(RDFN)

Investment Thesis

- The U.S. real estate brokerage industry is large and highly fragmented, but commissions paid to agents have not faced similar competitive pressures from technological innovation as experienced in other industries.

- Redfin is lowering the frictional costs of the real estate transaction by offering an end-to-end real estate services platform by integrating its web portal, brokerage, and ancillary businesses. It employs agents on a full-time basis and funnels demand to agents generated from its website which increases agent productivity and provides them the ability to focus on customer service instead of prospecting or demand. Further efficiencies are achieved by pursuing a team approach to helping customers throughout the transaction, integrating with ancillary service offerings, and consistently investing in technologies that remove frictional costs throughout the transaction.

- Most traditional brokerages are focused on serving real estate agents by maintaining the status quo of high commissions. Redfin is building a flywheel focused on the end-consumer. As Redfin lowers transaction costs through integrated technologies and grows transaction volume/market share, it benefits from scale efficiencies which are then passed on to customers through lower commissions, driving further demand and scale efficiencies.

- Current valuation looks very attractive. Despite consistent historic growth and building the infrastructure for continued growth into the future, Redfin sells for 13x its trailing Real Estate Services gross profits, below its historic average of 18x. Even if one assumes future growth rates are below historic trends (despite still having a long runway with only having ~1% market share) and that operating costs will benefit from scale advantages, it could provide a 10-year expected IRR in the high teens to low twenties.

Industry Background

~$2 trillion of the estimated $36 trillion in U.S. residential property will be bought/sold in 2021, and ~5-7 million of the ~120 million housing units transact each year.

During a transaction, ~90% of homeowners hire a real estate agent to help them buy/sell a home because it can be a complicated/cumbersome process. It is a high-risk transaction, typically the single most valuable asset, and an infrequent event occurring about every 10 years for the average homeowner. In exchange for a real estate agent's services, sellers and buyers each typically pay a commission of 2.5%-3.0% of the sale price of the home, totaling 5-6% commission on a transaction, providing an estimated ~$100B in commissions paid to agents and their brokerages in 2021.

As a result of technology and largely the onset of the internet, intermediaries in many other industries, such as media/newspapers/magazines (Google, Facebook), retail (Amazon), stock brokerages (Charles Schwab), travel agents (Expedia, Priceline), taxis (Uber), or used car dealerships (Carvana), have either faced disintermediation or transaction fees have been competed down.

It seems strange that the 2.5%-3.0% commission paid to the real estate agents has remained persistently high and uniform despite internet technology that helps disseminate information in what appears to be a highly fragmented industry. There are over 3 million active licensed real estate agents who work as independent contractors and split their commission with one of the ~130,000 real estate brokerages.

In the U.S. the supply of homes, or at least access to the data for the supply of homes, has been kept and controlled by Multiple Listing Services (MLSs). MLSs originally started in the late 1800s as local exchanges where brokerages and their agents gathered to share information about properties they were trying to sell. Brokerages that were members of an MLS agreed to tell each other about properties for sale and then compensate other agents a certain commission for those who helped sell those properties by finding a willing buyer.

MLSs essentially became local natural monopolies that controlled access to the supply of homes for sale in a certain geography. Buyers typically go to the MLS as the first and often only source of inventory. For that reason, sellers list on the local MLS due to the source of potential buyers with ~90% of homes transacted each year being listed on their local MLS. If a home seller wanted to increase access to demand to try and get the highest price for their home, they had to hire an agent to list their property on the local MLS. Buyers had to hire an agent to get access to the data on homes available for sale.

There is no single authoritative MLS but the National Association of Realtors (NAR) governs and sets standards for most of the ~800 MLSs spread across the U.S. MLSs are private entities typically owned and operated by individual REALTOR® associations or independent cooperatives of real estate brokerages. As an aside, one can look no further than the financials of publicly traded Costar Group Inc (CSGP) for an example of the power of the MLS. Costar is essentially the commercial property equivalent to the MLS but on a nationwide scale vs. the highly fragmented MLSs.

In order for brokerages and their agents to get access to supply, they had to join the local MLS. The local MLS requires the listing agent to bundle the commission payment for both the seller and the buyer and therefore set the commission rate paid to the buyer's agent. Structurally, the seller pays the entire commission based on the selling price of a home and then sends the buyer agent's commission through the escrow process after the sale. This prevents price competition among agents by preventing the buyer's ability to negotiate commission rates since they are already baked into the seller's contract. Buyers become less price-sensitive towards commission since they are removed from directly paying the commission out of their pocket.

While agent commission rates are technically negotiable, a study performed by the Consumer Federation of American found that rates are fairly uniform within each metropolitan area, with commission splits received by the buyer agent even more uniform. Rates are typically determined by the brokerage and not the agent, but the study found that nearly three-quarters of agents are not willing to negotiate their commission.

Last July the Department of Justice backed out of a settlement with the NAR requiring sellers' agents to publicly disclose the commission they offer buyers' agents for properties listed on the MLS. The DOJ is still expected to push for greater commission transparency but is also investigating other potential anticompetitive real estate industry practices such as the bundling of the buyers fee into the listing contract. While no further updates have been provided, if the DOJ is successful in increasing commission transparency and unbundling the buyers fee, it would likely make buyers more price sensitive and favor any brokerage that already operates as a low-cost provider and charges industry low prices relative to competitors.

Traditional Brokerage/Agent Model

Historically there has been little differentiation or benefits from economies of scale between traditional brokerages. The local MLS provides participating brokers with similar access to inventory, similar geographical reach in each locality, charges uniform commission rates, uses the same third-party customer relationship software, and typically follows the same agent contractor business model. There may be some name brand recognition from franchisors or more established local brokerages within certain areas, however, customers often pick the agent not through brokerage brand recognition, but by the reputation of the individual agent often referenced to by a family member or friend. This lack of differentiation or relative competitive advantages leads to high fragmentation with over 130,000 brokerages across the U.S.

Traditional brokerages typically operate either independently or as franchisees affiliated with national or local brands such as RE/MAX, Keller Williams, Century 21, Coldwell Banker, etc. Below is a list of the top 10 brokerages which made up ~20% of 2020 real estate transaction volumes. The brokerages below do not include franchisee sales for companies that have franchising businesses. Realogy Brokerage Group is the largest brokerage with 5% market share.

	Brokerage	2020 Sales Volume ($ billions)	Share
1	Realogy Brokerage Group	$184.6	5.0%
2	Homeservices of America	$152.2	4.1%
3	Compass	$151.7	4.1%
4	eXp Realty	$72.2	2.0%
5	Redfin	$37.4	1.0%
6	Douglas Elliman	$29.0	0.8%
7	Howard Hannah / Allen Tate	$27.3	0.7%
8	Weichert Realtors	$18.0	0.5%
9	William Raveis Real Estate	$16.2	0.4%
10	Home Smart	$15.8	0.4%
	Top 10 Total	$704.4	19.0%
	Total U.S. Sales Volume	$3,700.0	100.0%

Source: Realestatealmanac.com

The list below includes real estate sales based on the enterprise level, which includes the holding companies that can own a brokerage company, a franchisor, or both. A franchisor such as Realogy Holdings, which owns Century21, Coldwell Banker, Corcoran, Sotheby's, and better Homes and Gardens, can own multiple individual franchise brands. Companies such as Keller Williams and RE/MAX are almost solely franchisors and do not own/operate their own brokerages.

	Company	2020 Sales Volume ($ billions)	Share
1	Realogy Holdings Corp.	$571.9	15.5%
2	Keller Williams Realty	$387.6	10.5%
3	RE/MAX	$294.2	8.0%
4	HomeServices of America	$239.0	6.5%
5	Compass	$151.7	4.1%
6	eXp World Holdings	$72.2	2.0%
7	Windermere Real Estate	$40.7	1.1%
8	Redfin	$37.4	1.0%
9	Weichert	$34.0	0.9%
10	Realty One Group	$31.5	0.9%
	Top 10 Total	$1,860.0	50%
	Total	$3,700.0	100%

Source: Realestatealmanac.com

For an industry where commission rates are fairly uniform and not as susceptible to pricing competition, the brokerages and franchisors do not appear to significantly benefit financially. Realogy's revenues and gross profits have grown at a modest rate over the last decade with mid-single digit operating margins.

Realogy ($M)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021E	5 Yr CAGR
Sales	4,672	5,289	5,328	5,706	5,810	6,114	6,079	5,598	6,221	7,799	6.1%
Commission & Agent expenses	2,319	2,691	2,755	2,931	2,945	3,230	3,282	3,156	3,527		
Operating expenses	1,313	1,371	1,350	1,458	1,542	1,544	1,548	1,345	1,473		
Marketing	190	199	214	226	241	261	258	262	215		
Gross Profit	850	1,028	1,009	1,091	1,082	1,079	991	835	1,006	1,275	3.3%
Other Opex	500	503	512	550	560	570	592	565	768		
EBIT	350	525	497	542	523	509	399	271	238	649	4.4%
Margins											
Commission & Agent expenses	50%	51%	52%	51%	51%	53%	54%	56%	57%		
Operating	28%	26%	25%	26%	27%	25%	25%	24%	24%		
Marketing	4%	4%	4%	4%	4%	4%	4%	5%	3%		
Gross Profit	18%	19%	19%	19%	19%	18%	16%	15%	16%	16%	
EBIT	7%	10%	9%	9%	9%	8%	7%	5%	4%	8%	

Source: Company fillings, Factset

Other companies such as RE/MAX, charge agents a fixed fee and let them keep closer to 95% of commissions, allowing highly productive agents to make more money compared to the traditional model. RE/MAX is 100% franchised therefore does not operate any of its own brokerages offering agents support in brand, marketing & training. Rather than the brokerage determining commission rates, agents are able to set their own rates with clients.

RE/MAX ($M)	2013	2014	2015	2016	2017	2018	2019	2020	2021E	5 Yr CAGR
Sales	158.9	171.0	176.9	176.3	195.9	212.6	282.3	266.0	329.3	13%
Opex	96.0	107.1	102.7	103.9	95.8	134.7	213.9	228.0	314.1	
Operating Income	62.9	63.8	74.2	72.4	100.1	77.9	68.4	38.0	15.3	-27%
Operating Margin	40%	37%	42%	41%	51%	37%	24%	14%	5%	

Source: Company filings, Factset

Real estate agents, as a whole, are also not benefitting from elevated commission rates because there is an oversupply of agents relative to demand. Since nearly all brokerages hire agents as contractors there is relatively little risk in adding a new agent. Since there are relatively low barriers to entry to becoming a real estate agent, it has led to an excess of agents relative to the demand for their services. There are over 3 million active real estate agents and ~1.6 million who are registered with the NAR. That compares to ~6.2 million existing home sales expected in 2021 and ~1.1 million homes currently available for sale. There are ~2 existing home sales a year for every registered agent and ~3 registered agents for every home that is available for sale.

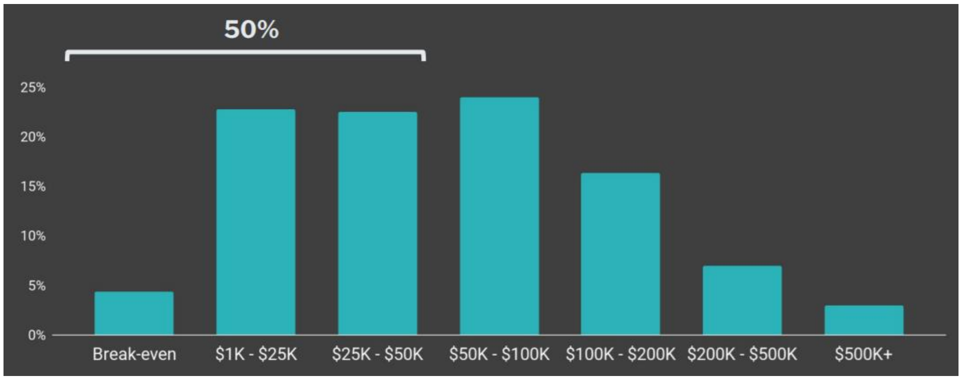
Commissions are spread across too many agents. Data from the NAR finds that the typical member agent closes 10 transactions a year and the industry average transactions per agent also skews heavily towards longer tenured, top-performing agents. In a survey performed by Redfin, 40% of agents closed 0-6 transactions over the last 12 months while 19% of agents closed more than 22 transactions.

Transactions closed	% of Agents
0-6	40%
7-12	24%
13-21	18%
22+	19%

Source: Redfin Investor Relations

In the same survey Redfin found that 50% of agents earned less than $50,000 after work-related expenses, with nearly 40% of agents having a second job.

