2%	34.3%	21.5%	24.2%	18.5x	15.9x	0.0x	0.8x	3.5x	3.3x	22.4x	20.4x
Cargurus	NASDAQ: CARG	$34.76	109.5	$3,806	($32)	$6.36	-	$3,780.8	3.0%	8.2%	5.7%	7.6%	283.2x	70.1x	(1.99x)	3.22x	8.6x	5.8x	151.1x	112.1x

Valuation	2019 EV/EBITDA	2019 EV/S	2019 P/E	2019 PEG	
Enterprise Value	$929	$3,837			
Cash and Equivalents	(32)	(32)			
Minority Interest	- -	- -			
Total Debt	6	6			
Fair Equity Value	954	3,863			
Shares Outstanding	109.5	109.5			
Expected Stock Price	$8.71	$35.27	$11.25	$21.97	
Weight	25%	25%	25%	25%	
Applied Percentile	100%	50%	100%	100%	
Fair Value Stock Price					$19.30
Current Stock Price					$34.76
Short Upside Potential					(44.5%)

Source: Team-Generated Excel Model

We also measured CARG against subscription-dependent businesses from other sectors. These peers were chosen to reflect a valuation comparison based on the growth prospects of similar business models. A 75th percentile was applied to each multiple within the business model-centric peer group (resulting in an estimated price of $25.92).

Trading Comparables Model - Business Model

$ in millions	Exchange: Ticker	Share Price ($)	Shares Outstanding	Market Cap	(Cash)	Debt	Minority Interest	Enterprise Value
Netflix	NASDAQ: NFLX	$266.84	436.1	$116,365	($3,068)	$8,337	-	$121,634
Salesforce	NYSE: CRM	$137.04	756.7	$103,698	($3,427)	$3,676	-	$103,947
TripAdvisor	NASDAQ: TRIP	$60.70	124.7	$7,572	($663)	$7	-	$6,916
Expedia	NASDAQ: EXPE	$118.36	136.7	$16,180	($3,564)	$3,727	$1,560	$17,903
Zillow Group Inc.	NASDAQ: Z	$32.38	203.2	$6,580	($1,646)	$715	-	$5,648
Average		$123.06	331.5	$50,079	($2,474)	$3,292	$312	$51,210
Median		$118.36	203.2	$16,180	($3,068)	$3,676	-	$17,903
Cargurus	NASDAQ: CARG	$34.76	109.5	$3,806	($32)	$6.36	-	$3,780.8

$ in millions	EBITDA Margin 2018E	EBITDA Margin 2019E	Profit Margin 2018E	Profit Margin 2019E	Enterprise Value / EBITDA 2018E	Enterprise Value / EBITDA 2019E	PEG 2018E	PEG 2019E	EV / Sales 2018E	EV / Sales 2019E	Price / Earnings 2018E	Price / Earnings 2019E
Netflix	8.8%	10.0%	8.4%	12.5%	86.9x	61.2x	13.9x	1.2x	7.7x	6.1x	87.5x	58.9x
Salesforce	24.1%	24.4%	14.5%	15.7%	32.7x	26.8x	0.2x	6.0x	7.9x	6.6x	54.4x	50.2x
TripAdvisor	25.7%	26.3%	13.2%	14.5%	16.7x	15.0x	0.5x	3.2x	4.3x	3.9x	35.5x	32.3x
Expedia	17.1%	17.5%	6.9%	8.0%	9.3x	8.3x	0.7x	1.1x	1.6x	1.4x	20.9x	18.0x
Zillow Group Inc.	15.3%	12.1%	6.5%	5.5%	28.0x	24.5x	(3.7x)	(6.3x)	4.3x	3.0x	77.1x	89.9x
Average	18.2%	18.1%	9.9%	11.2%	34.7x	27.2x	2.3x	1.1x	5.1x	4.2x	55.1x	49.9x
Median	17.1%	17.5%	8.4%	12.5%	28.0x	24.5x	0.5x	1.2x	4.3x	3.9x	54.4x	50.2x
Cargurus	3.0%	8.2%	5.7%	7.6%	283.2x	70.1x	(1.99x)	3.22x	8.6x	5.8x	151.1x	112.1x

Valuation	2019 EV/EBITDA	2019 EV/S	2019 P/E	2019 PEG	
Enterprise Value	$1,447	$4,022			
Cash and Equivalents	(32)	(32)			
Minority Interest	- -	- -			
Total Debt	6	6			
Fair Equity Value	1,472	4,048			
Shares Outstanding	109.5	109.5			
Expected Stock Price	$13.45	$36.97	$18.26	$35.02	
Weight	25%	25%	25%	25%	
Applied Percentile	75%	75%	75%	75%	
Fair Value Stock Price					$25.92
Current Stock Price					$34.76
Short Upside Potential					(25.4%)

Source: Team-Generated Excel Model

FINANCIAL ANALYSIS

Key Metrics and Revenue Build

CARG's value creation is derived from total available auto dealers and AARSD. We utilized a top-down approach, including a bull case (to represent favorable market conditions) and a base case (to analyze what we believe are more realistic targets), to estimate revenue by applying growth rates to dealer count and AARSD. The bull case was applied to our DCF to stress-test our valuation. Our primary research from conversations with dealerships informed these assumptions (Exhibit 9 includes the aggregated dealership revenue build created from these assumptions).

