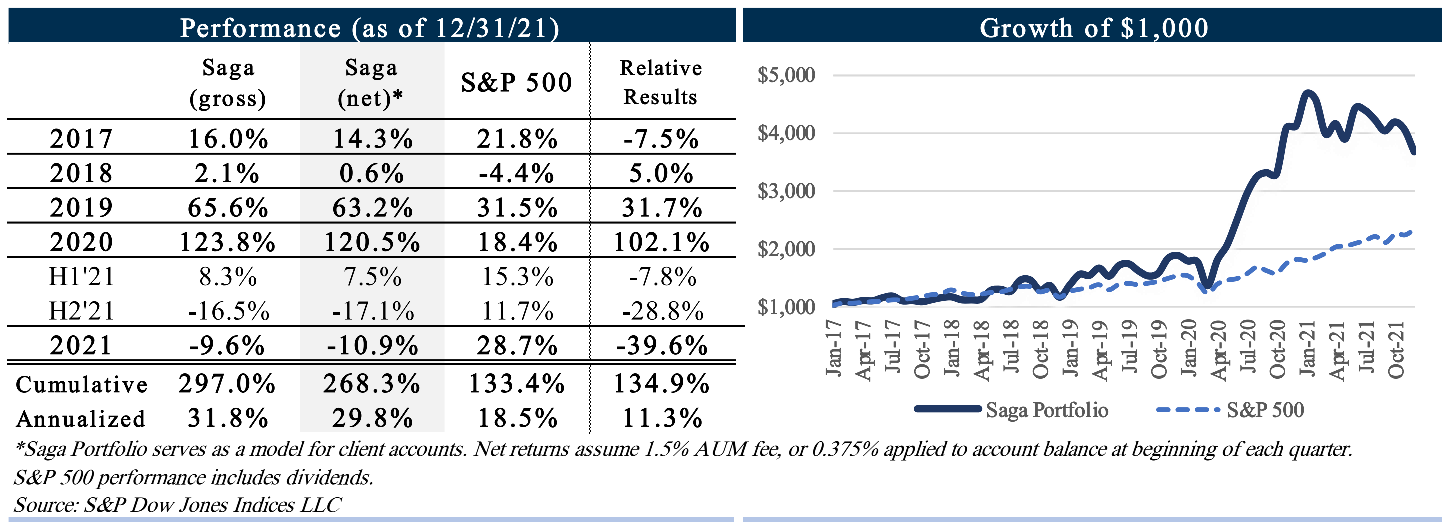
SEMI-ANNUAL REPORT

SECOND HALF 2021

H2 2021 Results

During the second half of 2021, the Saga Portfolio ("the Portfolio") decreased 17.1% net of fees. This compares to the overall increase for the S&P 500 Index, including dividends, of 11.7%.

The cumulative return since inception on January 1, 2017 for the Saga Portfolio is 268.3% net of fees compared to the S&P 500 Index of 133.4%. The annualized return since inception for the Saga Portfolio is 29.8% net of fees compared to the S&P 500's 18.5%. Please check your individual statement as specific account returns may vary depending on timing of any contributions throughout the period.



Performance (as of 12/31/21)

	Saga (gross)	Saga (net)*	S&P 500	Relative Results
2017	16.0%	14.3%	21.8%	-7.5%
2018	2.1%	0.6%	-4.4%	5.0%
2019	65.6%	63.2%	31.5%	31.7%
2020	123.8%	120.5%	18.4%	102.1%
H1'21	8.3%	7.5%	15.3%	-7.8%
H2'21	-16.5%	-17.1%	11.7%	-28.8%
2021	-9.6%	-10.9%	28.7%	-39.6%
Cumulative	297.0%	268.3%	133.4%	134.9%
Annualized	31.8%	29.8%	18.5%	11.3%

Saga Portfolio serves as a model for client accounts. Net returns assume 1.5% AUM fee, or 0.375% applied to account balance at beginning of each quarter.
S&P 500 performance includes dividends.
Source: S&P Dow Jones Indices LLC

Interpretation of Short-Term Results

During 2021 the Saga Portfolio underperformed the S&P 500 Index and as I write this letter, the relative underperformance has only continued into the beginning of 2022. We want our investors to evaluate the Saga Portfolio's results with a critical eye but to evaluate them over the correct timeframe. I have no ability to predict where the market will quote our portfolio holdings over the next year.

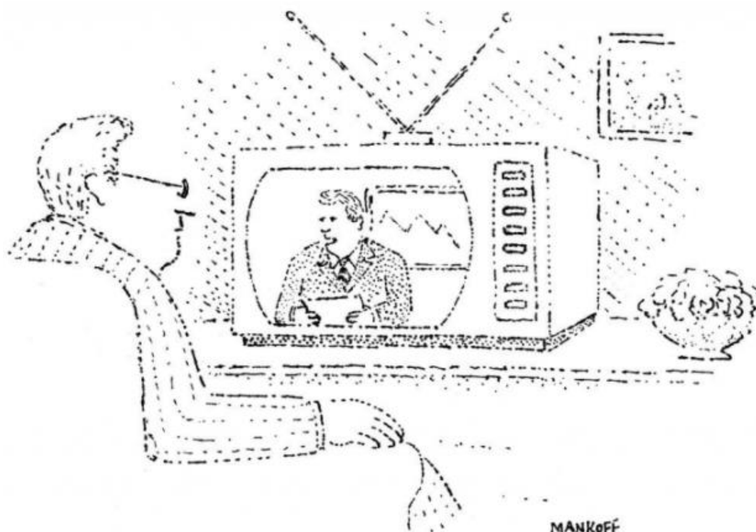
Last year I felt the need to reign in what could have potentially turned into impossible to meet expectations after a year of material outperformance. Our most recent investors have therefore not participated in such unusually strong results, so I feel the need to reconfirm long-term expectations.

The Q4 2019 letter I said,

> *"There is no doubt the Saga Portfolio will have negative years and perhaps periods of significant underperformance to the general market. Constantly comparing how one's portfolio is performing against the S&P 500, or any benchmark, is likely to distort the investing process. This is not to say we shouldn't have a measuring stick. We continue to think at least a five-year period of performance compared to the general market is a reasonable time to begin to assess an investment strategy, preferably with tests of relative results in both strong and weak markets."*

I find that explanations of short-term performance are really just an example of narrative bias attempting to place rationale behind stock price fluctuations which always look so obvious in hindsight. A period of rising stock prices might be explained by an improving economic outlook, lower interest rates, or beating consensus estimates. A period of decreasing prices might be explained by rising interest rates, inflation, or increasing uncertainty surrounding some macro event. When is there ever a lack of uncertainty surrounding the future?

It reminds me of this cartoon that Howard Marks has included in a past memo.



"On Wall Street today, news of lower interest rates sent the stock market up, but then the expectation that these rates would be inflationary sent the market down, until the realization that lower rates might stimulate the sluggish economy pushed the market up, before it ultimately went down on fears that an overheated economy would lead to a reimposition of higher interest rates."

I prefer not to discuss short-term performance because it places reasoning behind the unpredictable and therefore potentially creates an illusion of control and certainty where none exists. It could make one feel good when stocks rise but also alarmed or frightened when they inevitably fall from time to time. Why spend precious time and energy worrying about something that you cannot control or predict?