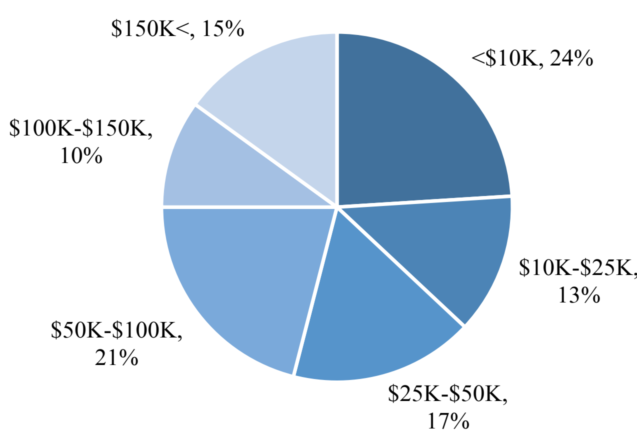
Real-Estate Agent Income After Work-Related Expenses



Source: Redfin Investor Relations

These results are in line with NAR's data that states 54% of members make less than $50,000, and nearly a quarter of members make less than $10,000 compared to the median gross income of $43,330 in 2020.

Gross Personal Income



Source: National Association of Realtors

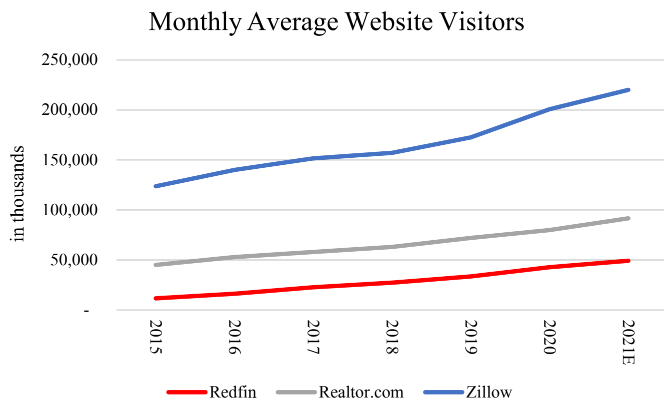
The residential real estate industry has elevated and uniform fees protected by industry practices set by the MLSs, although no players within the value chain really benefit with the exception of the local MLSs and the National Association of Realtors. Despite the high fees, it's a competitive industry for agents, brokers, and the franchisors.

Impact of the Internet

The spread of the internet has impacted all industries to various degrees, often disintermediating middlemen of the pre-internet era who were previously gatekeepers to the access and distribution of information. The first industries to get disrupted were those that had digital intangible supply such as media. For supply of digital content, distribution and transaction costs could essentially go to zero with the power of the internet. When there are no marginal costs of supply, supply becomes abundant, and the problem to solve for users is help to filter and find supply. Platforms such as Google and Facebook naturally emerge that aggregate the supply and users.

When frictional distribution and transactions costs are low, the platforms do not have to own or control supply and can follow an asset-light business model. As frictional distribution and transaction costs go up in certain industries, such as delivering real-world products and services, the problem to solve becomes less about filtering supply (though still important) and more about being able to lower the distribution and transaction costs at scale. For example, Amazon benefited from integrated logistics/distribution with its online portal while eBay pursued a less integrated approach and therefore had a smaller addressable market.

The internet opened up access to information on which homes were available for sale through online web portals. Companies such as Zillow.com and Realtor.com aggregated home listings to provide users with free detailed information on properties.



Source: Company filings, Saga Partners

These real estate web portals transformed an industry where knowledge was previously concentrated among real estate brokers due to their association with MLSs. The Internet has become a major lead generation method for real estate marketing, displacing local newspapers and all other sources as the consumer's most preferred method to learn about homes for sale. According to a study by the National Association of Realtors (NAR), ~90% of recent home buyers say they used the internet as an information resource during their home-buying process.

However, these online portals did not guide users through the transaction. They monetized their website as a lead generator for real estate agents that paid for ad impressions delivered to users in specific zip codes. While these online portals may be providing value through aggregation and transparency, these asset-light, non-integrated players are not lowering industry costs and are effectively creating an additional layer of costs. They are focused on preserving the status quo business model of the traditional brokerages rather than lowering the transaction costs to transfer property.

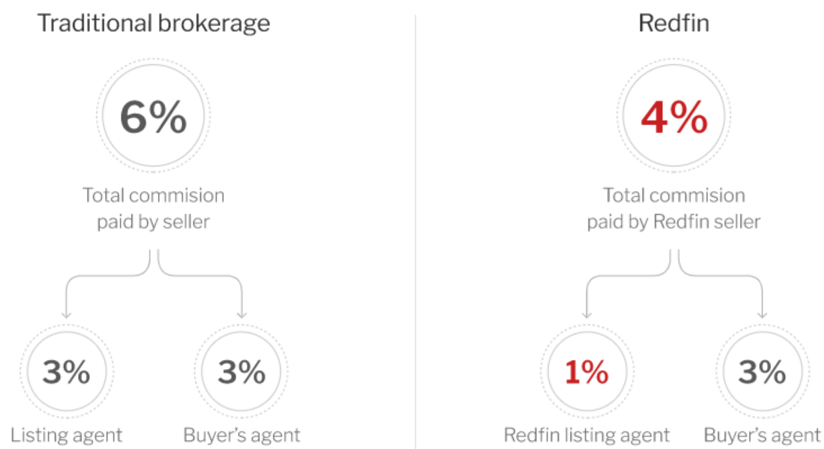
Despite increased access to housing information and consumers taking on more of the work historically performed by agents, the well-ingrained industry practices surrounding commissions can only be disrupted by a brokerage within the industry that lowers the transaction costs by integrating technology with the high-touch services of an agent and then passes on the costs savings to customers.

Redfin Business Model

Redfin was started in 2002 as the first map-based search website. In the S-1, Redfin states its mission is to "make real estate better for consumers, not just ourselves…in a sales-mad, baloney-gorged world, to be the truth-teller, the fee-squeezer, the game changers." Since its beginning, rather than quickly scale an asset-light web portal that essentially preserved the status quo of the industry by serving the existing players, Redfin decided to focus on the much harder problem to solve, making the residential real estate transaction more seamless by reducing the frictional costs.

Its initial attempt was by offering Redfin Direct, a technology to automate the real estate transaction by making it possible for people to make offers on homes through its website without the help of a buyer's agent. Unfortunately, initial attempts were unable to gain traction because Redfin didn't control the home listings. The listing agent was the one who controls the property, decides who sees the house, processes the offers, and typically wants to negotiate with another agent on the buyside to broker a deal. Sellers were unwilling to accept digital offers and buyers were not quite ready to place digital offers on such a high risk, infrequent transaction.

Redfin discovered that in order to disrupt the residential real estate market they had to gain market share of property listings by becoming a full-fledged brokerage. Redfin was committed to lowering the commissions charged to customers, charging 1.5% to home sellers (or 1.0% for sellers that also buy with Redfin within 12 months) vs. the 2.5%-3.0% typically charged by traditional brokerages. For homebuyers, since the commission that is paid to the buyer's agent is already baked into the seller's contract, Redfin refunds part of the commission back to the buyer depending on conditions and restrictions in certain states.



Source: Redfin Investor Relations

In order to charge less than competitors, hire and pay agents competitive wages, and earn attractive returns for its investors, Redfin had to lower the costs of the transaction by increasing productivity and reducing frictional costs. Rather than follow standard industry practices by hiring agents as independent contractors, Redfin decided to employ real estate agents as full-time employees with a salary and benefits, hiring its first agent in 2006. While this service and operationally intensive strategy undoubtedly slowed Redfin's early growth, by integrating further down the funnel, Redfin is better able to control the quality of the customer experience and increase productivity by fully integrating its agents with its technology offerings.

In addition to typical brokerage services, there are numerous other services required when buying or selling a home that involve multiple parties which all have varying incentives. As Redfin has grown, it has integrated other services such as mortgage, title, iBuying, and concierge services (charges 2% to listing properties for premium services).

Role of the Agent

Historically the job of the agent was to be everything to everybody. Agents offered a bundled set of services priced at a standard fixed fee. Customers who wanted to buy or sell a home depended on agents for access to information, negotiating contracts, and seeing the customer through to the close. There were few alternative options if customers only wanted some of these services, however the blanket 2.5-3.0% fee was unchanged regardless of the level of service a buyer/seller demanded.

Agents typically operate independently with some support from their brokerage and are expected to generate their own demand by prospecting for clients. Traditional real estate agents spend significant amounts of time and resources prospecting for customers through traditional advertising channels and networking activities. Agents often become frustrated and unable to make attractive incomes because they are too many agents, prospecting for too few customers.

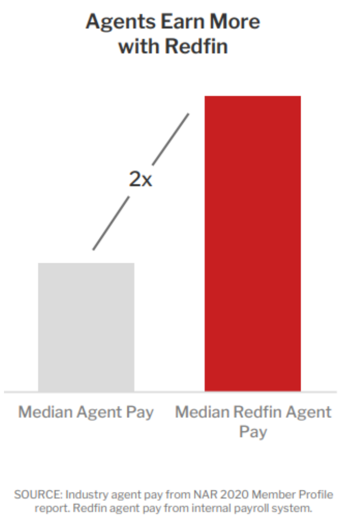
In a real estate agent survey performed by Placester, agents ranked where they spent the most time as follows: 1. marketing/advertising, 2. prospecting/lead generation, and 3. showings, appointments, and travel. Agents spend much of every single day solely on prospecting/lead generation.

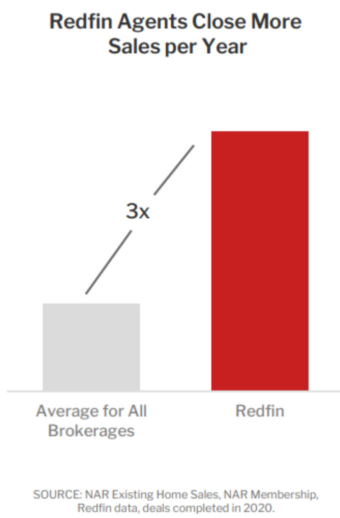
Redfin is unbundling the job of the agent in order to increase both customer service and productivity by utilizing a team model and eliminating the need for agents to prospect for demand. Lead agents are responsible for each customer's success, who are then supported by associate agents, marketing assistants for getting a home photographed and promoted, and transaction coordinators for closing paperwork.

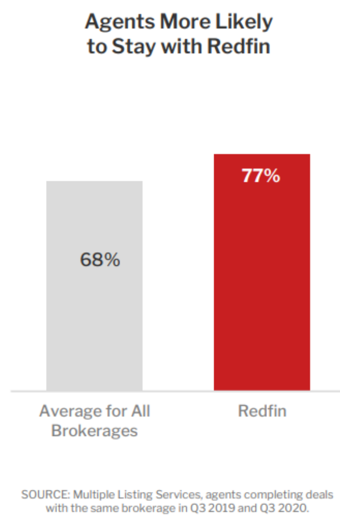
Redfin has adapted the role of the agent from one that is sales-oriented to one that is service-oriented. The lead agents' primary responsibility is not generating demand but advising customers throughout the process of buying and selling homes. The Internet is more efficient at connecting consumers with agents than the prospecting activities of most agents and the efficiency gains benefit the consumer most when a website is operated by the brokerage representing that consumer in a purchase or sale. Redfin sources demand through its web portal and funnels it to the right place based on the level of services that the customer may need.

By hiring lead agents as employees, Redfin can set data-driven best practices for selling homes and tailor software to those practices. Constantly building technologies that improve the customer experience and increase productivity leads to consistently better customer service at a lower cost which can then be passed on through savings to customers.

Lead agents were on average three times more productive, earned twice as much money, and had higher retention rates than agents at competing brokerages.





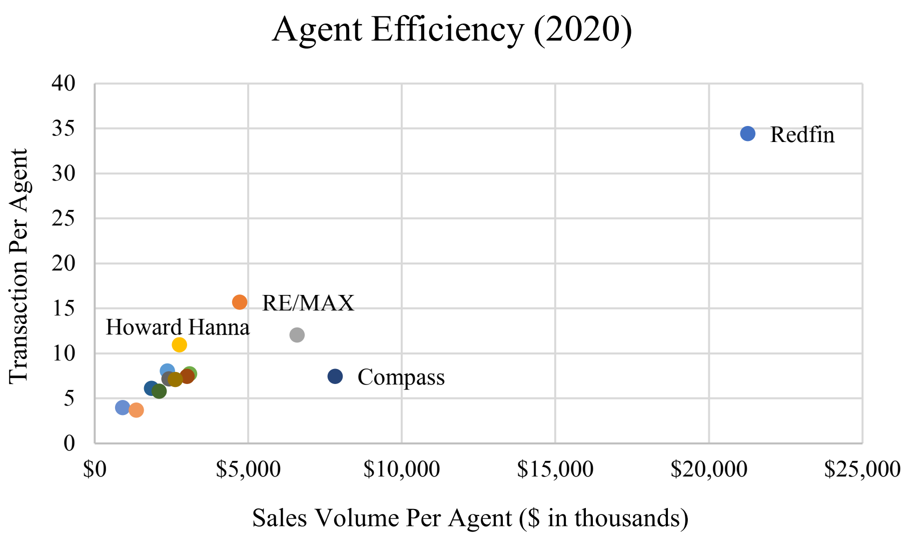


Below is a chart ranking brokerage by agent productivity as measured by transaction sides per agent. Redfin ranks far higher than any other brokerage.