Revenue Build Assumptions - Bull		Base
Growth of Domestic Car Dealerships	2.0%	0.0%
Total Domestic Car Dealerships	43,000	43,000
Domestic Market Share % Gains	5.0%	2.0%
Total International Car Dealerships	55,000	55,000
International Market Share % Gains	10.0%	5.0%
Domestic Revenue/Dealer Growth	35.0%	25.0%
Domestic Revenue/Dealer Growth Step	7.0%	5.0%
International Revenue/Dealer Growth	5.0%	5.0%
Int'l Revenue/Dealer Growth Step	0.5%	0.2%
Growth in Adv. Revenue	1.0%	1.0%

Source: Team-Generated Excel Model

Both scenarios address annual-step projections for AARSD (domestic and international), and dealer market share. The bull case forecasts CARG attaining 85% market share in both the U.S. and foreign countries by 2026. The bullish scenario would occur if CARG pulls its pricing levers earlier and dealer price sensitivity decreases. We applied this case to our DCF. We also have international dealerships, market share, and AARSD, but the majority of total revenue comes from the U.S. dealerships. Our forecasted Income Statement, Balance Sheet, and Statement of Cash Flows can be found in Exhibits 11, 12, and 13.

Margins Analysis

In determining margins we assumed declining operating costs from LTM 2018 to our assumed maturity year (2024) when CARG will reach their long-run guidance. S&M expense is the biggest cost that CARG incurs. We assume a 4.50% annual decline in S&M costs before stopping at the 45% long-run rate. Our valuation implies that these guidance ranges are not achievable without a detrimental change to CARG's business model. CARG does not have the scalability to reduce S&M margin by 27% while remaining competitive with other marketplaces within a ten-year forecast. We stress-tested our valuation by using these guidance targets.

	Long-Run Margin Analysis				Long Run Rate
Component	2015	2016	2017	2018	
Gross Margin	96.0%	95.0%	94.0%	95.0%	94.0%
Sales & Marketing	83.0%	78.0%	74.0%	72.0%	45.0%
Technology	8.0%	6.0%	7.0%	11.0%	10.0%
G&A	6.0%	6.0%	7.0%	9.0%	5.5%
D&A	1.0%	1.0%	1.0%	1.0%	1.0%
Adjusted EBITDA Margin	**0.0%**	**6.0%**	**8.0%**	**8.0%**	**33.0%**
GAAP Operating Margin	-3.0%	4.0%	5.0%	1.0%	30.0%

Source: Team-Generated Excel Model

Long-term Growth Will Require CARG to Raise Debt

Although it is a debt-free company, CARG will have to raise debt to fund international expansion once domestic operating cash flows become vulnerable to prolonged cash burn. We used the debt history of Cars.com, Zillow, Netflix, Expedia, and TripAdvisor to model an influx of debt to fund similar levels of top-line growth and market penetration. Based on these comps, we applied a 6% cost of debt and a 7.0x debt service coverage ratio to include funds taken out in FY2024 (see Exhibit 14). Under these changes, the weighted average cost of capital decreases from 13% to 11.6% in 2024.

Sensitivities and Scenarios

We sensitized our target price calculation to account for growth rates, domestic/international market penetration, and domestic/international AARSD. The results are shown in Exhibits 5, 6, 7, and 8.

		Cost of Equity				
		10.0%	11.5%	13.0%	14.5%	16.0%
Growth Rate	4.50%	$53.89	$41.59	$33.53	$27.88	$23.70
	3.75%	$48.64	*$38.55*	*$31.63*	*$26.62*	$22.84
	3.00%	$44.65	*$36.12*	*$30.06*	*$25.56*	$22.10
	2.25%	$41.53	*$34.14*	*$28.75*	*$24.65*	$21.45
	1.50%	$39.01	$32.50	$27.63	$23.86	$20.88

		Long Run Year				
		4	5	6	7	8
Long Run SG&A	55.0%	$22.62	$21.95	$21.26	$20.57	$19.88
	50.0%	$27.32	*$26.50*	*$25.66*	*$24.82*	$23.98
	45.0%	$32.02	*$31.05*	*$30.06*	*$29.07*	$28.08
	40.0%	$36.71	*$35.61*	*$34.47*	*$33.32*	$32.17
	35.0%	$41.41	$40.16	$38.87	$37.57	$36.27

Source: Team-Generated Excel Model

INVESTMENT RISKS AND MITIGANTS

Int'l Penetration and Efficient S&M Spend Helps CARG Approach Long-Term Guidance:
CARG continues to burn operating cash in the process of international expansion. However, unprecedented growth in paying dealers within the next three years would accelerate EBITDA margins closer to management's long-term target of 33%.

- The dealership spending climate in Europe as well as cash burn in direct marketing efforts will not easily translate into higher margins in the near-term. The company is primarily focused on accumulating consumer traffic (e.g. through monthly unique users) and free dealers before worrying about free-to-paid conversions. These initiatives directed towards top-line growth opportunities reduce U.S. operating cash flow, which at this time limits the company's ability to invest in cost-saving procedures.