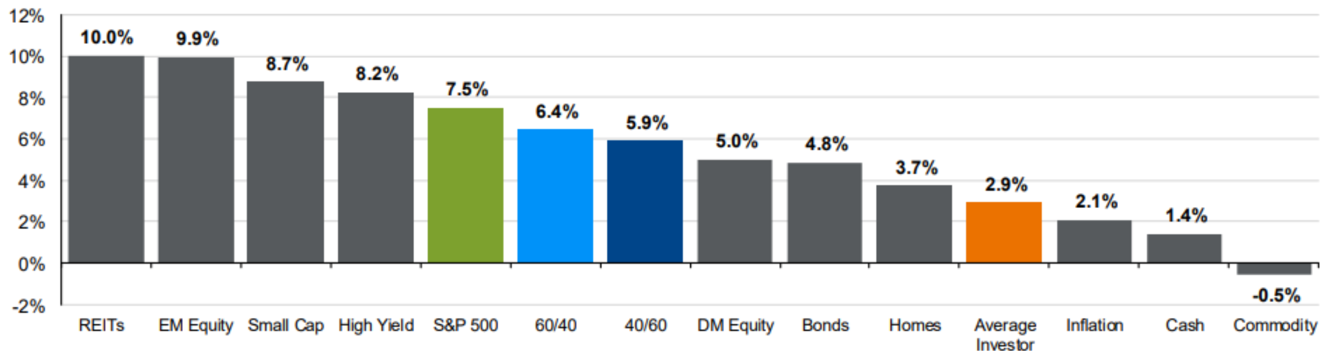
In this letter I wanted to discuss how I think about drawdowns since the Saga Portfolio is currently going through one, as well as my thoughts on timing the market and holding cash. As I started writing, I realized that I already discussed these topics in the Q1'20 Investor Letter following the COVID selloff, which lo and behold perfectly explains my views,

> *"A panic, crisis, or recession occurring does not impact how we manage the Saga Portfolio by any means. During a downturn, we do not rotate from low quality companies into higher quality, or cyclical to non-cyclical, or from an out of favor industry into a more favorable industry, etc. At any part of the market cycle, we only own companies that meet our investing criteria with the expectation that we would be happy to own them throughout a downturn."*

It is easy to look back at prior highs or lows and say, "I knew I should have sold" or "I knew I should have bought." The thing is, I didn't know, otherwise I would have done so. If the outcome was so clear, then the

decision to act would have been simple. If I had absolute conviction how the market would twist and turn each day, month, or year, I would invest in a much different manner and provide perfectly consistent market-beating returns. Of course, if I knew what the market would do next then it is likely that others would as well, which would negate that insight…one can see the circular logic.

By trying to guess short-term movements in the market, people have been more likely to hurt rather than help their long-term returns. JP Morgan's annual 2021 Guide to the Markets report has a chart each year with the 20-year annualized return by asset class that shows the average investor significantly underperforms all asset classes and has barely kept up with inflation.



Source: JP Morgan Asset Management

It has been well-documented that over 90% of mutual funds underperform the market over the long-term, but the average investor in those mutual funds underperforms the fund's underperformance. Peter Lynch was one of the most successful mutual fund managers. He managed Fidelity's Magellan Fund from 1977-1990 and delivered an astounding 29% annualized return over his 13-year tenure, but the average investor in Magellan only made ~7% annualized return during the same period.

A 2019 DALBAR study found that the average investor in any equity mutual fund underperformed the S&P 500 by nearly 5% annually over a 30-year span. The primary reason for underperformance points to the investor retention rate data within the mutual funds, or rather the lack of investor retention. There is an inflow of money into mutual funds that recently outperform and an outflow following underperformance. Just as the best investments underperform the market at times, the best actively managed portfolios also underperform the market at times and investors sell following that underperformance. Peter Lynch discussed, "when he would have a setback in performance, the money would flow out of the fund through redemptions. Then when he got back on track it would flow back in, with investors having missed the recovery." Expecting a company's stock or an actively managed portfolio to outperform at all times is sure to disappoint.

Most of the best companies in the world are publicly traded and anyone has the ability to own a small piece of them through shares. However, the ability to buy or sell shares everyday often encourages people to trade often. People turn the advantage of constant liquidity into a disadvantage because they exchange ownership in companies based on whatever the sentiment may be for that day as though a company were just a piece of paper. This activity often leads to herd behavior, positive feedback, and cascade effects causing excesses of greed and fear, i.e. buying high and selling low.

The purpose of this lengthy explanation is to try and convey the inability for people to time the market or predict short-term performance. People think they can better guess where others will guess a stock will be priced at some

point in the near future. If one is trying to figure out when to get in and out of the market, it is even more likely they will be overly influenced by the subsequent price action of their "investments" immediately after purchase or sale to get validation of their recent actions. If they buy today with the hopes of higher prices tomorrow but instead prices go in the opposite direction, it can lead to doubt and questioning the initial premise, leading to anxiety and fear of being wrong and "losing" money. Of course, there is a ~50% chance prices move in the predicted direction, which then confirms the belief in their ability to outwit others.

In other assets, such as buying a home, bonds, or a non-publicly traded business, people generally act more rationally. That is because when they buy those assets, they typically plan to own them for longer periods of time and therefore think long and hard before assuming ownership of the asset. The lack of liquidity encourages more rational behavior. It is interesting how smart private equity investors can act very rationally when it comes to private investments but irrationally when it comes to their public equity investments.

Investors in the Saga Portfolio choose to play a different game. We do not attempt to time the market or guess what stocks will do next. We do not look at past price movement as confirming or disconfirming evidence of an investment hypothesis. Rather than focus on whether we should be in or out of the market or how much cash we should hold, we base all of our decisions on the long-term opportunity costs available to us today. Trying to decide on how much exposure one wants to the market vs. trying to allocate to the best opportunities available today are two completely different questions.

I imagine that the Saga Portfolio will always be fully invested assuming we can find enough attractive opportunities we understand and are not overly concentrated in any one of them. Not having to worry about the day-to-day movements of the Saga Portfolio companies is a competitive advantage because it increases our ability to focus on the real work of studying businesses. If we are right about the long-term fundamental outlook of the underlying company and purchase shares at an attractive price relative to those expectations, eventually the market will reflect that value and long-term results will be more than satisfactory.

How to Think About Volatility

One thing will always remain true so long as human behavior does not change, people get excited when stocks go up and scared when stocks go down. With the help of hindsight, every market drawdown has been an opportunity. However, as we live through each new drawdown it always makes one consider, "is this time different?" We are wired to panic when others panic and get greedy when others are greedy despite the exact opposite behavior being far more lucrative when it comes to investing in publicly traded stocks. Short-term price volatility is not the same as investment risk, in fact, it's quite the opposite. The greater the volatility in stock prices, the more likely our long-term returns will be higher.

Volatility is uncomfortable for the average investor and therein lies the opportunity. The Saga Portfolio's willingness to accept more volatility over the short-term and our investor's willingness to trust in our analysis has enabled us to make better decisions and thus achieve a higher rate of return over the long-term. It is this willingness that will let us continue to make these decisions in an effort to achieve higher rates of return far into the future.

The best returning stocks of all time have experienced 50%+ drawdowns at multiple points during their life. One can only assume that anything less than the best investments will also face similar events. One example in the Saga Portfolio is The Trade Desk which it has owned since 2017. The stock has experienced *six drawdowns* of ~40% or more over the last *five years*, yet it has provided a ~90% annual return since our initial purchase price

including the most recent 40% drawdown. The Trade Desk was an exceptionally attractive investment despite its significant volatility. We could only be so lucky to find more volatile stocks like the Trade Desk. These fluctuations are completely normal in stocks and will likely continue to occur in the future. The market can misjudge or ignore business success for a while, but eventually it will realize it.

From an overall market view, the past two years have been anything but ordinary, that is if there is such a thing as ordinary in the market. In 2020, the market experienced its steepest crash in the history of the stock market (over 30%) followed by the steepest recovery in the history of the stock market; largely reflecting the subsiding panic surrounding COVID and monetary/fiscal stimulus policies pursued by the government and Federal Reserve. This stimulus, among other factors, led to a more speculative environment as reflected by the countless SPAC (special-purpose acquisition company) listings, skyrocketing “meme stocks” like GameStop and AMC, crypto currencies, and non-fungible tokens (NFTs); which is a concept I still have a difficult time understanding. It has been interesting to watch to say the least and has made me feel like an old stodgy value investor simply holding onto our ownership in a few companies.