	Company	Transaction Sides Per Agent	Agents	2020 Transaction Sides
1	Redfin	34.4	1,757	60,510
2	RE/MAX	15.7	62,303	979,522
3	Windermere Real Estate	12.1	6,172	74,436
4	Howard Hanna	11.0	10,376	113,755
5	Realty Executives	8.1	6,780	54,579
6	HomeServices of America	7.7	77,455	598,372
7	Compass	7.5	19,385	144,784
8	Realogy Holdings Corp.	7.5	190,700	1,424,081
9	Keller Williams Realty	7.2	160,717	1,154,613
10	Weichert	7.1	13,000	92,300
11	eXp World Holdings	6.1	39,058	238,981
12	Realty One Group	5.8	15,019	87,512
13	EXIT Realty Corp.	4.0	22,400	89,217
14	HomeSmart	3.7	20,000	74,200

Source: Realestatealmanac.com, Saga Partners

The chart below plots both the average number of transactions per agent and the average sales volume per agent which shows how much of an outlier Redfin truly is compared to other brokerages.



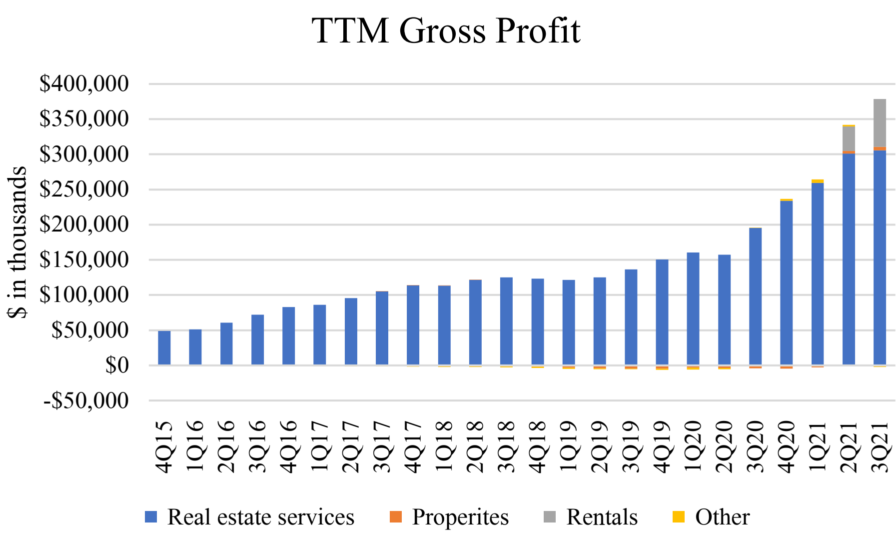
Source: Realestatealmanac.com, Saga Partners

Financials

Redfin reports in four segments: Real Estate Services (brokerage and partner transactions), Properties (RedfinNow's iBuying transactions), Rentals (RentPath acquired Aril 2021), and Other (primarily mortgage and title businesses).

Gross profits, as opposed to revenues, provides a better picture of the relative earning power of each segment, particularly because RedfinNow's sales disproportionately impact total sales since the entire value of the home is accounted for as revenue, while only the commission fees earned for each transaction are recorded in the Real Estate Services segment.

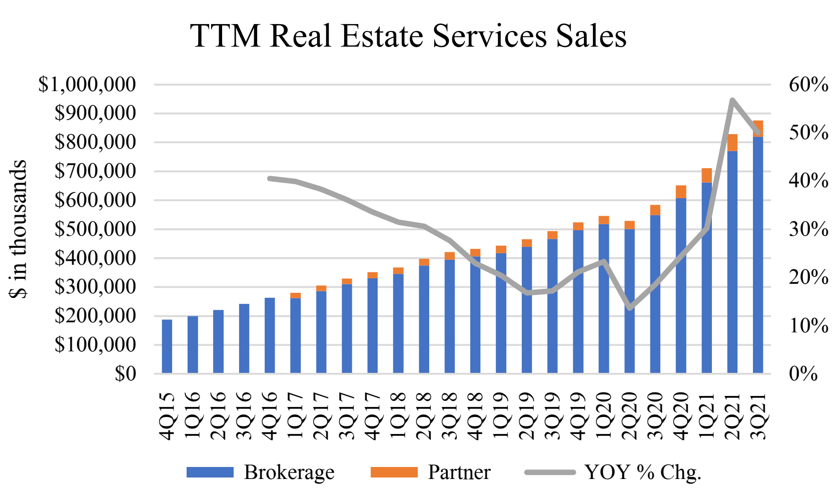
As the chart below shows, Real Estate Services is the oldest and by far the largest segment making up over 80% of total gross profits. Since there are only two quarters of Rentals gross profits in the TTM, it will continue to grow its share of gross profits; however, the Rentals segment in total still operates at a loss when considering its operating costs.



Source: Company filings, Factset, Saga Partners

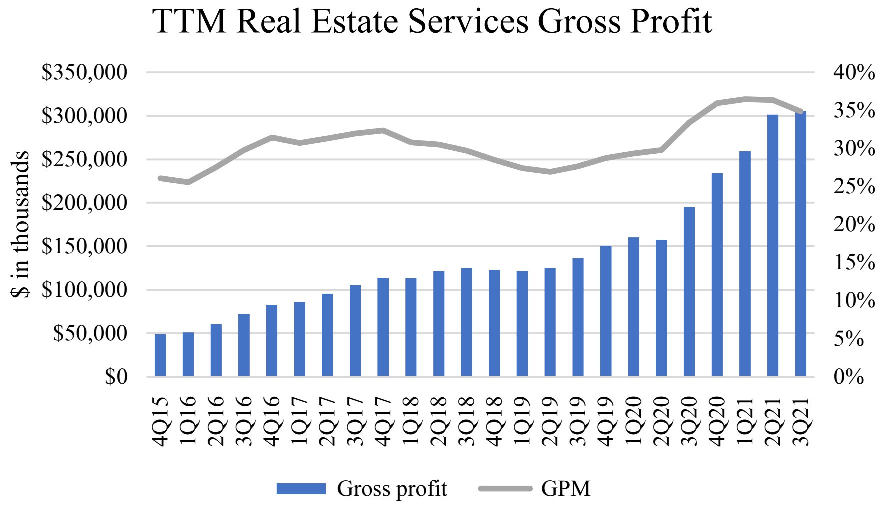
Real Estate Services

Real estate services include the Brokerage and Partner businesses. Brokerage revenue is commission earned by Redfin's employed agents and Partner revenue consists of the fees earned from partner agents (~30% of commission) that Redfin refers business to from Redfin.com. Real estate service sales have grown at a 28% compounded annual growth rate (CAGR) over the last five years.



Source: Company filings, Factset, Saga Partners

Brokerage and Partner businesses are reported together under Real Estate gross profits. Gross profits have grown at a 33% CAGR over the last five years. Gross profit margins have remained between 28%-35%.

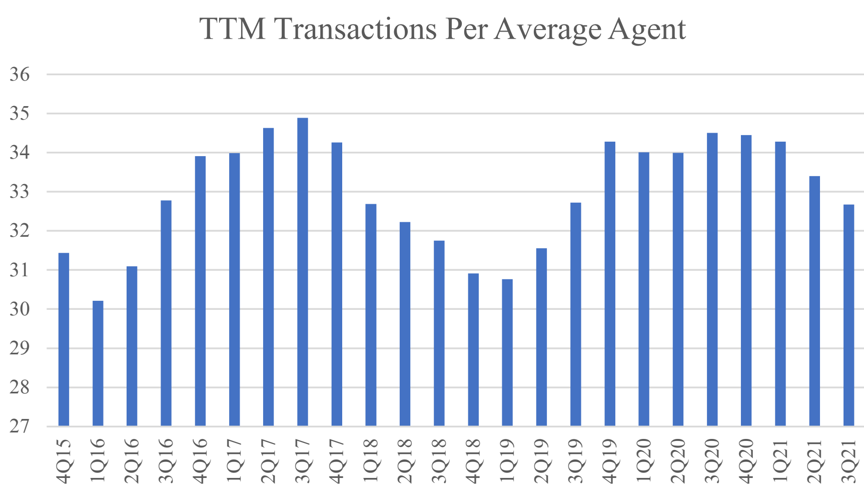


Source: Company filings, Factset, Saga Partners

Cost of revenue primarily consists of personnel costs (agent base pay, benefits, stock-based comp), transaction bonuses, home-touring and field expenses, and other expenses related to listing properties.

While Redfin reports Brokerage and Partner gross profits together, the Partner business is higher margin since Redfin simply receives their portion of the commission after a partner agent closes a transaction with relatively few associated costs of revenues. If you assume that Partner business has a ~85% gross profit margin, similar to other online lead generators and in line with RentPath segment margins, it would provide a ~28% gross profit margin in the Brokerage business. While Brokerage is lower margin than the Partner referral business since Redfin has to pay agents when they broker a deal, gross profit per transaction is much higher, as discussed in the Unit Economics section below.

The most significant lever to improving Brokerage GPM is agent productivity which has remained between 30-35 transactions per agent over the past five years. In 2018, productivity was impacted when Redfin lowered the average number of homebuying customers that its agents served by 10% which didn't fully achieve the goal of increasing close rates, combined with a generally softer housing market towards the end of the year and into early 2019.

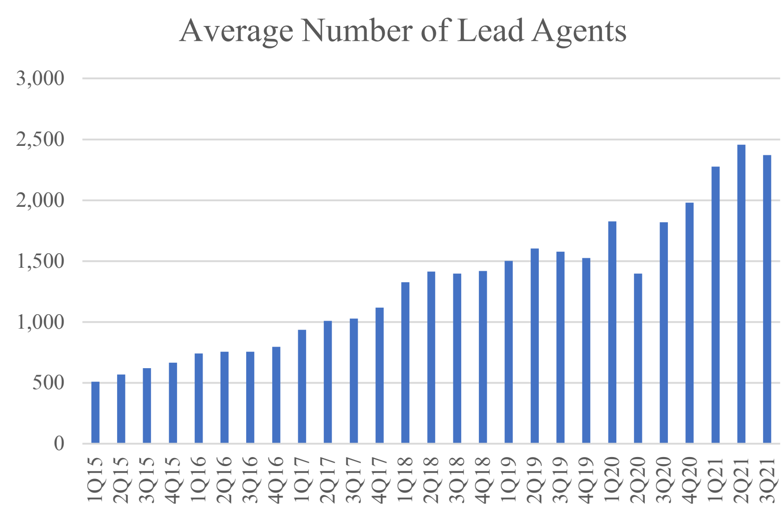


Source: Company filings, Factset, Saga Partners

By mid-2019, Redfin had studied the whole cohort of 2018 website visitors who requested tours and saw that service improvements had been offset by the chances a prospective buyer bought any home at all at Redfin or any other brokerage. This inefficiency pressured brokerage gross margins. Redfin has since run a six-market pilot for 18 months, testing 24% lower homebuyers per agent. While closes per agent were lower, the close rates per client were higher, with the service improvements yielding more sales and gross profit. The lower loads also improved agent satisfaction and retention. Redfin is rolling out this new agent load nationwide by the end of 2022.

When COVID spread and demand for brokerage services plummeted, Redfin laid off a quarter of their agents. As demand unexpectedly skyrocketed, Redfin was able to rehire most of their agents while trying to keep up with demand. During Q3'20 and Q4'20, transactions per agent increased as agents were working at unsustainable levels from increased demand and limited capacity of available agents. Redfin referred more customers they were not able to serve to Partner agents which elevated gross profit margins during those quarters.

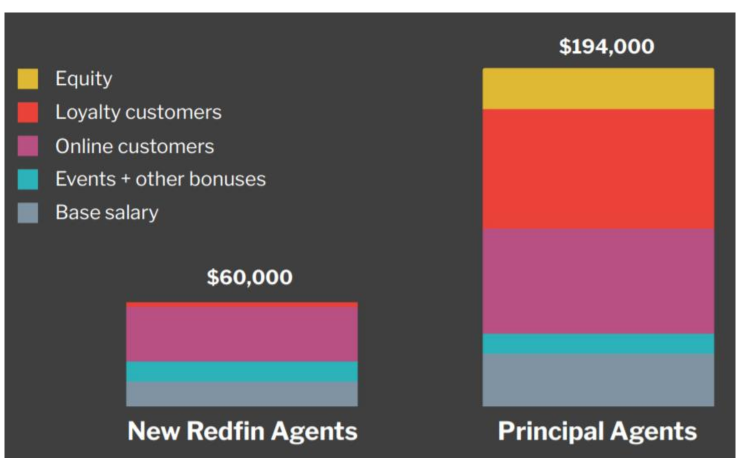
Redfin has been hiring agents at the fastest rate since 2018, growing average lead agents by 500 or 30% higher year over year in an effort to meet demand. It has led to increased turnover in new agents, partly due to it being a tight labor market for service-oriented jobs and because of the historically lows housing inventory available for sale, making it difficult for newer agents who typically serve buyers to close transactions and therefore earn an attractive income.