Increasing Dealership Budgets towards Digital Lead Management and Tools/Software:
The success of the CARG platform is in part dependent on the capacity for car dealerships and dealership groups to invest in higher-quality lead generation. CARG estimates that American car dealers spend $4.5B+ annually on software while the number of used cars sold annually on a peer-to-peer basis are ~11 million and counting. If both domestic and foreign car dealerships experience an allowance boost, CARG's potential AARSD rises as well which implies a higher fair value for the firm's stock.

- Given the current stage of the economic cycle, there is impending pressure for auto manufacturers to sell units and for dealers to maximize ROI on inventory. In an extreme case such as the 2008 recession, new car transaction volume fell ~24-25% while used car volume fell ~14%. Any decline in the automotive industry as a derivative of economic health will hinder CARG's paying dealer base and revenue growth. Declining top-line growth will negatively affect the investment narrative (and share price) for CARG.

CARG Invests in CRM Tools and Expands Product Mix after Enough Dealer Penetration:
After their Q3'18 earnings report, CARG announced partnerships with sales tracker vendors including vAuto, Clarivoy, and Vistadash in order to improve sales lead management for dealers. Future strategic undertakings can help CARG to innovate more dealer tools and expand the company's product mix. The upfront capital requirements pertaining to these kinds of software products help CARG to create offerings that can maintain higher margins over the long term.

- CARG is streamlining the usability of its application programming interface to help dealers attain a better per-sale ROI. If there are significant pricing upper-limits for dealers to invest in CARG's platform, then extensions to the firm's core operational service will be a detriment to maintaining high top-line growth in the long-term.

CORPORATE GOVERNANCE

CARG's Board of Directors is tasked with overseeing financial performance, reviewing and counseling management, determining executive compensation, approving long-term strategy and major decisions, reviewing risk, and considering methods to reduce internal risks. The Board of Directors consists of seven members, with one member being a founder-CEO (Langley Steinert) and six members being independent. However, Mr. Steinert controls ~73% of all voting power in the company (by owning 98% of Class B shares and 11% of Class A shares). Class B shares have 10 votes each versus one vote per Class A share. CARG is considered a "controlled company" under governance rules for Nasdaq-listed firms. Of the six independent board members, two have been associated with the CEO before CARG went public (Steve Kaufer, who co-founded TripAdvisor with Steinert, and Anastasios Parafestas, who oversees The Bollard Group LLC and Spinnaker Capital LLC which have invested in CARG previously). The company is still founder-run since Langley Steinert founded CARG in 2006. The firm's ownership structure indicates some entrenchment risk. Exhibit 3 details the management team's bios.

APPENDIX

Exhibit 1—Indexed CARG Stock Price vs. SPX and XLC (State Street Bank Communications ETF)