During times of greater volatility there are a few tools that help us filter the noise and stay focused on what really matters. First is the Mr. Market parable popularized by Warren Buffett. While it’s good to have a healthy appreciation and respect that the market is generally right much of the time, it is also healthy to appreciate that it can be manic depressive and move between euphoric highs and depressed lows in a heartbeat. By framing the market in this light, it helps to not become overly influenced during its manic episodes.

The value of part ownership in a company does not change because the market says it changes. Less time and energy should be spent focusing on where and why the market is valuing a stock at its current price. Stocks can swing wildly for many reasons and sometimes for no reason at all. They can diverge, sometimes significantly and for long periods from their underlying value. Therefore, if we think the market is incorrectly valuing a stock at $X per share, then there is no reason to believe that the market would be any more correct at $0.9X or even $0.5X per share simply because the price moved further away from our estimated calculation of intrinsic value.

I like to think of putting my shares of a company in a vault, locked away for at least the next 5-10 years. The number of shares in that vault or the percent ownership in the company does not fluctuate (assuming the company doesn’t issue more shares). Think about opening up that vault to look at the share’s value in the year 2027 or better yet 2032. During the interim period, Mr. Market continually shouts out what he believes those shares are worth each day, but I don’t even have the opportunity to consider his offer because the shares are locked up.

If it was legally required that shareholders could not sell shares for at least five years, people would act more like rational investors and less like emotional speculators. If you enter stock ownership with the expectation of not selling it for many years, much like one would with a home or a private business, then you are relying on the underlying earnings power of the company to return value to you, not in the hopes of a “greater fool” paying a higher price for it in the near future.

While it may not feel like it at the time, significant volatility is in the investor’s long-term interests. An investor’s most significant advantage of investing in the public market is the ability to take advantage of it when an opportunity presents itself or to ignore it when they want to. The key is to never give up this advantage.

Interpretation of Intermediate Results – Five-Year Anniversary Reflections

The Saga Portfolio has reached its five-year anniversary! It's a nice milestone to reflect on what has been a dream of managing an investment portfolio for others the way I believe a portfolio should invest, not influenced by the institutional pressures so common throughout the investment management industry.

According to Goldman Sachs' 2020 Hedge Fund Survivorship report, roughly half of U.S. funds survive past five years. For "smaller" funds that started with less than $25 million, only 40% make it to the five-year mark. To say that the Saga Portfolio launched with more modest beginnings would be putting it kindly.

Since beginning the Saga Portfolio, I have consistently told investors to ignore the short-term fluctuations of the market and that a five-year period of performance, *at the minimum*, compared to the general market is a reasonable time to begin to assess an investment strategy. While short-term performance is mostly random, eventually one must look at the scoreboard and get results. Five years may still reflect good or bad luck, or obscure results if the starting or ending points include abnormal periods, but it should begin to give a general idea if past investment decisions have been prudent. Saga Partners does not want to be the investment firm that boasts about its superior philosophy and process but after a decade of effort has results that leave investors no better off than if they simply invested into the S&P 500 Index.

How is it possible, for what has mostly been a two-man shop with few resources, to successfully compete in what is a highly competitive industry against multibillion-dollar investment firms that essentially have infinite resources? The answer: The Saga Portfolio is playing a completely different game. Comparing our returns to other actively managed investment strategies helps frame results, but it's not really a fair comparison because the Saga Portfolio has several structural advantages that large institutional investment firms do not.

While the investment management industry is very competitive, it primarily competes based on marketability, not necessarily performance. Investment managers face conflicting incentives described as the principal-agent problem. The conflict is between what is in the best interests of investors (principals) and what is in the best interests of the fund management company (agent). Mutual funds, as well as most investment products, are largely optimized for what is saleable, which often conflicts with optimizing for compounding capital over the long-term.

Certain practices within the mutual fund industry highlight some of these precarious activities. One I find particularly misleading is when investment firms start numerous funds and then after several years only market the ones that have provided outperformance. Underperforming funds inevitably close and go to the graveyard of long forgotten failed investment strategies. However, that does not stop the investment firm from starting new strategies to market to unknowing clients.

I don't mean to pick on Fidelity Investments since they are a respectable mutual fund company, but there are more than one hundred different U.S.-focused Fidelity mutual funds with a five-year track record on the Morningstar database. Four of them were in the top 20 performing mutual funds. If you go to the Fidelity website, there is no shortage of fund categories available, segmented by market cap, industry sector, geography, value, growth, sustainable investing, thematic funds, concentrated, diversified, income oriented, target date funds, "go-anywhere" opportunistic funds. Inevitably, some of these strategies will perform amazingly during certain periods while others will not. How is an investor to choose which ones will likely do well going forward?

Besides the practice of launching numerous funds and marketing the few that outperform, fund management companies are simply trying to give potential customers what they want, which makes perfect sense from a

business standpoint. However, when it comes to their money, customers typically want their portfolio value to march up and to the right in a perfectly straight line. The average investor demands consistent performance, wide diversification, and the avoidance of unpopular "risky" investments.

As discussed earlier, people do not typically handle the volatility of daily quoted stock prices very well. Loss aversion is a very real bias where losses can feel more than twice as powerful as gains. The average person would rather earn a steady 5%, than a portfolio that rises 20% but then falls to provide a 10% return. The 10% return is twice as good as the other option but leaves the investor disappointed because they feel as though they "lost" 10%. Watching the balance of their account decline from the prior month or year leads to unhappy customers. When the choice is between providing a less volatile mediocre return or a more volatile exceptional one, the decision is easy from a business standpoint.

Another misaligned practice is something called window dressing. Portfolio managers might feel pressured to avoid investing in what are considered to be "hated" assets that are viewed as too risky. While investors may state they want a strategy that thinks independently, in practice it is very difficult to own an unpopular asset that consensus "knows" to be risky especially if its price is declining.

In most institutional settings, a portfolio manager's personal risk/reward for making an unconventional decision is obvious. If it works out well, they are modestly rewarded, if it works out poorly, it can be career stifling. Most managers have little incentive to make the rare contrarian bet that goes against the herd, yet that is precisely what one has to do if the goal is to earn market beating returns. Failing conventionally through widely diversifying and owning "safe" assets is the intelligent business route to go, as experienced by the ~90% of U.S. equity funds that underperform the S&P 500 over a 10-year period. Hedge fund performance data is vague given the more private and wide-ranging nature of the investment strategies. However, the available data paints a similarly uninspiring picture.

I have had the opportunity to speak with several other portfolio managers over the years who have openly said they manage their private personal portfolio much differently than their professionally managed client portfolio. The most common differences they mentioned were: 1. concentrate more on their best ideas, 2. trade less, 3. care less about volatility and relative performance to some benchmark.

Why isn't it possible to manage money professionally as though one would manage it for themselves? The answer is that it is difficult from a business standpoint, but it is possible. It just takes a long time to build trust and attract an aligned investor base that supports that specific strategy.

Given my experience managing the Saga Portfolio over the last five years, it is easy to understand how someone who initially has genuine motivations for launching their own investment portfolio would make exceptions to their strategy as a way to make it more marketable. As the bills start adding up and investors are nowhere to be found, it is easier to conform to the pressures of the institutional imperative and give in to the more conventional path. Why not just give the customer what they want and make a nice living? It can be very lucrative to provide comfortable returns that hug the benchmark by offering supposed "risk management."

Personally, it is far more satisfying to build an investment firm that manages money in the way I think it should be managed with likeminded investors. If I had the obstacle of managing capital for an investor base that had the risk of running for the exit at the first sign of an inevitable panic, I would likely manage the Portfolio much differently. I would find the task of having to be widely diversified, which requires frequent activity and constant turnover of new ideas each month, impossible to manage for outperformance over the long-term.

The benefit to our investors is that they do not have to worry about the principal-agent problem when it comes to the Saga Portfolio. I have no career aspirations beyond my current role, and I manage the Saga Portfolio as if it were my own money because it is my own money, as well as many of my closest family and friends' money. Our competition on the other hand has the impossible burden of needing to outperform every quarter and year while not taking any career stifling contrarian "risks" regardless of how attractive they think the opportunity may be.