Source: Company filings

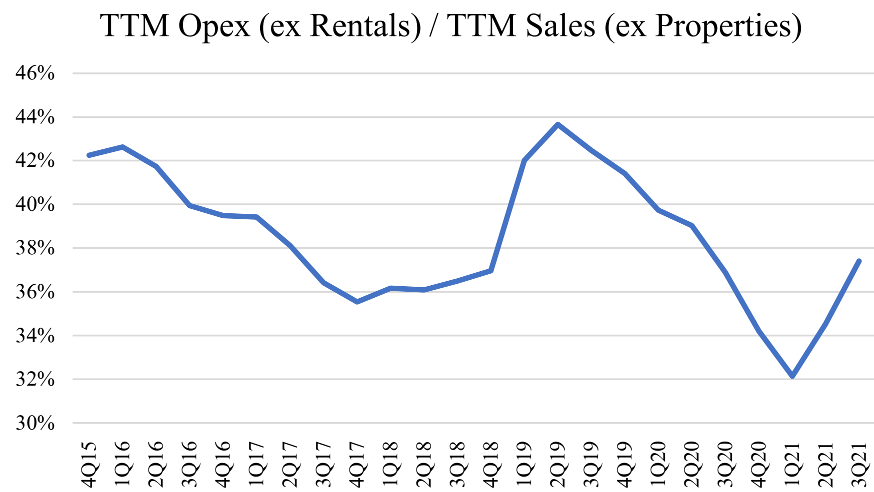
In response to a more difficult labor market and new agent turnover, management started paying $1,500 retention bonuses for new agents who could guide customers to the point of bidding on a home, regardless of whether those bids win. The bonus will be offset by lowering the savings rebate returned to homebuyers, therefore not impacting Brokerage gross profit margins. Management decided to give new agents more value from home buyers since buyers have proven less price sensitive compared to sellers and presently value service over cost savings.

Below is an example composition of Redfin agent's income. More tenured principal agents get increasing income from repeat business and equity compensation.



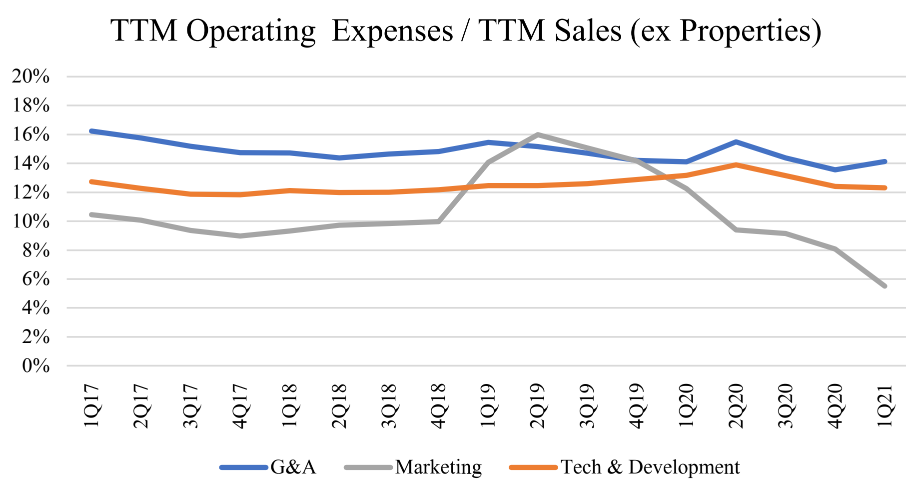
Source: Redfin Investor Relations

Management has historically managed Redfin to near breakeven in order to invest in growing the business. Operating expenses as a percent of sales (excluding rentals) have ranged between 32%-44%.



Source: Company filings, Saga Partners

The chart below breaks out operating expenses by line item. Q2'21 and Q3'21 are not included because they include ~$100M in RentPath opex and impact analysis of operating expense trends.



Source: Company filings, Saga Partners

Technology and Development costs have historically been between 12-14% of sales (excluding Properties revenues). Redfin has invested heavily in both supporting its core Real Estate Services segment that includes improving its website, writing software, and other related brokerage services, but also include investing in building the Mortgage, Title, and RedfinNow businesses which are still very early in their life and do not contribute materially to gross profits.

Similarly, marketing/advertising is a major expense item that depresses income today with the expectation it provides a return in the future. Direct marketing to potential home buyers/sellers has a longer return horizon than direct advertising for other products/services since the average sales cycle to buy a house is 6 months. If a potential customer sees an ad and then hires a Redfin agent, it will be about half a year before that investment provides a return.

There is also value to brand marketing to a consumer who isn't planning on buying or selling a home in the near future (the average homeowner buys/sells a home every 10 years), but those investments won't pay off for several years. Redfin tested mass media across

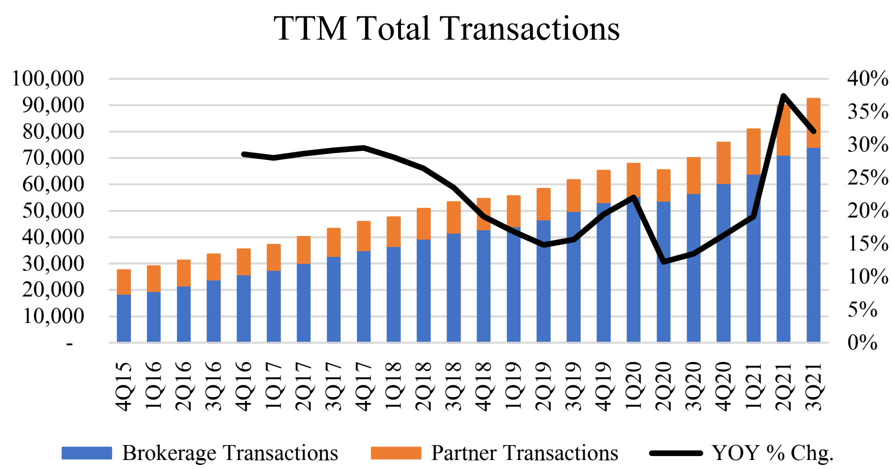
15 markets over a five-year period and found there was a sustained lift in demand from an ad that was run only in year one on TV and not in subsequent years.

Marketing spending is a more variable expense as experienced from increased investments made in 2019 and then significantly reduced in 2020 because of the spread of COVID and Redfin's inability to service the jump in demand during the second half of the year. Marketing spend is ramping back up in 2021 and into 2022. Management has remained committed to growing through attractive returns on marketing spend but expects it to grow at a slower rate than gross profits into the future and likely scale to somewhere between 10%-20% of gross profits, or 4-7% of Real Estate Service revenues assuming a gross profit margin of ~35% in the Real Estate Service segment at scale.

Real Estate Services Unit Economics

As Redfin operates today, the basic unit of analysis for Redfin is the real estate transaction which consists of Brokerage and Partner businesses.

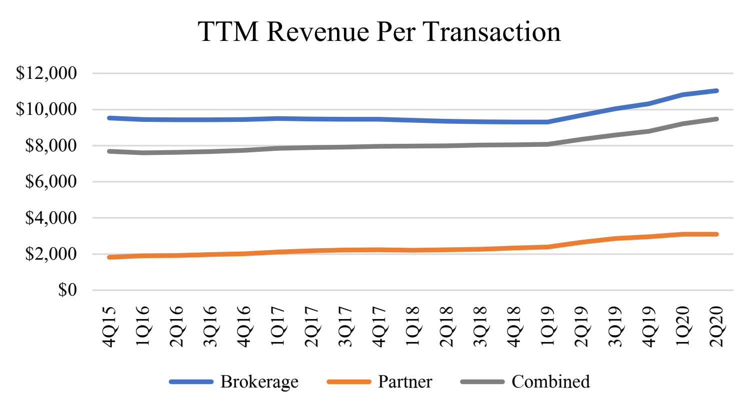
Revenues are driven by transaction volume and revenue per transaction. Transactions are a product of the number of lead agents and the transactions per agent. Total TTM transactions have grown at a 23% CAGR over the last five years, and brokerage transactions closed by Redfin agents have grown at a 25% CAGR.



Source: Company filings, Saga Partners

Brokerage transactions have higher revenue per transaction compared to Partner transactions where Redfin earns part of the commission for partner agents closing a transaction that Redfin referred to them. Changing home prices will impact revenue per transaction since it is determined by a percent of the value of the home.

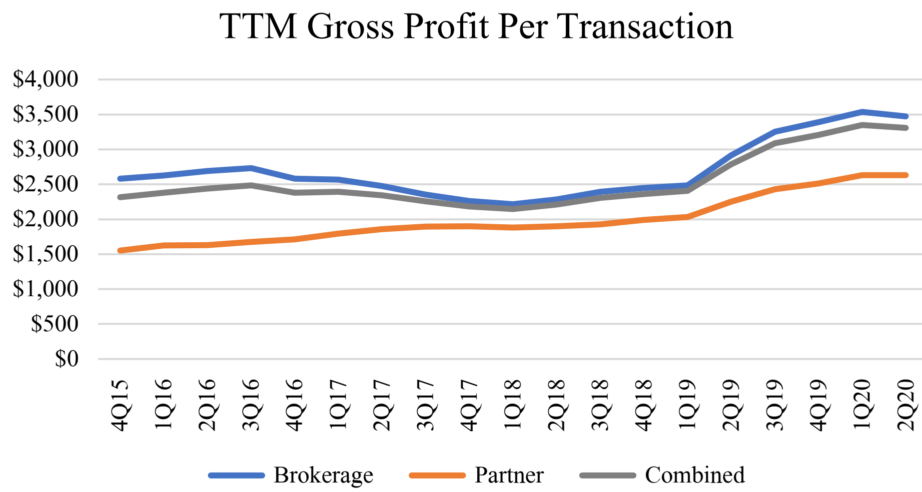
Brokerage revenue per transaction has grown at a 2% CAGR over the last five years while total revenue per transaction has grown at a 5% CAGR, which when combined with the growth in transactions, provides the Real Estate Services business a five-year 30% revenue CAGR.



Source: Company filings, Saga Partners

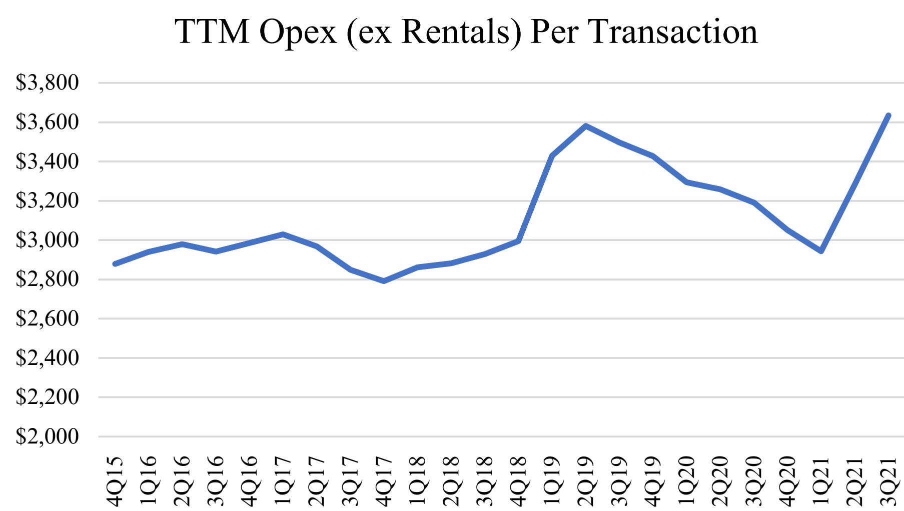
Brokerage and Partner gross profits are reported together under Real Estate gross profits. If you assume that Partner has a ~85% gross profit margin, you can back into the gross profit per brokerage transaction and per a Partner transaction.

TTM Brokerage transactions have a $3,500 gross profit and Partners would have a $2,600 gross profit. It is more profitable for Redfin to close transactions with their own agents than to refer business to partner agents, especially since agents are a fixed cost when not closing transactions.



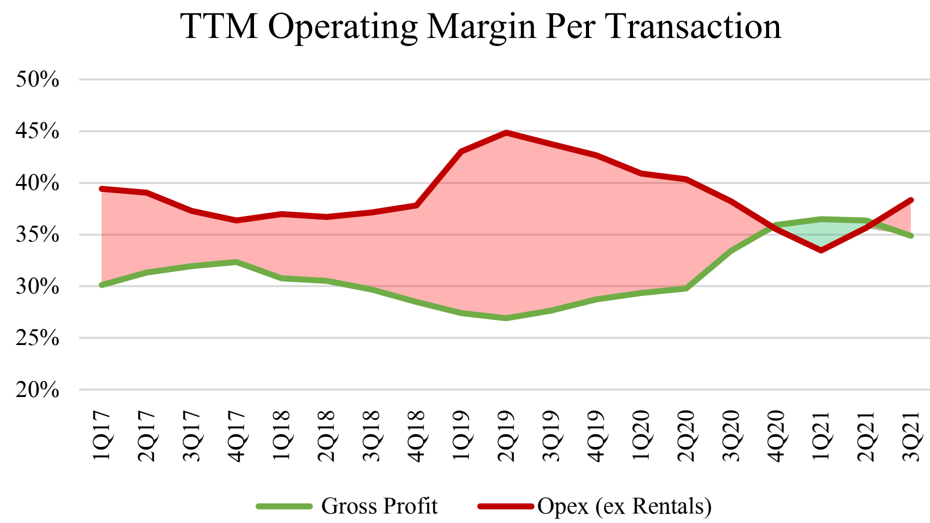
Source: Company filings, Saga Partners

The chart below includes total Redfin operating expenses (excluding Rental) per total Real Estate Service transactions. Opex includes investments in growing the other businesses such as Mortgage, Title, and RedfinNow (although all RedfinNow transaction costs are in its RedfinNow segment COGS). While those businesses are expected to provide material gross profit in the future, they are currently supported by the Real Estate Services business.