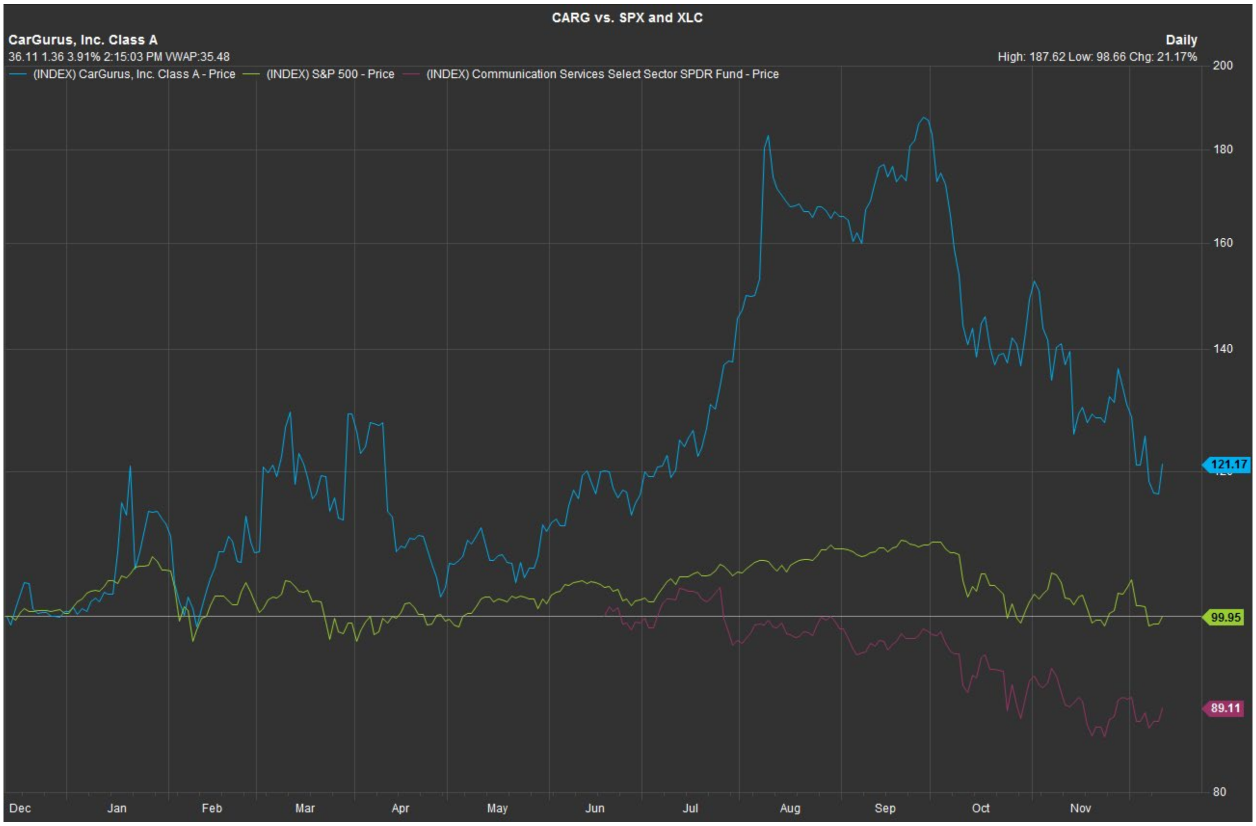


Exhibit 2—Institutional Holdings Summary *source: FactSet Charts on CARG*

Rank	Type	%OS	Position (000)	Pos Chg (000) [Recent]	Mkt Val (MM)	% Port	Activism	Report Date	Source
-	Total	87.36	78,078	9,295	2,578	-	-	-	-
-	Institutions	60.15	53,764	5,154	1,775	-	-	-	-
1	Fidelity Management & Research Co.	12.27	10,965	1,037	362	0.03	Very Low	09/30/2018	13F Form
2	T. Rowe Price Associates, Inc.	11.02	9,846	-783	325	0.04	Medium	09/30/2018	13F Form
3	Manulife Asset Management (US) LLC	8.06	7,208	-477	238	0.29	Very Low	09/30/2018	13F Form
4	Matrix Capital Management Co. LP	5.37	4,801	0	159	4.64	Very Low	09/30/2018	13F Form
5	The Vanguard Group, Inc.	4.94	4,417	752	146	0.00	Very Low	09/30/2018	13F Form
6	Hound Partners LLC	3.83	3,426	3,426	113	3.09	Very Low	09/30/2018	13F Form
7	BlackRock Fund Advisors	3.06	2,739	466	90	0.00	Low	09/30/2018	13F Form
8	Cat Rock Capital Management LP	3.05	2,728	152	90	15.32	Very Low	09/30/2018	13F Form
9	Allen Holding, Inc.	2.06	1,841	-1,324	61	7.50	Very Low	09/30/2018	13F Form
10	The Bollard Group LLC	1.96	1,751	-374	58	2.65	Very Low	09/30/2018	13F Form
11	Wellington Management Co. LLP	1.12	999	999	33	0.01	Very Low	09/30/2018	13F Form
12	SSgA Funds Management, Inc.	1.01	903	108	30	0.00	Very Low	09/30/2018	13F Form
13	Two Sigma Advisers LP	0.87	776	510	26	0.07	Very Low	09/30/2018	13F Form
14	Geode Capital Management LLC	0.81	725	459	24	0.01	Very Low	09/30/2018	13F Form
15	Two Sigma Investments LP	0.71	639	202	21	0.08	Very Low	09/30/2018	13F Form

Exhibit 3—Management Bios *source: CarGurus Website*

CARG's executive team is founder-driven and has considerable experience in the automotive and IT industry. The team has effectively improved the company's market penetration and dealer subscription revenues while directing most cash flows to growth initiatives.

Langley Steinert--Founder, Chairman and CEO
Langley Steinert founded CARG in 2006 with a vision for helping automotive shoppers better navigate their car search. Since then, the company has grown to become a leading global automotive marketplace, helping millions of shoppers find great car deals and connect with top-rated dealers. Prior to founding CARG, Steinert was co-founder and Chairman of TripAdvisor, Inc. an online travel marketplace. He also held management roles at Viaweb (sold to Yahoo! Inc.), Papyrus, and Lotus Development Corp. Steinert holds an MBA from the Tuck School at Dartmouth College and a BA from Georgetown University.

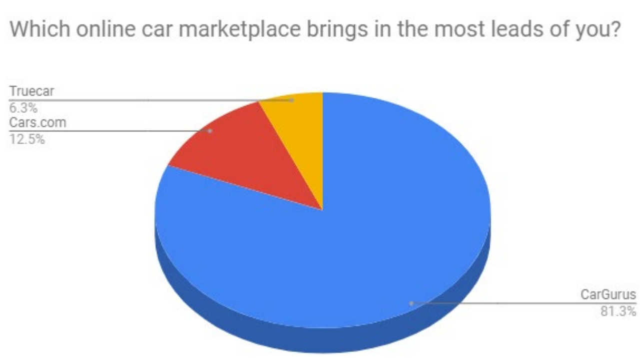
Oliver Chrzan--Chief Technology Officer
Prior to joining CARG, Chrzan worked as a Senior Technical Lead at Dovel Technologies in McLean, VA. At Dovel, Chrzan worked on large information systems for various U.S. Government Agencies. Prior to Dovel, Chrzan worked at Raytheon on several Department of Defense projects including the Patriot Missile System and DDG 1000. Chrzan possesses a BS in Computer Science from Cornell University.

Jason Trevisan--Chief Financial Officer
Prior to CARG, Trevisan was with Polaris Partners for twelve years, serving as a General Partner since 2010. While at Polaris, Jason led and supported investments and served on the boards of Internet and SaaS companies including Legalzoom, Shoedazzle, Life Line Screening, PartsSource and Art.com among others. Prior to Polaris, he held various management roles in Analytics and Client Services at aQuantive (acquired by Microsoft). Earlier in his career he was a consultant with Bain & Company. Trevisan received his MBA with Distinction from The Tuck School at Dartmouth graduating as an Edward Tuck Scholar and a BA with honors from Duke University.