Portfolio Update

Despite what has been a pretty wild market over the past year, there was little action in terms of investing in new ideas. For those who are interested in reading more about my thoughts on our investment in Redfin, there is a write-up in the appendix below.

To evaluate performance, I look to the company's operating results rather than the fluctuating price quotations. All of our time and effort is spent trying to answer the question, "if we own this investment forever, what will our returns be from today's price?" There is no consideration surrounding price momentum, beta, fund flows, potential guidance/earnings beats or misses, etc.

At the end of the day, the investing problem we are trying to solve is estimating the net cash that will be returned to owners per share over the company's remaining life, and then paying a price relative to those expectations that will provide an attractive rate of return. Therefore, the value of a stock in a company over time will be the dividends paid to owners, plus or minus the market's capitalization of the company's ability to pay dividends in the future per share.

Most of the Saga Portfolio companies are generally at an earlier stage in their lifecycle. They are reinvesting all cash flows back into the company to take advantage of investment opportunities, with the exception of Facebook, which has been building a net cash balance on its balance sheet and started repurchasing shares. Given the companies are currently scaling operations and are not at mature operating margins, one way to evaluate their progress in earnings power is evaluating the growth in gross profits.

Traditional "value investors" may scoff at considering earnings power as anything above net income, while traditional "growth investors" may scoff at looking below revenues. I am neither in the traditional sense and am simply trying to assess intrinsic value.

Contrary to what many traditional value investors believe, just because a company does not have free cash flow or pay dividends today does not mean it has no value. Berkshire Hathaway or Amazon have never paid dividends to shareholders, but their ability to pay dividends has grown over time because they reinvested cash flows back into their business, which has been appreciated by a higher market value.

Using historic gross profits is just a proxy for a company's unit economics, which can then be extrapolated into the future until end markets are more saturated, growth slows, operating margins normalize/mature, and the company provides net profits (dividends) to owners. A more comprehensive analysis would dig into each company's unit economics, but for the purposes of this letter gross profit growth will provide a reasonable proxy for earnings power growth.

Below are the historic gross profits for each of the Saga Portfolio's companies at the end of the year. Note the Saga Portfolio has not owned each of these holdings during the entire period below.

	Gross Profit ($ in millions)					
Company	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Carvana	$19	$68	$201	$512	$794	$1,929
Facebook	$23,849	$35,199	$46,483	$57,927	$69,273	$91,360
GoodRx	$89	$145	$234	$361	$503	$664
Redfin*	$84	$114	$123	$150	$234	$300
Roku*	$121	$200	$332	$495	$808	$1,409
Trade Desk	$164	$245	$368	$510	$666	$991
Trupanion	$33	$43	$51	$65	$82	$104

Source: Saga Partners LLC, Company filings
**Redfin gross profits only include the Real Estate segment; Roku gross profits only includes the Platform segment*

It is difficult to find a weak link among the 2021 expected results of our companies. Gross profits of the Saga Portfolio companies are expected to grow at an average 55% year-over-year and have grown at an average 56% compound annual growth rate (CAGR) over the last five years. Each one of our companies continues to execute in what has been a challenging operating environment considering shifting customer habits, supply chain issues, etc.

	Year-Over-Year % Change in Gross Profit					
Company	**2017**	**2018**	**2019**	**2020**	**2021E**	**5 Yr CAGR**
Carvana	255%	195%	155%	55%	143%	151%
Facebook	48%	32%	25%	20%	32%	31%
GoodRx	63%	61%	54%	39%	32%	49%
Redfin*	36%	8%	22%	56%	28%	29%
Roku*	65%	66%	49%	63%	74%	63%
Trade Desk	49%	50%	39%	31%	49%	43%
Trupanion	29%	19%	26%	26%	27%	26%
Average	78%	62%	53%	41%	55%	56%

Source: Saga Partners LLC, Company filings
**Redfin gross profits only include the Real Estate segment; Roku gross profits only includes the Platform segment*
***Note gross profit growth per share is somewhat lower for companies that have raised equity capital by issuing secondary offerings, acquisitions financed with stock, or convertible debt*

Below is a chart of the Saga Portfolio company's historic market cap to trailing twelve-month gross profits. One can see how valuation multiples surpassed historic averages at the end of 2020 with the average price to trailing-twelve-month gross profit multiple of our portfolio companies increasing from 21x in 2019 to 41x in 2020.

	Market Cap / TTM Gross Profits					
Company	2017	2018	2019	2020	2021E	2022E**
GoodRx	NA	NA	NA	29x	19x	9x
Carvana	37x	24x	28x	50x	21x	10x
Redfin*	22x	10x	13x	30x	11x	7x
Roku*	30x	11x	33x	55x	21x	10x
Trade Desk	6x	12x	21x	52x	45x	24x
Facebook	15x	8x	10x	11x	10x	8x
Trupanion	20x	17x	20x	58x	51x	26x
Average	22x	14x	21x	41x	25x	13x

Source: Saga Partners LLC, Factset, 2022E consensus gross profits estimates
**Redfin gross profits only include the Real Estate segment; Roku gross profits only includes the Platform segment*
***2022E based on Factset consensus gross profits. Market cap based on 1/31/22 price.*

There are a few things to consider when reflecting on historic multiples. Multiples are simply a reflection of the market's current valuation of a company relative to a recent fundamental metric. The higher the multiple the more the market is baking in future growth of that recent fundamental.

During 2020 and much of 2021, the market placed increasingly high expectations on many companies, particularly those considered "higher growth." In some cases, lofty valuations were placed on certain companies that had yet to generate any revenues but simply the promise of revenues far out in the future. When it came to many SPAC offerings last year, there was no value creation but more of a wealth transfer from hopeful speculators to those promoting "companies" that were unlikely to ever generate profits for owners.

Since Saga Portfolio companies generally have a larger growth component in their intrinsic value, they also traded up with the optimistic environment. Towards the end of 2021 and into 2022, sentiment quickly shifted and the prices of many of these stocks declined materially as reflected in the lower 2022E multiples.

One can look back at the higher multiples and believe it made sense to sell what appeared to be a potentially overvalued company. I have found that selling the truly rare company with strong prospects that you understand well simply because the current multiple might appear to have gotten a little ahead of itself has been a mistake on average. If one sells a company, they then have to figure out where to reinvest the proceeds. They can sit in cash awaiting a market correction; however, as discussed earlier trying to dance in and out of the market based on guessing where it will trade next is more likely to hurt rather than help returns over the long run and is not a game that I am any good at.

It is very likely that if we were trying to sell a company simply based on multiples rather than our estimate of intrinsic value, we would have likely sold many stocks far before any high was reached and even likely far below the lows reached after a drawdown. This "not timing the market" philosophy may feel like a liability during a drawdown, but it was this very philosophy that enabled us to experience the drawdown because we stayed invested to reach the highs in the first place. If only we could know when a stock would bounce between each high and low with perfect foresight, then investing would be easy!

While the best investment scenario is owning a great business at a great price, we can only pick from the opportunities that lie in front of us. If faced with picking between owning a great business at a questionable price or a questionable business at a questionable price, I will stick with the former. A questionable business rarely sells at a great price. More often than not, a low multiple applied to a questionable business is still overvaluing the net cash that will be returned to owners. Moreover, there is risk in selling things that one understands well and have a very bright future in order to buy new things that one understands less well and potentially have less exciting prospects.

Conclusion

Over the last five years, Saga Partners has built a strong foundation that will help us withstand anything the market may throw at us. In order to provide an attractive long-term record, one must be able to survive any scenario that may occur. We never could have predicted all the events that happened since launching the Portfolio, which is exactly why we don’t try to predict them going forward and manage the Portfolio in a way to be able to withstand anything.