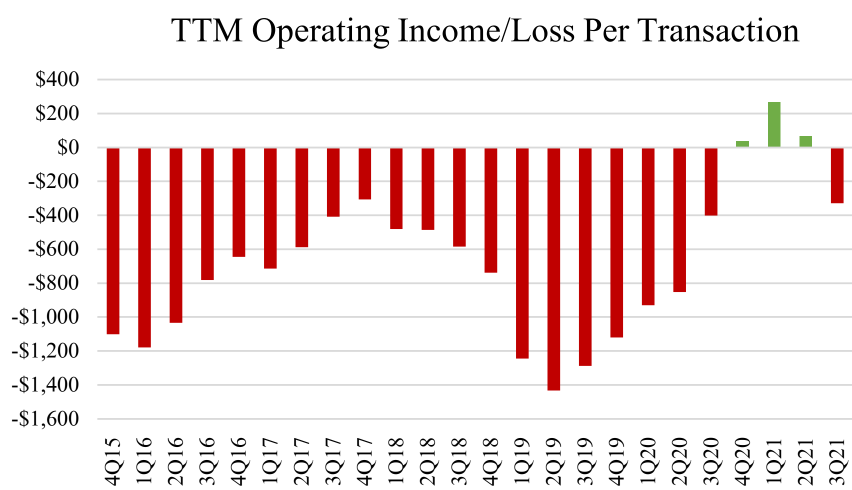


Source: Company filings, Saga Partners

Historically, Redfin lost a few hundred dollars per transaction. As agent productivity increased during H2'20, Redfin sent more business to its higher-margin Partner agents, and management decreased marketing spend, Redfin had a few quarters of operating income per transaction. More recently, transactions per agent have returned to more average levels and the company started to increase marketing spend pushing operating income per transaction negative.



Source: Company filings, Saga Partners



Source: Company filings, Saga Partners

Robustness Ratio

Nick Sleep coined the term robustness ratio which is a framework to try and quantify a company's moat or customer value proposition. In any company, the economic benefits are split between customers, employees, and shareholders. How that is split up can help break down a company's real earning power. Analyzing the robustness ratio is useful for companies that pursue a scale economies shared business model. That is when as a company grows and operating costs decline per unit, the company shares those cost benefits with customers, thereby increasing the value proposition relative to competitors, which then attracts more customer demand/growth, and the cycle builds on itself.

Redfin is attempting the business trifecta, of lower prices for customers, for a similar if not better service (supported by customer reviews and NPS scores) while paying agents higher income on average, and then eventually providing an attractive profit for shareholders in the future. Earlier in a firm's lifecycle, more of the benefits should be allocated to customers to induce loyalty, referrals, and building a valuable franchise. Over time, shareholders can expect to gradually take a bigger portion of the pie.

Rather than attempt to calculate Redfin's estimated robustness ratio based on various assumptions on how the value is split between customers, employees, and shareholders, it is helpful to do a simple analysis of what Redfin's financials would look like if the company charged the industry standard fees, assuming transaction volume would be unchanged.

Each year management states how much Redfin saved customers when compared to a 2.5% commission rate. If those savings were added back to Redfin's revenue, assuming no change in transaction volume, real estate gross profit margin would be 50%, and operating margins would be ~20%.

($ in thousands)	2017	2018	2019	2020
Total RDFN Transactions Value	$21,280,000	$25,812,000	$30,532,000	$37,359,000
RDFN commission charged	1.65%	1.67%	1.71%	1.74%
Real Estate Services Revenues	351,570	432,168	523,540	651,208
Customer Savings (assuming 2.5% fee)	121,000	154,000	180,000	185,000
Total Revenue if charged full 2.5% fee	**472,570**	**586,168**	**703,540**	**836,208**
Real Estate Services COGS	237,832	309,069	373,150	417,140
Gross Profit	234,738	277,099	330,390	419,068
GPM	*50%*	*47%*	*47%*	*50%*
Total RDFN Opex	127,792	163,358	223,349	231,318
Operating Income	106,946	113,741	107,041	187,750
Operating Margin	*23%*	*19%*	*15%*	*22%*

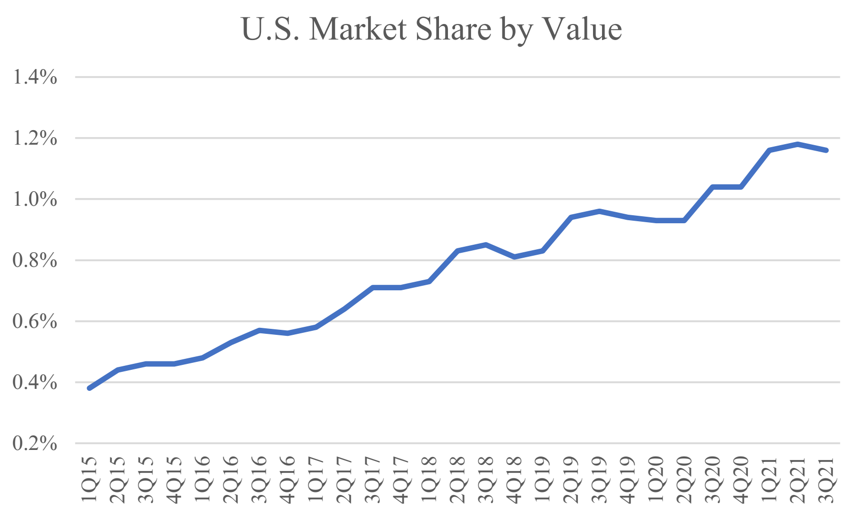
Source: Company filings, Factset, Saga Partners

The majority of the value that Redfin is creating by lowering transaction costs through increased productivity is given back to the customer through ~30% lower commission rates compared to the industry standard. Some of the value also go towards paying salaried agents more than peers on average, investing in software engineers, and in other technological developments to find ways to remove any more frictional costs from the transaction.

Much of Redfin's growth is a reflection that customers are drawn to the lower fees (particularly on the listing side), therefore if Redfin were to charge industry standard fees, then transaction growth would likely slow as the value proposition relative to competitors is less significant. Redfin is purposely choosing to share its efficiency gains with customers in order to scale its business in what is a very large industry. If Redfin is able to continue to increase their customer value proposition relative to competitors, it will eventually experience operating leverage as operating costs grow at a slower rate than gross profits, and investors will then realize a return for their ownership in the company.

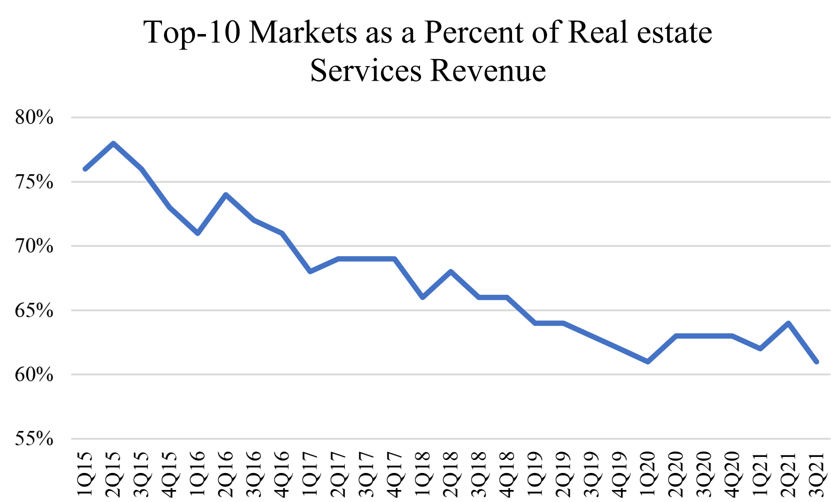
Market Share & Cohort Analysis

Over the long-term, customers will gravitate to a company that offers the same if not better product/service for a lower price. Redfin's commitment to providing great service for less money by integrating agents and technology has been a winning proposition. Redfin has consistently grown market share organically, as measured by total transaction value of homes bought/sold through Redfin, but still only has 1.16% market share as of Q3'21 since hiring its first realtor in 2006.



Source: Company filings

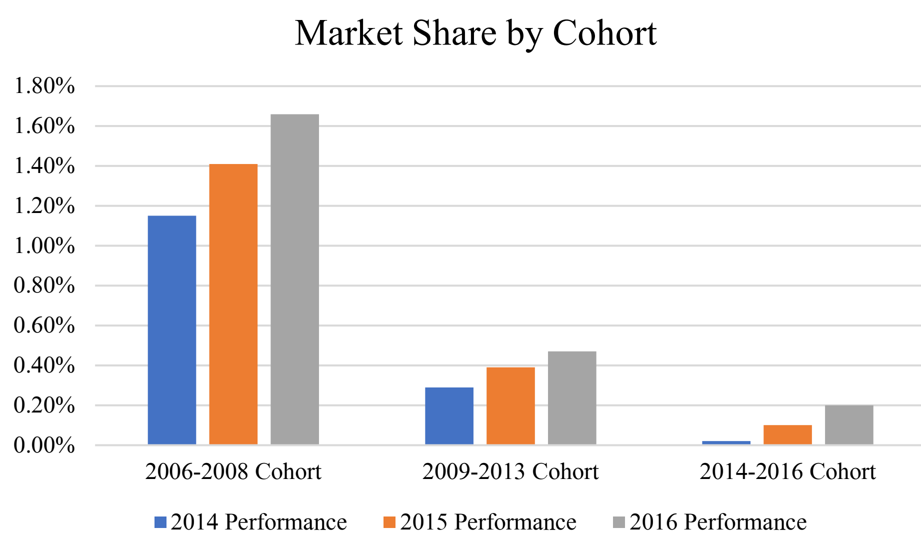
Redfin originally started its brokerage services in urban coastal cities and now serves over 100 markets. Its top 10 markets (Boston, Chicago, Denver, Los Angeles, Maryland, Northern Virginia, Portland, San Diego, San Francisco, and Seattle) continue to decline as a percent of total real estate services revenue as Redfin expands across the country.

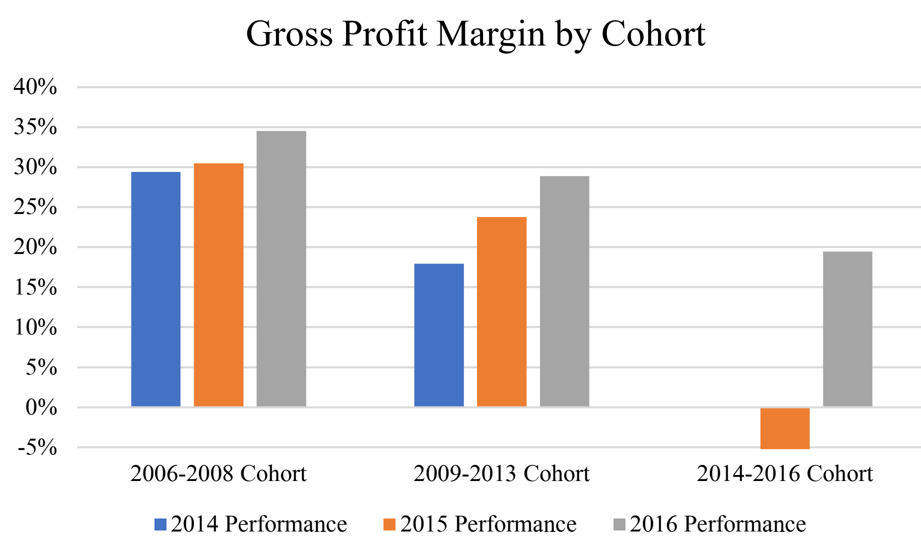


Source: Company filings

A cohort table was provided in Redfin's S-1 which grouped Redfin markets based on when they began operating (between 2006-2008, 2009-2013, and 2014-2016) and performance data for those three cohorts in the years 2014, 2015, and 2016.

As each cohort grew market share, each cohort also increased gross profit margins. The higher the market share Redfin takes, the higher the productivity and profitability. An updated cohort table has not been provided but Redfin investor relations has said that market share now exceeds 5% in several of their earliest markets such as Seattle and Washington D.C.