Sam Zales--Chief Operating Officer
Most recently, Zales was Chief Executive Officer of ClickSquared, a marketing software company that was acquired by Zeta Interactive in January, 2014. Prior to ClickSquared, Zales was President of Zoom Information where he led day-to-day operations and oversaw the company's growth strategy into the marketing services and sales intelligence arenas. Prior to ZoomInfo, Zales was President and CEO of BuyerZone.com, an online marketplace for business purchasing which he led from early stage through six years of monthly growth in revenue and profitability to its successful acquisition by Reed Elsevier (NYSE: RUK) in 2007. Zales holds an MBA with distinction from Kellogg (Northwestern University) and a BA with honors from Dartmouth College.

Kathleen Patton--SVP, General Counsel
Before joining CARG, Kathleen served as the Senior Vice President, General Counsel and Secretary of Demandware, Inc., a provider of enterprise-class cloud commerce solutions for retailers and branded manufacturers. Prior to Demandware, she was Associate General Counsel at Stream Global Services, Inc., a leading business process outsource service provider specializing in customer relationship management. Kathleen has also held senior leadership positions at law firms including Brown Rudnick, Day Pitney and McDermott, Will & Emery. Kathleen earned an A.B. from Dartmouth College and a J.D. from Georgetown University Law Center.

Exhibit 4—Primary Research Data (N=21)



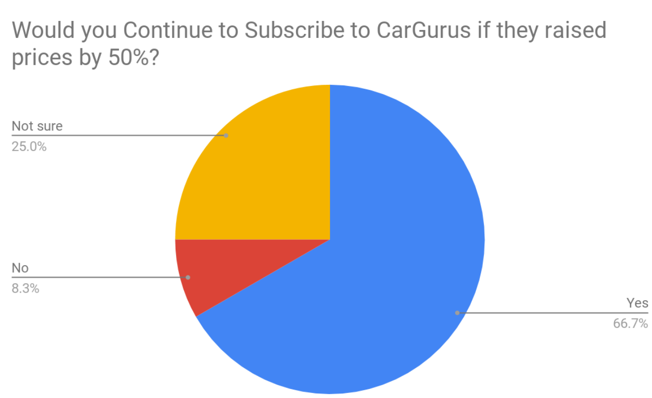


Exhibit 5—Growth Rate vs. Cost of Equity Target Price Sensitivity

	Cost of Equity				
Growth Rate	10.0%	11.5%	13.0%	14.5%	16.0%
4.50%	$53.89	$41.59	$33.53	$27.88	$23.70
3.75%	$48.64	*$38.55*	*$31.63*	*$26.62*	$22.84
3.00%	$44.65	*$36.12*	*$30.06*	*$25.56*	$22.10
2.25%	$41.53	*$34.14*	*$28.75*	*$24.65*	$21.45
1.50%	$39.01	$32.50	$27.63	$23.86	$20.88

Exhibit 6—U.S. Market Share vs. U.S. Market Size Target Price Sensitivity

	US Market Size				
US Market Share	-5.0%	-2.5%	0.0%	2.5%	5.0%
-10.0%	$10.60	$11.31	$12.16	$13.18	$14.40
-5.0%	$18.03	*$20.79*	*$24.21*	*$28.44*	$33.66
0.0%	$21.77	*$25.47*	*$30.06*	*$35.75*	$42.78
5.0%	$22.78	*$26.71*	*$31.58*	*$37.61*	$45.06
10.0%	$23.71	$27.86	$33.00	$39.37	$47.24

Exhibit 7—Int'l Market Share vs. Int'l Market Size Target Price Sensitivity

	Int'l Market Size				
Int'l Market Share	-10.0%	-5.0%	0.0%	5.0%	10.0%
-10.0%	$25.68	$25.68	$25.68	$25.68	$25.68
-5.0%	$28.11	*$28.25*	*$28.38*	*$28.52*	$28.65
0.0%	$29.60	*$29.83*	*$30.06*	*$30.30*	$30.53
10.0%	$30.50	*$30.79*	*$31.08*	*$31.36*	$31.65
15.0%	$30.84	$31.15	$31.46	$31.76	$32.07

Exhibit 8—Int'l AARSD vs. U.S. AARSD Target Price Sensitivity

		US AARSD				
		-5.0%	-2.5%	0.0%	2.5%	5.0%
Int'l AARSD	-10.0%	$18.88	$22.58	$27.17	$32.86	$39.89
	-5.0%	$20.01	*$23.71*	*$28.30*	*$33.99*	$41.01
	0.0%	$21.77	*$25.47*	*$30.06*	*$35.75*	$42.78
	10.0%	$28.64	*$32.34*	*$36.94*	*$42.62*	$49.65
	15.0%	$34.87	$38.57	$43.17	$48.85	$55.88