The success of the Saga Portfolio is directly tied to the quality of its investor base. I could not thank you more for your trust, support, and long-term relationship in Saga Partners. It has enabled us to focus only on the important long-term investment considerations and weather the various, and sometimes significant, ups and downs of the market over the last five-years.

As always, please reach out if you have any questions or comments!

Sincerely,

Joe Frankenfield

Appendix

Monthly Performance (gross of fees)*													Annual Performance			
Year	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Saga (gross)	Saga (net)	S&P 500	Relative Results
2017	3.9%	3.8%	-1.2%	3.2%	-0.3%	4.9%	2.9%	-7.0%	0.4%	-1.5%	3.4%	3.2%	16.0%	14.3%	21.8%	-7.5%
2018	1.5%	-4.3%	-0.2%	1.3%	13.9%	1.4%	-2.4%	15.7%	0.1%	-12.1%	6.8%	-15.1%	2.1%	0.6%	-4.4%	5.0%
2019	18.7%	13.9%	-1.2%	8.7%	-8.5%	12.2%	2.1%	-7.1%	-5.5%	3.6%	16.5%	2.6%	65.6%	63.2%	31.5%	31.7%
2020	-4.7%	-1.0%	-23.5%	33.5%	14.9%	21.2%	18.6%	10.0%	2.3%	-0.4%	24.3%	1.0%	123.8%	120.5%	18.4%	102.1%
2021	13.8%	-2.1%	-13.0%	4.9%	-6.4%	13.7%	-0.4%	-3.7%	-4.6%	4.2%	-3.1%	-9.6%	-9.6%	-10.9%	28.7%	-39.6%
Cumulative return since inception													297.0%	268.3%	133.4%	134.9%
Annualized return since inception													31.8%	29.8%	18.5%	11.3%

**Saga Portfolio serves as a model for client accounts. Net returns assume 1.5% AUM fee, or 0.375% applied to account balance at beginning of each quarter.*
S&P 500 performance includes dividends.

(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.

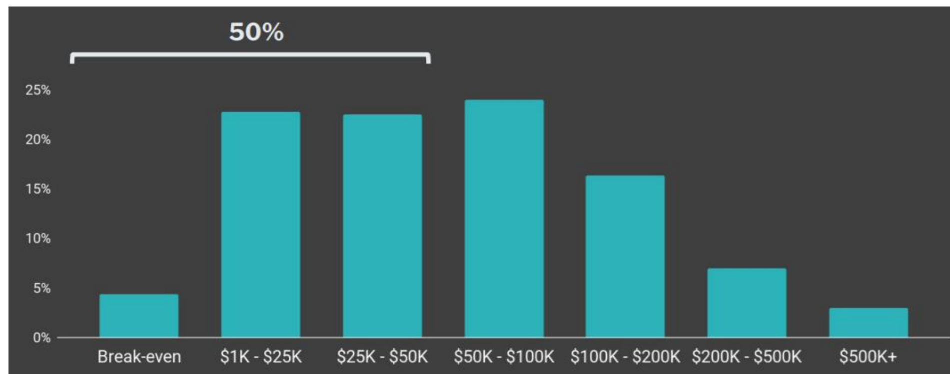
Commissions are spread across too many agents. Data from the NAR finds that the typical member agent closes 10 transactions a year and the industry average transactions per agent also skews heavily towards longer tenured, top-performing agents. In a survey performed by Redfin, 40% of agents closed 0-6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

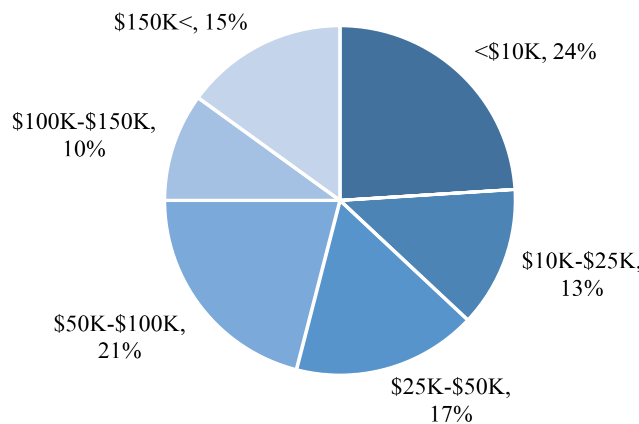
Real-Estate Agent Income After Work-Related Expenses



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

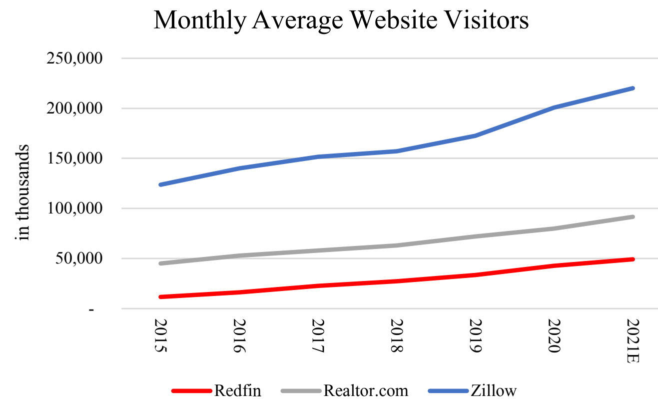
The residential real estate industry has elevated and uniform fees protected by industry practices set by the MLSs, although no players within the value chain really benefit with the exception of the local MLSs and the National Association of Realtors. Despite the high fees, it's a competitive industry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

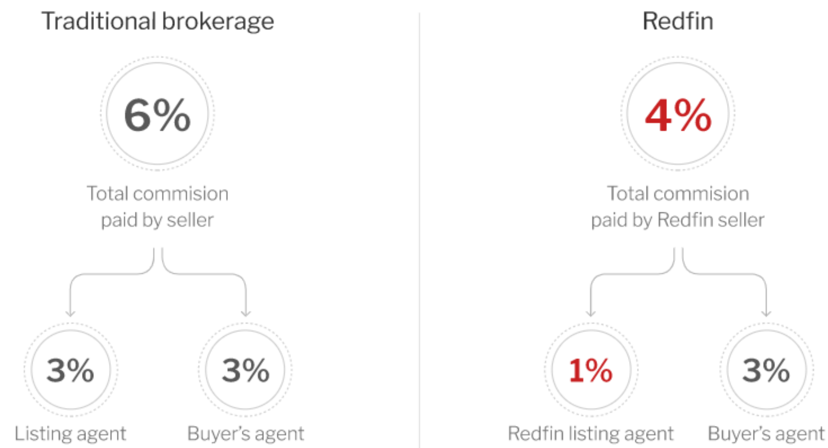
Despite increased access to housing information and consumers taking on more of the work historically performed by agents, the well-ingrained industry practices surrounding commissions can only be disrupted by a brokerage within the industry that lowers the transaction costs by integrating technology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

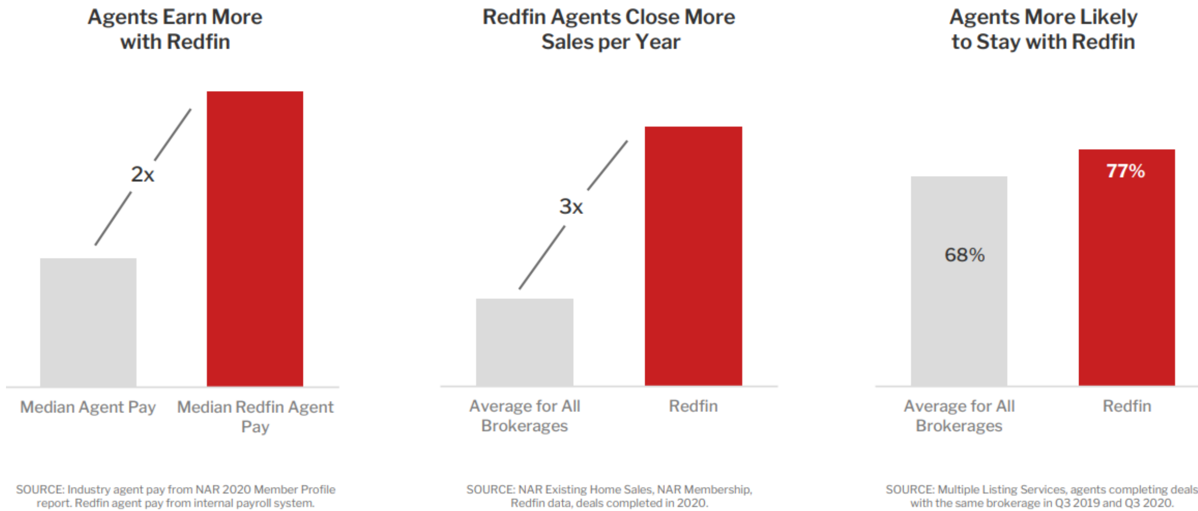
In a real estate agent survey performed by Placester, agents ranked where they spent the most time as follows: 1. marketing/advertising, 2. prospecting/lead generation, and 3. showings, appointments, and travel. Agents spend much of every single day solely on prospecting/lead generation.