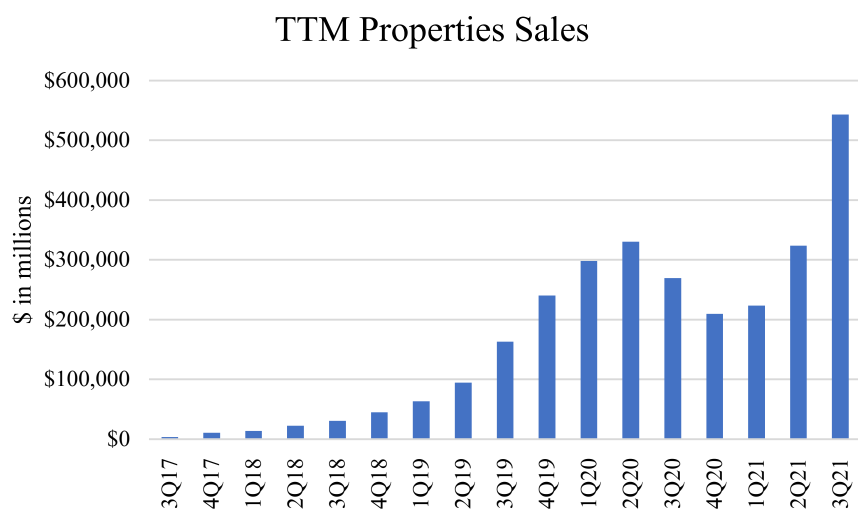


Source: Company filings, Saga Partners

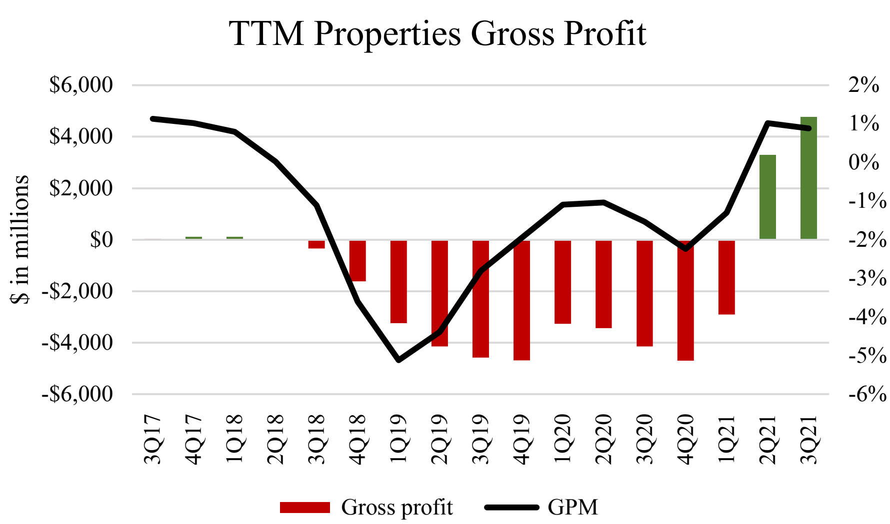
RedfinNow

RedfinNow buys the homes from a consumer by giving sellers a cash offer. iBuying is a liquidity provider for consumers. The average home sale closes in ~90 days but with iBuying it takes about one week. Customers who sell through RedfinNow typically get less money for their home than they would listing it with a real estate agent in the open market, but they get that money faster with less risk and disruption.

RedfinNow revenue disproportionately impacts total Redfin revenue since the entire value of the home sale is accounted as revenue compared to Real Estate services where just the commission earned is revenue. In response to COVID, Redfin essentially stopped purchasing new RedfinNow homes during Q1 and Q2 of 2020 but has since ramped up buying again throughout 2021.



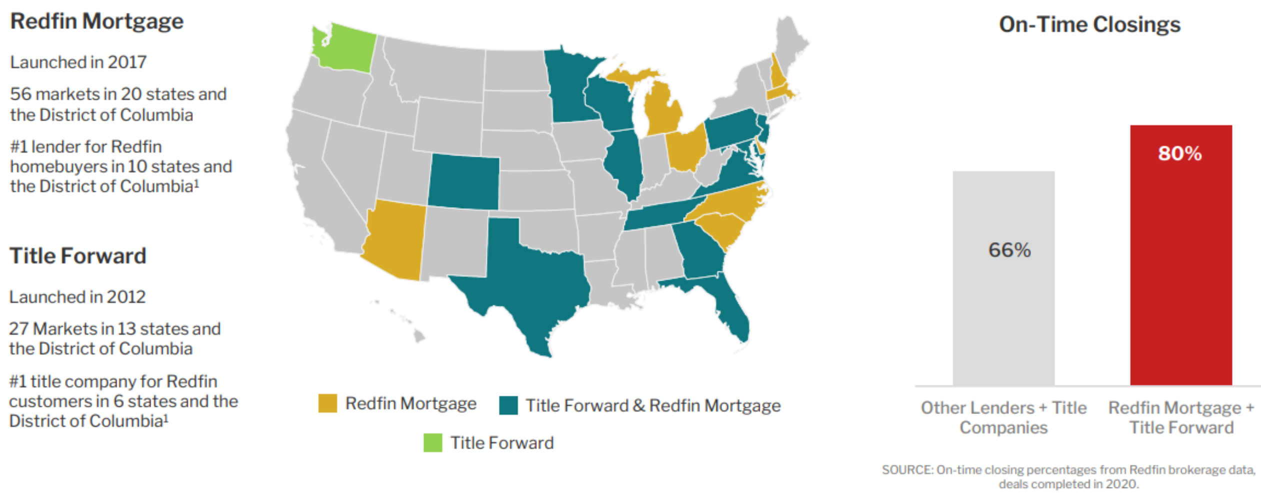
All RedfinNow selling, maintenance, and property costs are accounted for in its segment COGS. RedfinNow only recently started to provide gross profits and is expected to maintain a mid-single digit gross profit margin.



Source: Company filings, Saga Partners

Other Segment (Mortgage & Title)

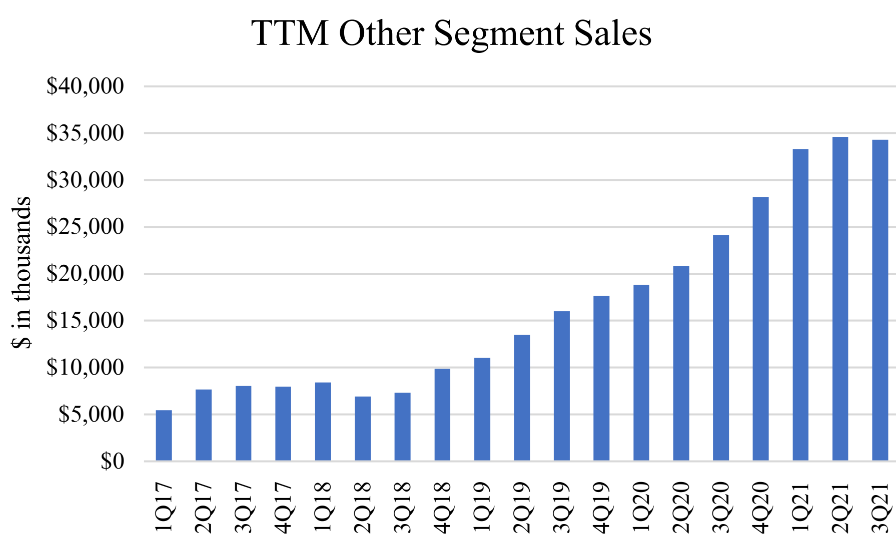
The Other segment primarily consists of Mortgage and Title Forward. Redfin Mortgage underwrites mortgage loans and after originating each loan sells the loans to third-party mortgage investors. Redfin Mortgage relies on borrowings from warehouse credit facilities to fund all the mortgage loans that it originates and does not intend to retain or service mortgage loans.

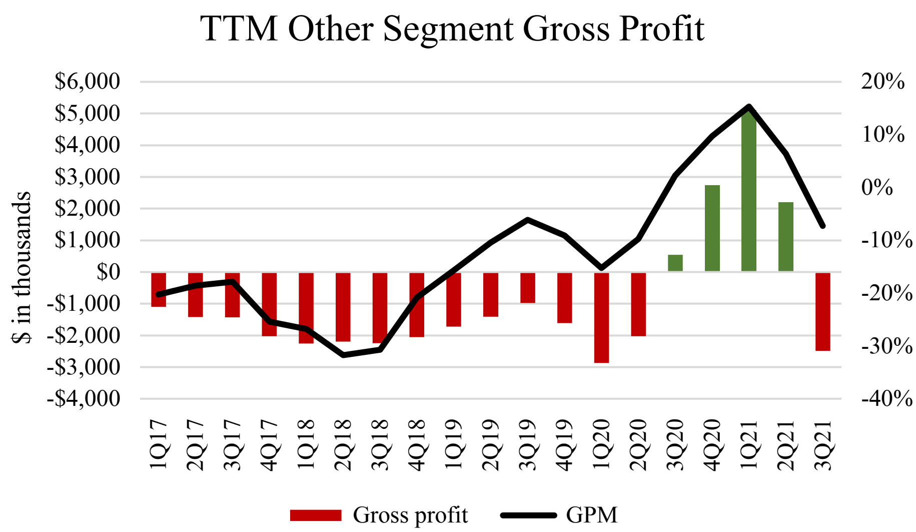


The goal of Redfin Mortgage is to make conventional lending faster and easier. When the agent and lender work together, it can help make the closing process more seamless and increase the percentage of on-time closings. Since Redfin employs the agents and the website is the source for demand for those agents, it has lower customer acquisition costs and can therefore realize the margin of underwriting mortgages.

Management expects mortgage and title to have similar margin profiles to the brokerage business. Title companies tend to be more commoditized and less competitive, there management believes a 50% attachment rates is attainable. Mortgages are more competitive since consumers are more price-sensitive, therefore management thinks a 25% attach rate is possible.

Redfin is currently focused on scaling the mortgage sales organization, but it has recently faced some headwinds due to rising rates which led to a decline in revenue per loan sold and therefore declining revenue YOY last quarter. Management is currently searching for a new mortgage leader and expects to launch incentives for brokerage sales involving mortgage and title in 2022 after changes to their loan-origination system allow for a wider range of loans.





Source: Company filings, Saga Partners

RentPath

RentPath was acquired in April 2021 for $608 million following its February 2020 bankruptcy. It owns a variety of rental search websites (rent.com, rentals.com, apartmentguide.com) which have a combined 16 million visitors each month. Revenue is primarily composed of subscription-based product offerings for internet listing services, as well as lead management and digital marketing solutions.

Redfin acquired RentPath to incorporate rentals in its web portal which will help address the 20% of Redfin.com visitors that are interested in rental properties. It will help Redfin provide a more complete customer solution as well as show up higher for Internet real estate searches that favor websites with a more comprehensive offering. RentPath's rental listings will begin to be promoted on redfin.com starting in March 2022 which management expects should increase RentPath's leads meaningfully.

While RentPath has attractive gross profit margins, it still operates at a loss.

$ in thousands	2020	2Q21	3Q21
Sales	$194,000	$42,548	$40,406
COGS		7,570	7,395
Gross Profit		34,978	33,011
GPM		*82%*	*82%*
Opex		48,665	50,286
EBIT		(13,687)	(17,275)

Source: Company filings, Saga Partners

Redfin Direct

Redfin Direct has the potential to be the most innovative technology that changes the unit economics of buying/selling a home. It is a technology to automate the real estate transaction by making it possible for people to make offers on homes through its website without the help of a buyer's agent. It is only available in a few metro areas including Boston, Northern Virginia, and in certain Texas and Southern California markets and can only be used on Redfin listings, including RedfinNow homes.

Redfin tried to launch Redfin Direct in its early days but was unable to gain traction because it didn't control the home listings. The listing agent is the one who controls the property and decides which offers to process and accept. 2006 may have been a bit early for buyers to place offers and for sellers to accept offers over the internet on what is the single most valuable asset for most households but looking into the future, the services that buyers demand from real estate agents are shifting.

Buyers are more in control of the homebuying process and increasingly find the homes they are interested in directly online and not through an agent. Especially for more experienced buyers who have bought homes before, the value of an agent is not necessarily in finding the home but in assisting in preparing the offer, providing expertise on what it will take to win the deal, and helping the buyer through the closing process. Redfin Direct is software designed to help buyers put together an offer without the help of an agent because they want to save money with a lower commission.

How Redfin Direct Works

	Buy without an agent	Buy with an agent
Find homes	Search for homes listed by Redfin	Search all listings
Tour homes	Book Direct Access self-tours on Redfin listings	Book tours and see any home with your agent
Make an offer	Make an offer on your own with Redfin's step-by-step software	Work with an agent who will write your offer for you
Negotiate	Handle negotiations directly with the seller's agent	Have an agent to negotiate on your behalf
Close	Work directly with the title & escrow company to close on the home	Your agent will help you with paperwork & closing documents
Fee	1% commission	Typically 2.5%-3.0% commission

Since the seller pays the buyer's commission, the seller would save the 1.5-2.0% in lower fees (when compared to the average 2.5%-3.0% buyers commission) that it typically pays to the buyer's agent. That means the buyer using Redfin Direct can offer the same price as competing offers, therefore giving the seller the savings since the net proceeds would provide a higher price to the seller. Or the buyer can offer a lower price (therefore taking some of the savings) which would provide the same net price to the seller. Regardless of who earns the cost savings, the important thing is that Redfin Direct lowers the frictional costs of buying/selling a home.