Exhibit 9—Dealership Revenue Build

Revenue Build	Sep-18	Sep-19	Sep-20	Sep-21	Sep-22	Sep-23	Sep-24	Sep-25	Sep-26	Sep-27	Sep-28	Sep-29
Total Domestic Dealers	43,000	43,860	44,737	45,632	46,545	47,475	48,425	49,393	50,381	51,389	52,417	53,465
CARG U.S. Dealer Share	27,128	29,864	32,698	35,633	38,673	40,354	41,161	41,984	42,824	43,681	44,554	45,445
Market Share %	*63.1%*	*68.1%*	*73.1%*	*78.1%*	*83.1%*	*85.0%*	*85.0%*	*85.0%*	*85.0%*	*85.0%*	*85.0%*	*85.0%*
CARG Int'l Dealer Share	3,465	8,965	14,465	19,965	25,465	30,965	36,465	41,965	46,750	46,750	46,750	46,750
Market Share %	*6.3%*	*16.3%*	*26.3%*	*36.3%*	*46.3%*	*56.3%*	*66.3%*	*76.3%*	*85.0%*	*85.0%*	*85.0%*	*85.0%*
Total Dealers	**30,593**	**38,829**	**47,163**	**55,598**	**64,138**	**71,319**	**77,626**	**83,949**	**89,574**	**90,431**	**91,304**	**92,195**
Revenue per Domestic Dealer	**13,993**	**17,911**	**21,672**	**24,706**	**26,436**	**27,229**	**28,046**	**28,887**	**29,754**	**30,647**	**31,566**	**32,513**
Revenue per Domestic Dealer Growth %	*35.0%*	*28.0%*	*21.0%*	*14.0%*	*7.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
Revenue per International Dealer	**4,820**	**5,037**	**5,238**	**5,422**	**5,584**	**5,752**	**5,924**	**6,102**	**6,285**	**6,474**	**6,668**	**6,868**
Revenue per Int'l Dealer Growth %	*5.0%*	*4.5%*	*4.0%*	*3.5%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
US Dealer Revenue	**379,602,104**	**534,887,418**	**708,636,083**	**880,372,292**	**1,022,360,816**	**1,098,804,092**	**1,154,403,579**	**1,212,816,400**	**1,274,184,910**	**1,338,658,666**	**1,406,394,794**	**1,477,558,371**
% Total Dealer Revenue	*95.8%*	*92.2%*	*90.3%*	*89.1%*	*87.8%*	*86.1%*	*84.2%*	*82.6%*	*81.3%*	*81.6%*	*81.9%*	*82.1%*
International Dealer Revenue	**16,701,300**	**45,155,809**	**75,773,109**	**108,244,623**	**142,206,001**	**178,107,641**	**216,035,394**	**256,078,516**	**293,835,833**	**302,650,908**	**311,730,435**	**321,082,348**
% Total Dealer Revenue	*4.2%*	*7.8%*	*9.7%*	*10.9%*	*12.2%*	*13.9%*	*15.8%*	*17.4%*	*18.7%*	*18.4%*	*18.1%*	*17.9%*
Total Dealer Revenue	**396,303,404**	**580,043,226**	**784,409,191**	**988,616,915**	**1,164,566,817**	**1,276,911,733**	**1,370,438,973**	**1,468,894,916**	**1,568,020,743**	**1,641,309,574**	**1,718,125,230**	**1,798,640,719**
Advertising Revenue	48,673,963	77,041,310	112,029,278	151,080,384	189,614,706	220,675,817	250,543,579	283,232,238	313,604,149	328,261,915	343,625,046	359,728,144
Advertising Revenue as % of Dealer Revenue	*12.3%*	*13.3%*	*14.3%*	*15.3%*	*16.3%*	*17.3%*	*18.3%*	*19.3%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*
Revenue	**444,977,367**	**657,084,536**	**896,438,470**	**1,139,697,298**	**1,354,181,523**	**1,497,587,549**	**1,620,982,552**	**1,752,127,154**	**1,881,624,891**	**1,969,571,489**	**2,061,750,276**	**2,158,368,863**

Exhibit 10—Greenlight Q3 Letter Excerpt on Tech Valuations *Source: Greenlight Capital's Q3 Investor Letter*

The current market view is that profitless companies with 20-30% top-line growth are worth 12x-15x revenues, while profitable companies that lack that level of opportunity are worth only 5x-8x after tax earnings. As an arithmetic exercise, if you pay 12x revenues for a company that eventually makes a 10% after tax margin and trades at a 20x P/E, the company has to sustain a 25% growth rate for 8 years for you to break even, and for 12 years for you to make an 8% IRR (requiring 15x revenue growth). If the company is increasing the share count by paying employees in stock, the math gets worse.

Tech bulls respond by asking, "What if the margins turn out to be 30%?" We looked for examples of companies that spent years with profitless topline growth that developed into 30% net margin businesses. It turns out that businesses that matured into very high margin businesses generally demonstrated strong margins at relatively low revenue levels. We think that right now the market is valuing a large group of stocks on nothing more than a hope (sometimes termed "management's long-term guidance") of 30% margins *someday*, with an emphasis that no one can be expected to know when *someday* arrives. We think *someday sooner* these stocks will de-rate.