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.

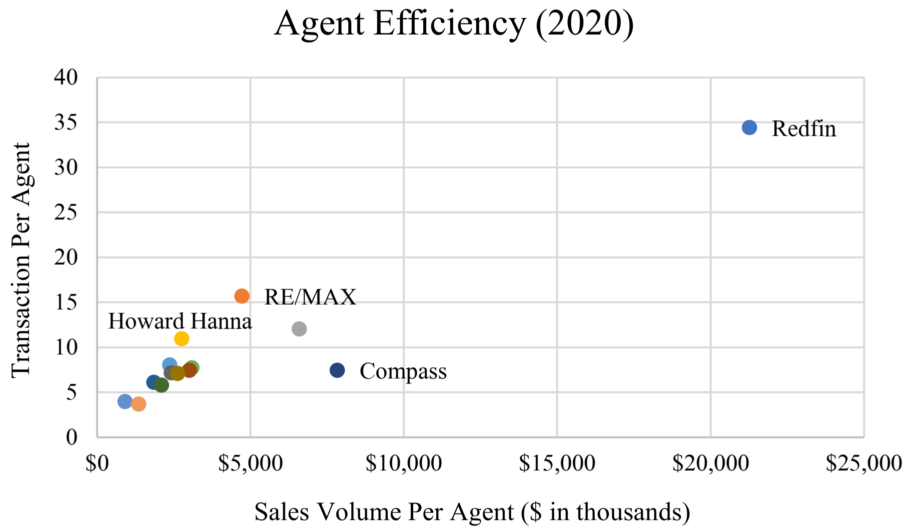


Below is a chart ranking brokerage by agent productivity as measured by transaction sides per agent. Redfin ranks far higher than any other brokerage.

	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.



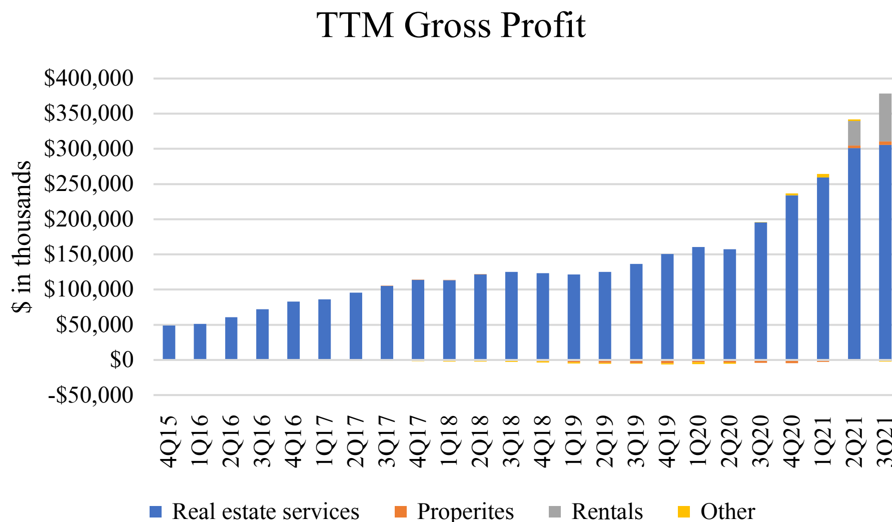
Source: Realestatealmanac.com, Saga Partners

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.

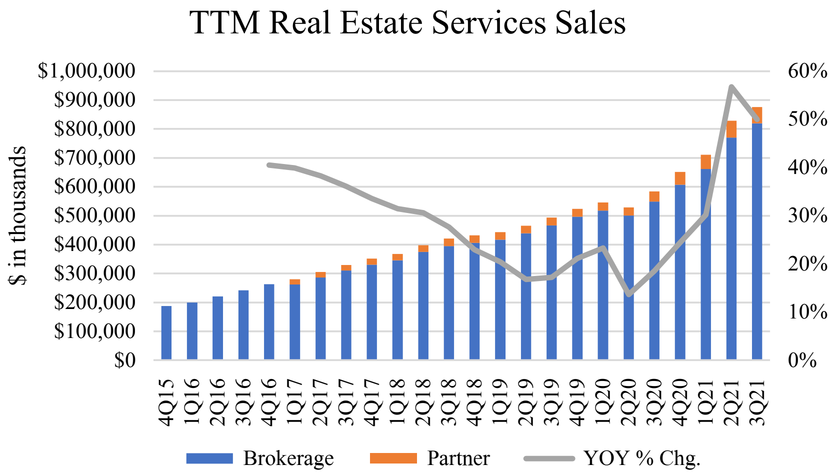
As the chart below shows, Real Estate Services is the oldest and by far the largest segment making up over 80% of total gross profits. Since there are only two quarters of Rentals gross profits in the TTM, it will continue to grow its share of gross profits; however, the Rentals segment in total still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



Source: Company filings, Factset, Saga Partners

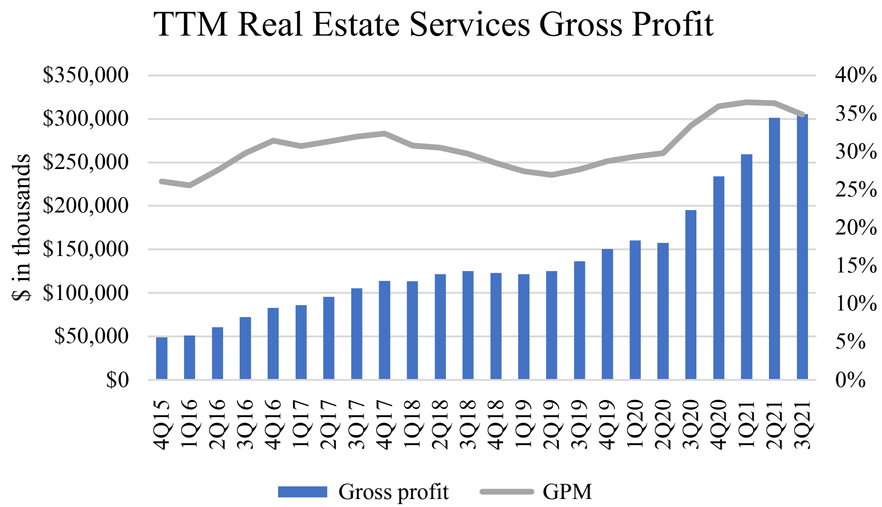
Real Estate Services

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%.