It is possible to envision a world where a self-powered digital real estate agent platform exists. The platform would be an end-to-end real estate offering, starting with online home search and 3D digital tours, scheduling self-tours, pre-approval and underwriting for a mortgage, constructing an offer, facilitating negotiations, title forward and escrow, hiring a lawyer for closing, etc. Given the complexity of the transaction involving multiple parties with various jobs and incentives, for the platform to succeed, it would have to start with a company that integrates every part of the real estate transaction to control the quality of each step.

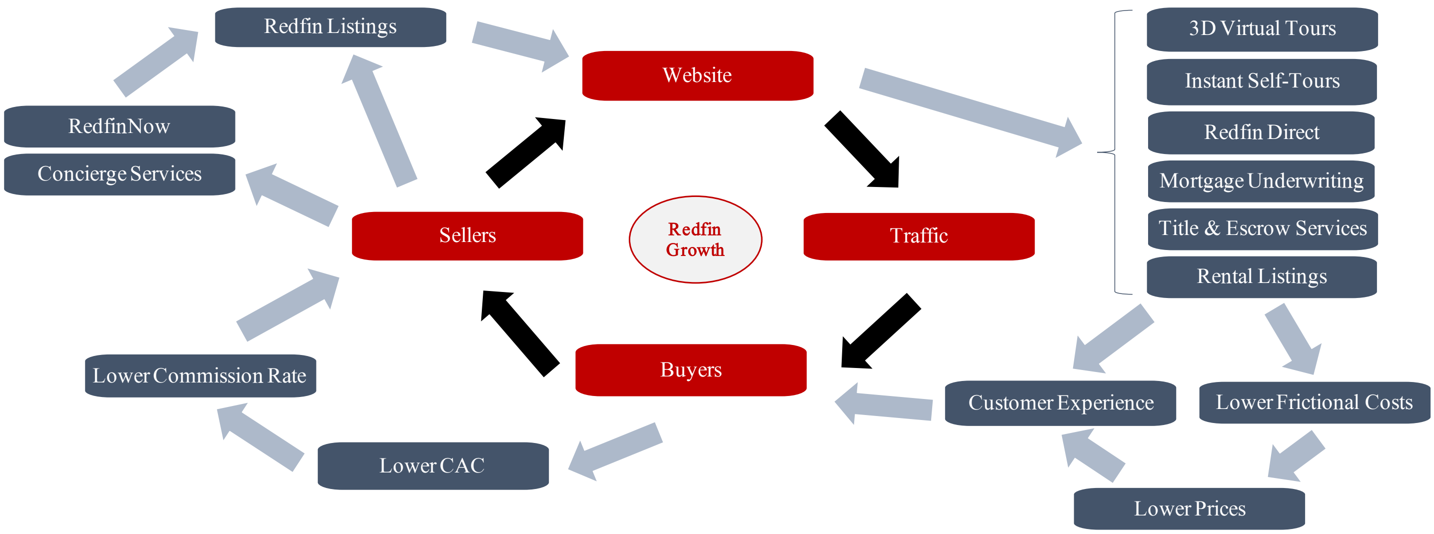
As adoption of the service grows under a company that fully integrates each of these processes/services, eventually the quality of each part of the transaction can be assured and the platform would be able to open up parts of the service offerings to third parties. It could support any listing that plugs into the platform. Buyers would increasingly bypass the help of an agent in favor of a digital agent platform and the unit economics of the real estate transaction would truly be changed in the consumer's favor.

Glenn Kelman discusses the potential of building an open platform to power the real estate industry in this 2017 interview. Redfin Direct is far from providing this open platform with wide consumer adoption, but there are signs that Redfin is well into the process of integrating the service offerings and could one day be the consumer-focused digital real estate agent platform.

Competitive Advantage

As the flywheel below indicates, Redfin started as a real estate website. It grew web traffic by aggregating MLS listings in each market. It initially monetized that traffic by offering brokerage services to home buyers from salaried real estate agents. As home buyer market share grew, it was able to grow its listing share. In order to grow listing share, it offered the majority of its productivity savings to listing customers and built its Concierge and RedfinNow service offering.

As listing share grows, Redfin is able to have more control over the selling process. It can offer 3D virtual tours, instant booking self-tours, Redfin Direct offers, mortgage underwriting, title & escrow services. These offerings improve the customer experience and lower the frictional costs of buying a house with the cost savings either getting passed on to customers or reinvested in improving the service offerings even further.



Source: Saga Partners

Borrowing from Hamilton Helmer's 7 Powers, Redfin's durable competitive advantage is a combination of counter positioning, scale economies shared, and network effects which all work together to strengthen its process power.

Counter positioning is when a new company adopts a superior business model which incumbents do not copy because it would damage their existing business. As it looks today, no other business is approaching the problem of lowering real estate transaction frictional costs in the same customer-centric way as Redfin. By integrating its web portal and hiring real estate agents full time, it allows Redfin's agents to not spend time prospecting for demand and the ability to focus on customer service, therefore making agents more productive, provide great customer service, and then passing on those savings to customers.

Traditional brokerages who hire their agents as independent contractors do not have the online aggregated demand compared to a Zillow, Realtor.com, Facebook, or Redfin. It is unlikely that the incumbent real estate websites will lose much traffic share from smaller portals because it is unlikely they will provide a materially better website experience to win over eyeballs given all sites have similar access to MLS supply data and Google's algorithms heavily favor incumbent sites. Without the internet aggregating demand of a highly trafficked portal, traditional brokerages are unable to remove the need for agents to prospect for demand themselves and therefore improve agent productivity.

Traditional brokerages are unlikely to force their agents to charge lower commission rates if transactions per agent remain unchanged, especially since most agents do not close enough transactions a year to make a decent living as it is. Established agents who already built their networks/client base through strong selling skills are unlikely to want to cap their upside either by cutting commission rates in half or by becoming a salaried employee if their brokerage doesn't offer any incremental benefits such as funneling demand to them.

Tech-enabled brokerages like eXp Worldwide and Compass have gained significant market share in recent years. While they are offering more attractive commission splits to agents and investing in tech platforms, their business models are still focused on improving agent pay and experience; while still important, still preserves the status quo real estate model and service offerings of the traditional brokerages, not on lowering the transaction costs to transfer property.

The other major real estate web portals like Zillow and Realtor.com have even greater customer channel conflict. Their current customers are agents who advertise on their platforms to gain client leads. If Zillow or Realtor.com decide to become a full-fledged brokerage (Zillow did become a broker to support selling homes from its iBuying business), it would alienate their current real estate agent customer base. Even if they decided to become a full-fledged brokerage that hired agents to buy/sell as a way to monetize its website traffic, despite the channel conflict, they would be entering a service-intensive business when their core competencies surround operating a more capital-light business model. Zillow's experience of entering the iBuying business in 2018 and then recently exiting it in November, is an example of the difficulties of trying to scale such a capital and operationally intensive business. After exiting the iBuying business, Zillow is unlikely to make any major business pivots/risks in the foreseeable future, with their CEO saying they "plan to focus on solutions that are asset- and capital-light."

Redfin's counter positioning, combined with the scale economies from having lower customer acquisition costs helps strengthen its durable advantage. By either passing these costs savings on to customers or investing in technologies that improve the customer experience, Redfin continues to grow its relative advantage compared to potential competitors.

The remaining pure play iBuyers such as Opendoor and Offerpad may attempt to grow a brokerage since it benefits their home flipping business and potentially provides the ability to monetize customers who do not want to sell their home to an iBuyer. However, they do not have the online presence to lower customer acquisition costs and therefore offer as good of a customer value proposition to customers who simply want to hire a real estate agent. While a company like Opendoor has a large balance sheet and the potential to invest in technologies to improve brokerage operations, iBuying is very capital-intensive and will likely consume most of Opendoor's resources in the foreseeable future. Similarly, agents that work at smaller "discount" brokerages may try to match Redfin's commission rates but would likely struggle to earn a sustainable operation, given they lack a significant online presence and hence do not have similar productivity levels to support profitability at discounted comissions.

One can see early signs of Redfin's growing two-sided network effect. While Redfin benefitted from aggregated MLS data early on and has invested in making its website useful for buyers, it does not have any privileged access to supply data, and Zillow and Realtor.com still have an advantage in website market share. However, there is value to sellers who list with Redfin if it charges lower fees and increases the chance that buyers will find and place an offer on their property. As Redfin has attracted more listings by giving the cost-saving benefits to sellers and provided potential buyers with numerous services to lower frictional costs of buying Redfin-listed properties, it draws more traffic and potential buyers to Redfin.com and then more sellers will want to list on Redfin. There are signs that the flywheel is turning.

Process power involves embedded activities that enable a company to have lower costs and/or a superior product built over many years. Redfin has been attacking the problem of making the real estate transaction better for consumers for over 15 years. The company is building what John McKelvey, the co-founder of Square, described as the innovation stack - a series of interconnected capabilities and solutions built on each other to create a sustainable, hard-to-copy advantage. It's not that any one of Redfin's services is an advantage in and of itself, it is the integration of all the services working together to create a customer value proposition for the various needs of buyers and sellers.

Forecast / Valuation

> "We are not going to grow 90% or 150% because we can't hire enough agents to deliver fantastic service to every one of our customers through some kind of bozo explosion, where we're hiring every single agent who can fog a mirror. Instead, we're trying to hire the best people, deliver fantastic results to our customers. And that is going to limit our short-term growth but ensure long-term growth." – Q4 2020 Earnings Call

> "This is why we believe we can build a company an order of magnitude larger than the one we have today." – Q2 2021 Earnings Call

Redfin has been committed to growing consistent and disciplined rate as it hires agents in new markets where sufficient demand can be realized through its web portal and return on marketing. Given how large the market is and the opportunity to improve the real estate transaction, it seems highly likely that Redfin will be able to continue to grow transactions at a consistent pace far into the future.

Given the opportunity to improve the real estate transaction is so large, with a wide-ranging opportunity to fix the many problems in a large industry, it is difficult to truly look out 10 years and have a clear picture of what Redfin will look like. However based on how things look today, Redfin has proven that it can execute in an operationally intensive service and crack away at disrupting an industry that has been largely resistant to disruption. At the minimum, it is likely that Redfin's historic trends are likely to continue into the future which is what the forecast below reflects. No upside in any of its ancillary businesses or potential for Redfin Direct disruption is considered.

For purposes of this forecast, only the Real Estate Services business is being considered.

- While RedfinNow is expected to provide gross profits going forward, it is still a young, low margin, capital intensive, and cyclical business. While the opportunity in iBuying is significant and it is a great lead generator for the brokerage business, no earnings power will be considered for that segment.
- The Other segment primarily consisting of mortgage and title. It is still relatively small and earning power has yet to be proven. Redfin has continued to invest in these businesses, and they are expected to significantly contribute to gross profits in the future.
- Rental was recently acquired and currently generates losses.

Below are sensitivity tables based on transaction and revenue per transaction growth assumptions over the next 10 years through the year 2031. A wide range of growth CAGRs were used in an attempt to reflect a large range of potential scenarios. One can form their own expectations based on Redfin's historical growth rates and industry dynamics. See Appendix 1 for an example of one of the sensitivity scenario forecasts.

Over the past six years:

- Brokerage transactions grew at a 27% CAGR and Partner transactions grew at a 12% CAGR.
- Brokerage revenue per transaction grew at 3% CAGR and Partner revenue per transaction grew at 18% CAGR.

Assumptions:

- Brokerage
    - Transaction CAGR ranges between 15-30% CAGR and revenue per transaction CAGR ranges between 0%-5%.
- Partner
    - Transaction CAGR fixed at 5% and transaction CAGR fixed at 4%.
- Transactions per agent remains stable at 34, providing 28% Brokerage GPM.
- Partner transaction GPM is fixed at 85%.
- Based on a combined GPM of ~30% in 2031, assume 15% operating income margin in 2031 (see Appendix 1 for margins at scale discussion).

Existing home sales are expected to be 6.3 million in 2021 and have grown at a 1% CAGR over the past 20 years and a 3% CAGR over the last five years. Assuming a 2% CAGR over the next 10 years provides 7.3 million existing home sales in 2031.

Based on the growth assumptions below, Redfin's total Real Estate transaction volume would be between 340 thousand-1.1 million in 2031, providing between 2-8% market share. Note market share is based on expected U.S. existing home sale transactions (as opposed to total U.S. home value) and then multiplied by two to consider both sides of the transaction.

Market Share (transactions)

	Brokerage Transaction CAGR			
	15%	20%	25%	30%
Transactions	339,861	504,789	744,666	1,088,373
Market Share	2.3%	3.5%	5.1%	7.5%

Real Estate Services revenue is between $3.6 billion and $19.3 billion.

Revenue ($ in thousands)

Rev/Trans CAGR	Brokerage Transaction CAGR			
	15%	20%	25%	30%
0%	$3,583,815	$5,414,509	$8,077,144	$11,892,300
2.5%	$4,550,349	$6,893,793	$10,302,191	$15,185,913
5%	$5,754,047	$8,736,054	$13,073,207	$19,287,694

Assuming a 15% operating margin (see Appendix 2), operating income is between $537 million and $2.9 billion.