Exhibit 11—Forecasted Income Statement

Forecasted Income Statement Bull Case	0	1	2	3	4	5
In $000s	Sep-18	Sep-19	Sep-20	Sep-21	Sep-22	Sep-23
Revenue	$418,665.0	$657,084.5	$896,438.5	$1,139,697.3	$1,354,181.5	$1,497,587.5
Revenue Growth %		56.9%	36.4%	27.1%	18.8%	10.6%
Cost of Revenue	23,182.0	32,854.2	44,821.9	56,984.9	67,709.1	74,879.4
Gross Profit	**395,483.0**	**624,230.3**	**851,616.5**	**1,082,712.4**	**1,286,472.4**	**1,422,708.2**
Gross Margin	***95.0%***	***95.0%***	***95.0%***	***95.0%***	***95.0%***	***95.0%***
Operating Expenses:						
Sales and Marketing	304,978.0	443,532.1	564,756.2	666,722.9	731,258.0	741,305.8
Margin %	*72.0%*	*67.5%*	*63.0%*	*58.5%*	*54.0%*	*49.5%*
Technology	42,030.0	72,279.3	98,608.2	125,366.7	148,960.0	164,734.6
Margin %	*11.0%*	*11.0%*	*11.0%*	*11.0%*	*11.0%*	*11.0%*
G&A	36,632.0	41,615.4	56,774.4	72,180.8	85,764.8	94,847.2
Margin %	*9.0%*	*6.3%*	*6.3%*	*6.3%*	*6.3%*	*6.3%*
D&A	4,890.0	7,133.3	10,193.9	14,084.9	12,632.5	14,081.0
Margin %	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*	*1.0%*
Total Operating Expenses	**388,530.0**	**564,560.1**	**730,332.8**	**878,355.3**	**978,615.3**	**1,014,968.7**
Operating Income	**6,953.0**	**59,670.2**	**121,283.8**	**204,357.1**	**307,857.2**	**407,739.5**
Operating Margin %	1.7%	9.1%	13.5%	17.9%	22.7%	27.2%
Other Income, net	(1,826)	(1,826)	(1,826)	(1,826)	(1,826)	(1,826)
Interest Expense	0.0	0.0	0.0	0.0	0.0	0.0
Pretax Income	8,779.0	61,496.2	123,109.8	206,183.1	309,683.2	409,565.5
Tax Provision (Benefit)	(38,459.0)	16,850.0	33,732.1	56,494.2	84,853.2	112,220.9
Tax Rate	*-438.1%*	*27.4%*	*27.4%*	*27.4%*	*27.4%*	*27.4%*
Net Income	**$47,238.0**	**$44,646.3**	**$89,377.7**	**$149,688.9**	**$224,830.0**	**$297,344.6**
EPS	$0.43	$0.41	$0.82	$1.37	$2.05	$2.72
Fully Diluted Share Count	109.5	109.5	109.5	109.5	109.5	109.5
EBITDA	**11,843.0**	**66,803.6**	**131,477.6**	**218,442.0**	**320,489.6**	**421,820.5**
EBITDA Margin %	2.8%	10.2%	14.7%	19.2%	23.7%	28.2%

Exhibit 12—Forecasted Balance Sheet

Forecasted Balance Sheet *In $000s*	0 Sep-18	1 Sep-19	2 Sep-20	3 Sep-21	4 Sep-22	5 Sep-23
Check	-	-	-	-	-	-
ASSETS						
Cash And Equivalents	77,642	139,279	247,102	416,717	654,979	960,048
Short Term Investments	70,000	70,000	70,000	70,000	70,000	70,000
Total Cash & ST Investments	147,642	209,279	317,102	486,717	724,979	1,030,048
Accounts Receivable	12,565	13,509	18,380	23,431	27,841	30,789
Prepaid Exp.	8,227	11,386	14,729	17,714	19,736	20,469
Other Current Assets	7,201	11,302	15,419	19,603	23,292	25,758
Total Current Assets	175,635	245,476	365,628	547,465	795,848	1,107,064
Gross Property, Plant & Equipment	27,988	35,051	44,686	56,936	71,491	87,588
Accumulated Depreciation	(10,356)	(17,489)	(27,683)	(41,768)	(54,401)	(68,482)
Net Property, Plant & Equipment	17,632	17,561	17,003	15,168	17,091	19,106
Deferred Tax Assets, LT	36,985	36,985	36,985	36,985	36,985	36,985
Restricted Cash	3,656	3,656	3,656	3,656	3,656	3,656
Other Long-Term Assets	136	136	136	136	136	136
Total Assets	**$234,044.0**	**$303,813.9**	**$423,408.2**	**$603,409.6**	**$853,715.4**	**$1,166,947.7**
LIABILITIES						
Accounts Payable	34,046	48,214	65,596	83,625	99,363	109,885
Accrued Exp.	12,372	17,977	23,256	27,970	31,162	32,320
Deferred Revenue	7,685	12,061	16,455	20,920	24,857	27,490
Deferred Rent	1,326	1,506	2,055	2,613	3,105	3,433
Total Current Liabilities	55,429	79,759	107,363	135,128	158,487	173,128
Def. Rent, Non-Curr.	6,943	7,737	10,350	12,897	15,014	16,260
Other Non-Current Liabilities	1,244	1,244	1,244	1,244	1,244	1,244
Total Liabilities	63,616	88,740	118,956	149,269	174,745	190,632
EQUITY						
Common Stock - Class A	89	89	89	89	89	89
Common Stock - Class B	21	21	21	21	21	21
Additional Paid In Capital	181,630	181,630	181,630	181,630	181,630	181,630
Treasury Stock	-	-	-	-	-	-
Comprehensive Inc. and Other	136	136	136	136	136	136
Retained Earnings	(11,448)	33,198	122,576	272,265	497,095	794,439
Total Equity	170,428	215,074	304,452	454,141	678,971	976,315
Total Liabilities And Equity	**$234,044.0**	**$303,813.9**	**$423,408.2**	**$603,409.6**	**$853,715.4**	**$1,166,947.7**