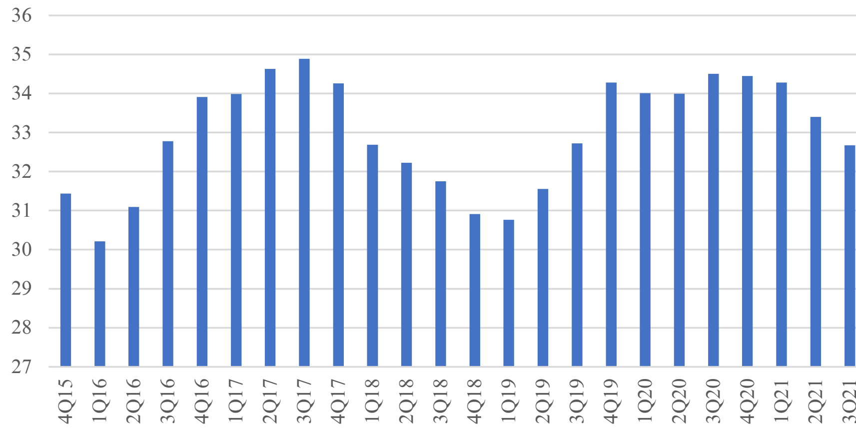


Source: Company filings, Factset, Saga Partners

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.

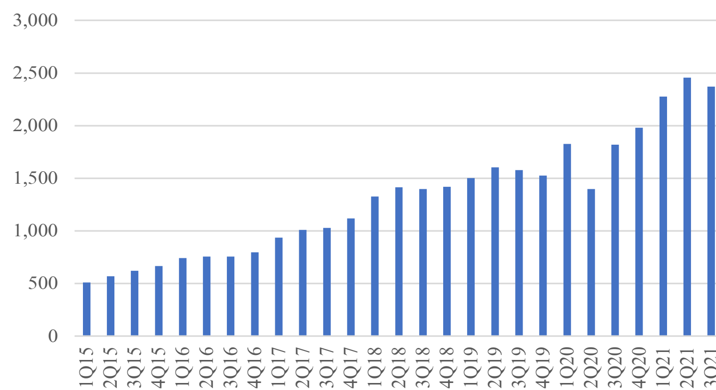


Source: Company filings, Factset, Saga Partners

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.

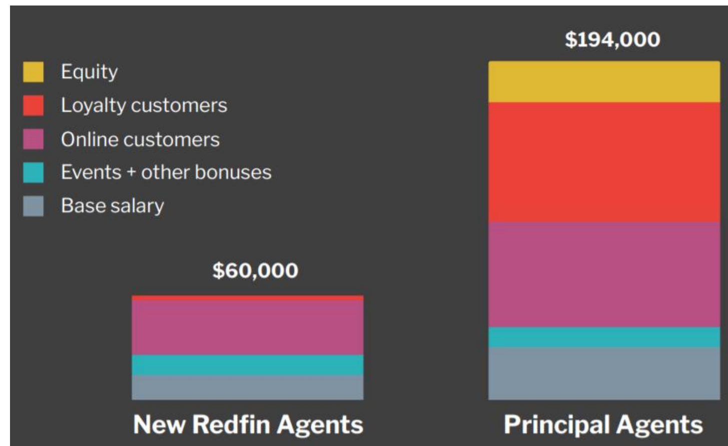
Redfin has been hiring agents at the fastest rate since 2018, growing average lead agents by 500 or 30% higher year over year in an effort to meet demand. It has led to increased turnover in new agents, partly due to it being a tight labor market for service-oriented jobs and because of the historically 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

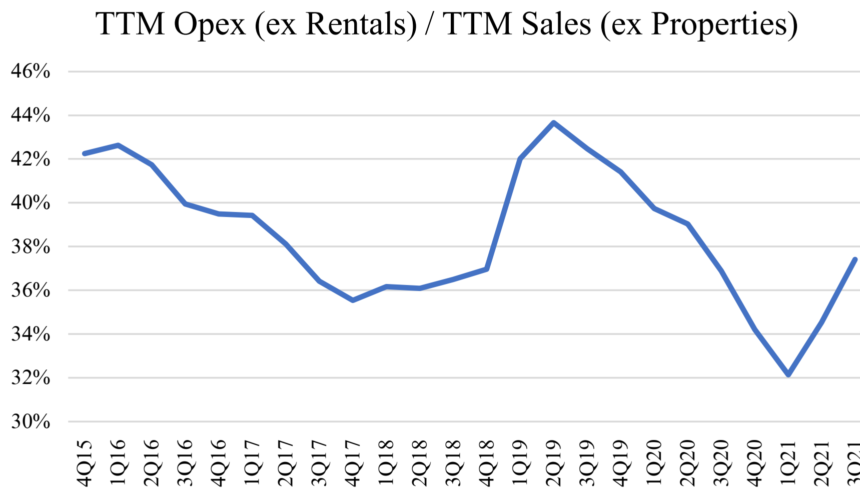
In response to a more difficult labor market and new agent turnover, management started paying $1,500 retention bonuses for new agents who could guide customers to the point of bidding on a home, regardless of whether those bids win. The bonus will be offset by lowering the savings rebate returned to 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.



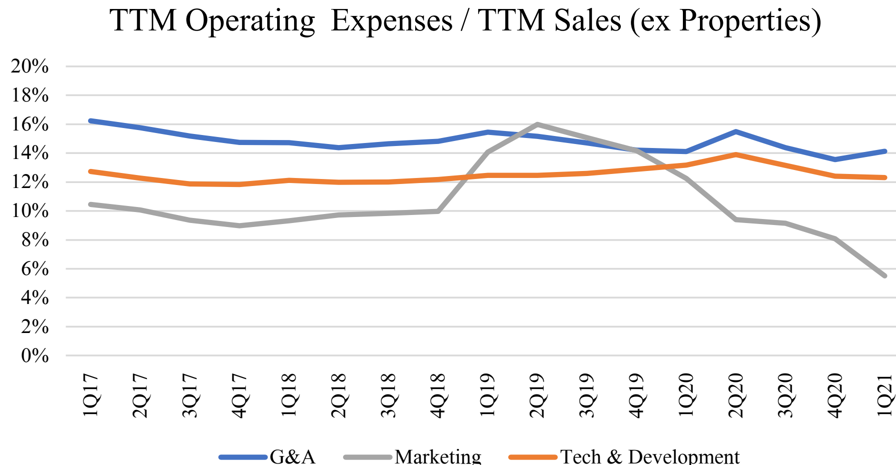
Source: Redfin Investor Relations

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.

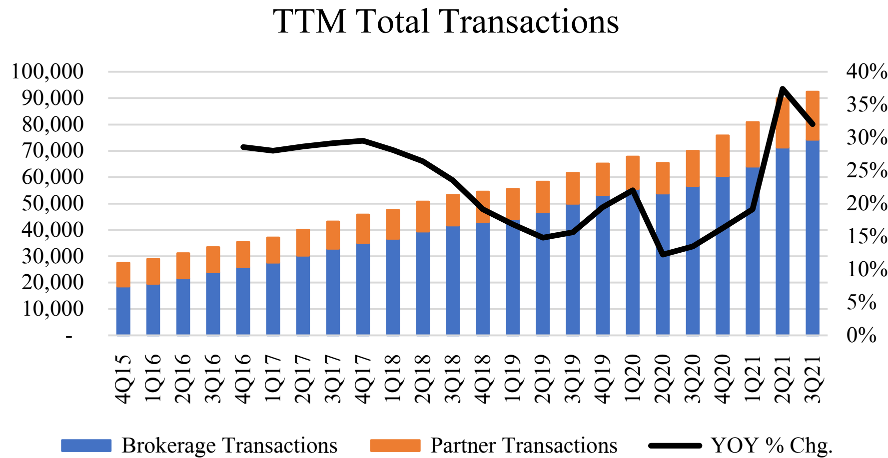
There is also value to brand marketing to a consumer who isn't planning on buying or selling a home in the near future (the average homeowner buys/sells a home every 10 years), but those investments won't pay off for several years. Redfin tested mass media across 15 markets over a five-year period and 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.