Operating Income ($ in thousands)

Rev/Trans CAGR	Brokerage Transaction CAGR			
	15%	20%	25%	30%
0%	$537,572	$812,176	$1,211,572	$1,783,845
2.5%	$682,552	$1,034,069	$1,545,329	$2,277,887
5%	$863,107	$1,310,408	$1,960,981	$2,893,154

If Redfin's transaction market share is between 2-8% in 2031, it is reasonable to assume that there is still a long runway ahead to grow market share assuming its customer value proposition continues to be relatively more attractive compared to competitors. If Redfin's growth prospects are still strong, it likely deserves at least a market average multiple of 18x operating income (5.5% operating income yield), providing a market cap between $10 billion and $52 billion.

Market Cap

Rev/Trans CAGR	Brokerage Transaction CAGR			
	15%	20%	25%	30%
0%	$9,676,300	$14,619,174	$21,808,290	$32,109,209
2.5%	$12,285,943	$18,613,240	$27,815,917	$41,001,964
5%	$15,535,926	$23,587,347	$35,297,660	$52,076,773

Compared to Redfin's current market cap of $4 billion, it would provide a 10-year IRR between 9% and 29%.

Note market cap is more suitable to use than enterprise value given that most of Redfin's debt on the balance sheet is for asset-based lending supported by collateral in its iBuying and mortgage underwriting businesses.

10 Year IRR

Rev/Trans CAGR	Brokerage Transaction CAGR			
	15%	20%	25%	30%
0%	9%	13%	18%	23%
2.5%	11%	16%	21%	26%
5%	14%	19%	24%	29%

Source: Saga Partners, Factset

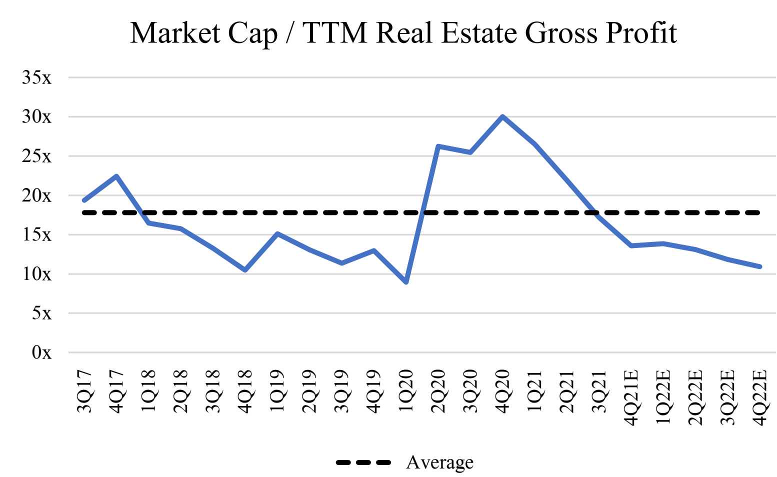
The above IRRs do not consider share dilution. There was some historic share dilution in 2018 which was related to convertible stock in connection to the IPO. In March 2020, Redfin raised capital in response to the spread of COVID by issuing common and preferred stock. While a capital raise was dilutive and probably not needed in hindsight, it was a cautious effort to ensure Redfin could survive what could have been a much more significant economic depression and did provide the capital to acquire RentPath for $608 million a year later. It is unlikely, although not impossible, that Redfin will need to issue additional stock for operating purposes. Absent any further equity raise and considering the dilution of the existing preferred stock and share based compensation, diluted share will likely grow at a ~2% CAGR lowering the above expected IRRs respectively.

It's important to note that these potential scenarios only consider the Real Estate Services business and mortgage, title, iBuying, rentals all provide upside optionality. Management has said they expect mortgage and title businesses to likely have similar margin profiles as the brokerage business. They also believe that a 50% attachment rate is attainable in title services since it tends to be less competitive. The mortgage business is more competitive and customers tend to be more price-sensitive so it is expected to have a 25% attachment rates. If mortgage and title are able to achieve those levels of attachment rates and earn similar margins as the brokerage business, they will make a significant contribution to gross profits.

The above scenarios also do not consider the potential impact of Redfin Direct which is a much more scalable and higher-margin service offering compared to using buyer agents. As Redfin grows listing share and buyers take on more of the responsibility of finding their home, it is likely buyers will become more comfortable with utilizing Redfin's website and software to place offers without the help of an agent in exchange for transaction savings.

As discussed earlier, Redfin could one day license out its software and tools to other listing agents to enable buyers to submit offers through Redfin Direct on non-Redfin listed properties. This was Redfin's original goal with Direct but the market was not ready for it in 2006. If other brokerages are seeing buyers gravitate to Redfin listings because of the cost savings and tools Redfin provides for an end-to-end digital closing, other listing agents would be more willing to accept Redfin Direct offers. Redfin would be able to scale Direct far beyond just Redfin listings and help infinitely more home buyers lower the cost of transferring ownership of a home.

While there is a lot of different opportunities in addition to Real Estate Services, valuation based only on that segment's profitability and growth potential alone look attractive. Redfin sells for 13x its trailing Real Estate Services gross profits which is far below its historic average of 18x. Its current multiple is near the lows reached during the Q4'18 market selloff and is even approaching the Q1'20 multiple low when the market was pricing in a complete halt of home buyer/seller demand in the foreseeable future. Today, Redfin continues to execute, and its value proposition and competitive positioning have never looked stronger.



Source: Saga Partners, Factset

Risks

1) Execution: Redfin still operates at a loss and has to continue to grow/gain share in order to scale operating costs.

2) Macro Conditions: Real estate market is a cyclical and interest rate sensitive industry. Demand to buy/sell homes can be impacted by macro-conditions. Redfin's iBuying is even more cyclical and capital intensive through the ownership of homes which creates greater risk in overpaying for homes and potentially realizing larger losses.

3) Competition: The different competitors in the real estate industry could pivot, merge, or invest in similar service offerings/value proposition that either more directly compete or offer greater customer value propositions.

Conclusion

Since hiring its first agent in 2006 and building the infrastructure over the last 15 years, Redfin's self-reinforcing flywheel of growing transaction volume/market share and passing on benefits of scale efficiencies to customers continues to accelerate. Redfin is building an end-to-end integrated solution that combines brokerage, mortgage, title services, and instant offers. By having the ability to share information across its platform, coordinate deadlines, and streamline processes, Redfin is lowering the transaction costs and making it easier for customers to buy/sell homes for lower fees. No other competitors are attempting to lower the frictional costs of the real estate transaction or approaching the problem with the same consumer-centric focus. The more Redfin is able to lower transaction costs and improve efficiencies, the more difficult it is for competitors to match Redfin's capabilities.

Redfin's current $4 billion market cap looks very attractive at 13x its trailing Real Estate Services gross profits which is below the historic average of 18x. The company has a long runway to continue to grow and gain market share from competitors that do not have the ability to offer as strong of a customer value proposition. Even if one assumes future growth rates are below historic trends (despite only having ~1% market share) and operating costs benefit from scale advantages, it could provide a 10-year expected IRR in the high teens to low twenties. Ancillary services and the potential for Redfin Direct to be an open platform for the real estate industry all provide significant upside to those expectations and potentially make Redfin worth multiples of its current valuation.

Appendix 1

The below forecast is for the scenario Brokerage transactions grow at a 25% CAGR and Brokerage revenue per transaction grows at a 2.5% CAGR.

CAGR		2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
	Transactions												
25%	Brokerage	60,510	76,847	96,059	120,073	150,092	187,615	234,518	293,148	366,435	458,044	572,555	715,693
5%	Partner	15,290	17,787	18,676	19,610	20,590	21,620	22,701	23,836	25,027	26,279	27,593	28,972
	Total Transactions	75,800	94,634	114,735	139,683	170,682	209,234	257,219	316,984	391,462	484,323	600,147	744,666
	Revenue per transaction												
2.5%	Brokerage	10,040	11,100	11,378	11,662	11,953	12,252	12,559	12,873	13,194	13,524	13,862	14,209
4.0%	Partner	2,858	3,100	3,224	3,353	3,487	3,627	3,772	3,922	4,079	4,243	4,412	4,589
	Aggregate	8,591	9,596	10,050	10,495	10,932	11,361	11,783	12,200	12,612	13,021	13,428	13,835
	Brokerage	607,513	853,002	1,092,908	1,400,289	1,794,120	2,298,716	2,945,230	3,773,577	4,834,895	6,194,709	7,936,971	10,169,244
	Partner	43,695	55,138	60,211	65,750	71,799	78,405	85,618	93,495	102,096	111,489	121,746	132,947
	Revenue	651,208	908,140	1,153,119	1,466,039	1,865,919	2,377,121	3,030,849	3,867,071	4,936,991	6,306,199	8,058,718	10,302,191
	YOY % Growth	*24.4%*	*39.5%*	*27.0%*	*27.1%*	*27.3%*	*27.4%*	*27.5%*	*27.6%*	*27.7%*	*27.7%*	*27.8%*	*27.8%*
	Margins												
	Brokerage	32%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
	Partner	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
	Gross Profit Margin	36%	34%	31%	31%	30%	30%	30%	29%	29%	29%	29%	29%
	Brokerage	196,927	254,987	306,014	392,081	502,354	643,641	824,665	1,056,601	1,353,771	1,734,519	2,222,352	2,847,388
	Partner	37,141	49,624	51,179	55,888	61,029	66,644	72,775	79,471	86,782	94,766	103,484	113,005
	Gross Profit	**234,068**	**304,611**	**357,194**	**447,969**	**563,383**	**710,285**	**897,440**	**1,136,072**	**1,440,553**	**1,829,285**	**2,325,836**	**2,960,393**
	Operating Margin												15%
	Operating Income												**1,545,329**
	Transactions / Agent	34.4	32.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
	Total Agents	1,757	2,400	2,825	3,532	4,414	5,518	6,898	8,622	10,778	13,472	16,840	21,050
	YOY New Agents	204	643	425	706	883	1,104	1,380	1,724	2,156	2,694	3,368	4,210
	TAM												
	Existing home sales (thousands)	6,650	6,290	6,384	6,480	6,577	6,676	6,776	6,878	6,981	7,086	7,192	7,300
	Market Share Transaction	0.6%	0.8%	0.9%	1.1%	1.3%	1.6%	1.9%	2.3%	2.8%	3.4%	4.2%	5.1%
	Avg price of home (thousands)	281	289	298	307	316	326	335	345	356	367	377	389
	U.S. Transaction Volume	1,867,950	1,819,833	1,902,544	1,989,015	2,079,415	2,173,925	2,272,730	2,376,025	2,484,016	2,596,914	2,714,944	2,838,338
	RDFN aggregate transaction value	$ 37,359	47,317	59,088	74,095	93,254	117,748	149,094	189,248	240,725	306,763	391,528	500,384
	Market Share	1.0%	1.3%	1.6%	1.9%	2.2%	2.7%	3.3%	4.0%	4.8%	5.9%	7.2%	8.8%
	Industry brokerage fees (2.5%)	93,398	90,992	95,127	99,451	103,971	108,696	113,636	118,801	124,201	129,846	135,747	141,917
	RDFN Brokerage fee mkt share	0.7%	1.0%	1.2%	1.5%	1.8%	2.2%	2.7%	3.3%	4.0%	4.9%	5.9%	7.3%
	Avg home price	492,863	500,000	515,000	530,450	546,364	562,754	579,637	597,026	614,937	633,385	652,387	671,958

Source: Company filings, Factset, Saga Partners

Appendix 2

Management has historically managed the business to near breakeven as they reinvested to grow the business and has not provided what they expect operating margins to be at scale. Below is a table with historic operating expenses as a percent of gross profits, as opposed to revenues in order to consider any potential mix shift between Real Estate Services between Brokerage and Partner transactions.

							Opex as a % of Gross Profits at Scale	
	2015	2016	2017	2018	2019	2020	Bear	Bull
Technology and development	56%	41%	37%	44%	46%	36%	22%	12%
Marketing	40%	34%	28%	36%	51%	23%	20%	10%
General and administrative	63%	50%	47%	53%	51%	39%	15%	12%
Total Opex / Gross Profits	159%	126%	112%	133%	149%	99%	57%	34%
Operating Income / Gross Profits	-59%	-26%	-12%	-33%	-49%	1%	43%	66%
Operating Income / Revenue	-16%	-8%	-4%	-9%	-14%	0%	13%	20%

Source: Company filings, Factset, Saga Partners

One can form their one expectation for scale margins, but it is reasonable to expect Technology & Development should scale as they have invested in other business segments that have not yet realized material gross profits. As marketing spend started to ramp up in 2019, management mentioned that they expect marketing spend to grow at a slower rate than gross profits into the future and will likely scale to somewhere between 10-20% of gross profits. G&A expense should be scalable as the brokerage business grows, 12%-15% of gross profits seems reasonable when compared to other similar business at scale. Based on these assumptions, operating expenses would be between 34%-57% of gross profits. If you assume 30% gross profits margins at scale, operating income/sales would be between 13%-20%. Based on these expectations, a 15% operating margin is reasonable and used for forecasting purposes.