Exhibit 13—Forecasted Statement of Cash Flows

Forecasted Statement of Cash Flows *In $000s*	0 Sep-18	1 Sep-19	2 Sep-20	3 Sep-21	4 Sep-22	5 Sep-23
Net Income		44,646	89,378	149,689	224,830	297,345
Depreciation and Amortization		7,133	10,194	14,085	12,632	14,081
Unrealized Currency (Gain)/losses		-	-	-	-	-
Deferred Taxes		-	-	-	-	-
Provision for Doubtful Accounts		-	-	-	-	-
Stock Based Compenstiaon Expense		-	-	-	-	-
Changes in Operating Assets and Liabilities						
Change in Accounts Receivable		(944)	(4,871)	(5,052)	(4,410)	(2,948)
Change in Ppd,. Expenses & Ppd. Income taxes		(3,159)	(3,343)	(2,985)	(2,022)	(733)
Change Other Current Assets		(4,101)	(4,117)	(4,184)	(3,689)	(2,467)
Change in Accounts Payable		14,168	17,383	18,029	15,738	10,522
Change in Accrued Expenses		5,605	5,279	4,713	3,193	1,158
Change in Deferred Revenue		4,376	4,394	4,465	3,937	2,632
Change in Deferred Rent		180	549	558	492	329
Net Cash from Operating Activities		67,906	114,845	179,318	250,701	319,919
Purchases of property and equipment		(4,395)	(5,995)	(7,622)	(9,057)	(10,016)
Capitalization of website development costs		(2,668)	(3,640)	(4,628)	(5,499)	(6,081)
Change in LT Def. Rent		794	2,613	2,547	2,117	1,247
Net Cash from Investing Activities		(6,269)	(7,023)	(9,703)	(12,439)	(14,850)
Net Cash from Financing Activities		-	-	-	-	-
Change in Cash Balance		61,637	107,822	169,616	238,262	305,069

Exhibit 14—Debt Computation

Company	Ticker	Date	Principal	Revenue at Raise	EBITDA Margin at Debt Raise	Leverage Ratio	Cost of Financing	Type	Coverage Ratio	Term	Maturity Date
Cars.com	CARS	31-May-17	583.8	626.3	35.6%	2.62x	5.30%	Floating	7.2x	5	31-Jul-24
Zillow	ZG	1-Dec-16	357.2	227.6	-10.0%	-15.69x	2.00%	Senior Convertible	-3.2x	5	1-Dec-21
Netflix	NFLX	1-Nov-09	200.0	1670.0	26.6%	0.45x	8.50%	Senior Unsecured	26.2x	5	1-Nov-17
Expedia	EXPE								7.2x	5	
TripAdvisor	TRIP								29.3x	5	

EBITDA	559,239.0
DSCR	7.0x
Principal	1,331,521.4
Leverage Ratio	2.4x
Amort?	I/O
Cost of Debt	6.0%
Term	5.0
Debt Issuance Date	9/30/2024
Maturity Date	9/30/2029

Exhibit 15—IRR Calculations

	0	1	2	3	4	5	6	7	8	9	10
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Market Capitalization	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220
Enterprise Value	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220	3,806,220
Operations:											
Revenue		657,084.5	896,438.5	1,139,697.3	1,354,181.5	1,497,587.5	1,620,982.6	1,752,127.2	1,881,624.9	1,969,571.5	2,061,750.3
Revenue Growth%			*36.43%*	*27.14%*	*18.82%*	*10.59%*	*8.24%*	*8.09%*	*7.39%*	*4.67%*	*4.68%*
Net Earnings		44,646.3	89,377.7	149,688.9	224,830.0	297,344.6	396,089.7	428,438.0	460,779.9	482,947.4	506,363.3
Net Margin %		*6.8%*	*10.0%*	*13.1%*	*16.6%*	*19.9%*	*24.4%*	*24.5%*	*24.5%*	*24.5%*	*24.6%*
EV/Revenue		**5.8x**	**4.2x**	**3.3x**	**2.8x**	**2.5x**	**2.3x**	**2.2x**	**2.0x**	**1.9x**	**1.8x**
P/E		**85.3x**	**42.6x**	**25.4x**	**16.9x**	**12.8x**	**9.6x**	**8.9x**	**8.3x**	**7.9x**	**7.5x**
Capital Event:											
Purchase Price	(3,806,220)										
Dividends		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exit Proceeds											9,114,539
Cash Inflows (Outflows	**-$3,806,220**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$9,114,539**
IRR		**9.12%**									

Exit Multiple	**18.0x**
Current Price	**$34.76**

Exhibit 16—Discount Rate Assumptions

Assumptions	
Cost of Equity	13.0%
Cost of Debt	6.0%
% Equity	80.2%
% Debt	19.8%
Static WACC	13.0%
Dynamic WACC	11.6%
Terminal Growth Rate	3.0%

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