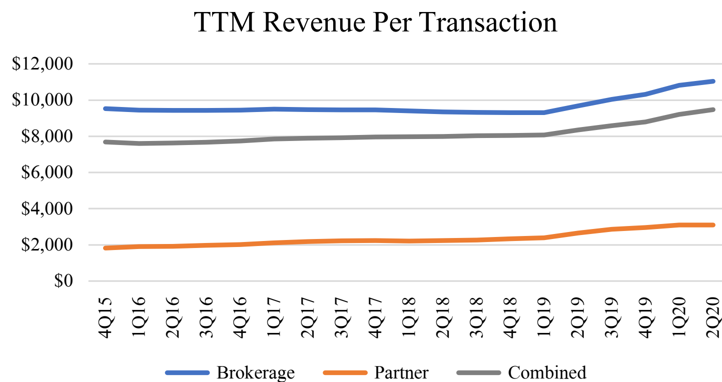
Revenues are driven by transaction volume and revenue per transaction. Transactions are a product of the number of lead agents and the transactions per agent. Total TTM transactions have grown at a 23% CAGR over the last five years, and brokerage transactions closed by Redfin agents have grown at a 25%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

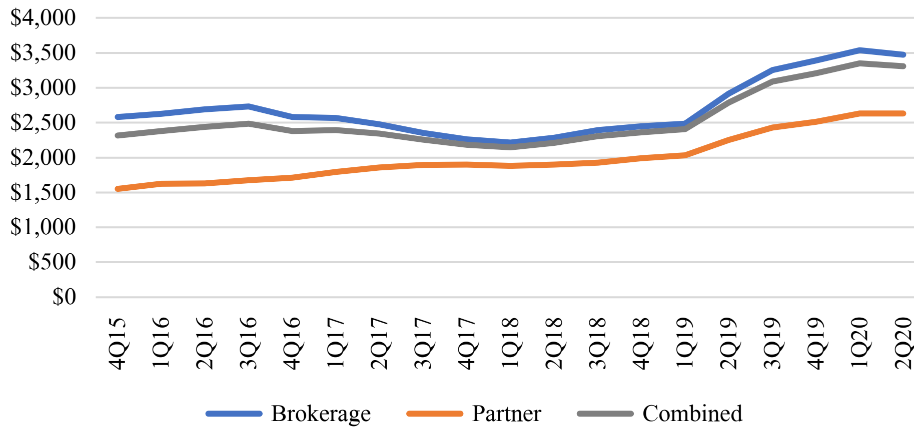
Brokerage revenue per transaction has grown at a 2% CAGR over the last five years while total revenue per transaction has grown at a 5% CAGR, which when combined with the growth in transactions, provides the Real Estate Services business a five-year 30% revenue CAGR.



Source: Company filings, Saga Partners

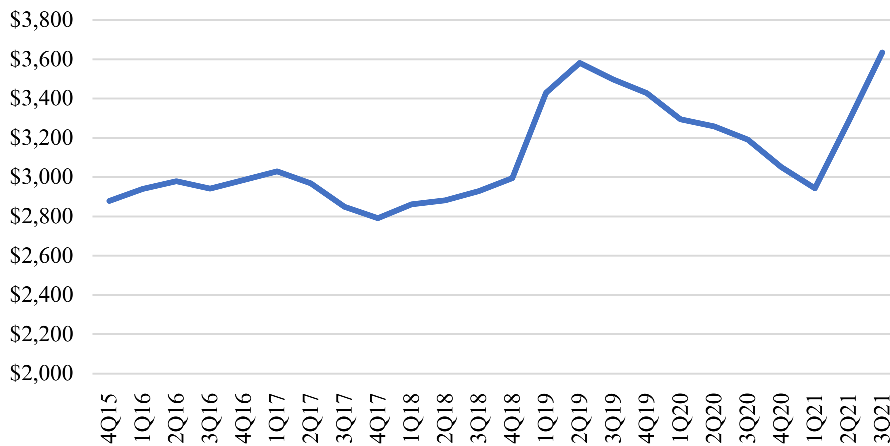
Brokerage and Partner gross profits are reported together under Real Estate gross profits. If you assume that Partner has a ~85% gross profit margin, you can back into the gross profit per brokerage transaction and per a Partner transaction.

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.



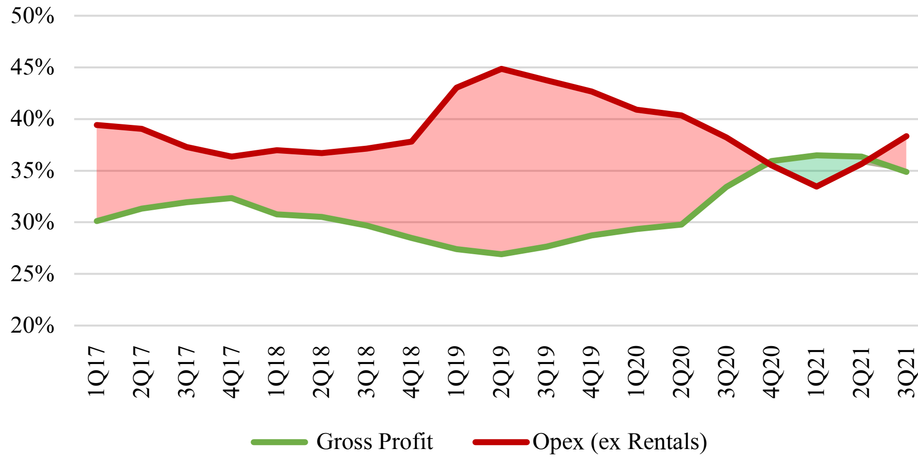
Source: Company filings, Saga Partners

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.

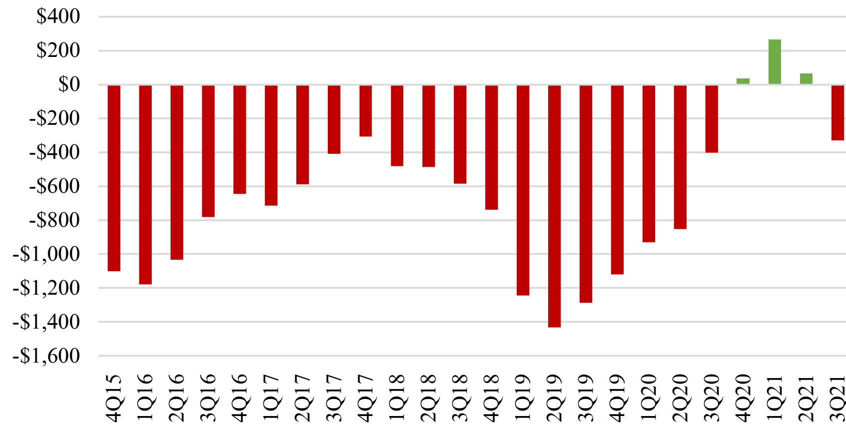


Source: Company filings, Saga Partners

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%*

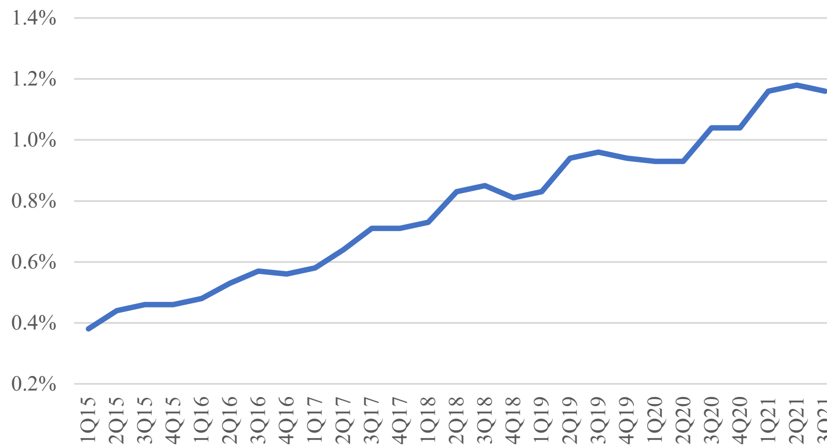
Source: Company filings, Factset, Saga Partners

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.

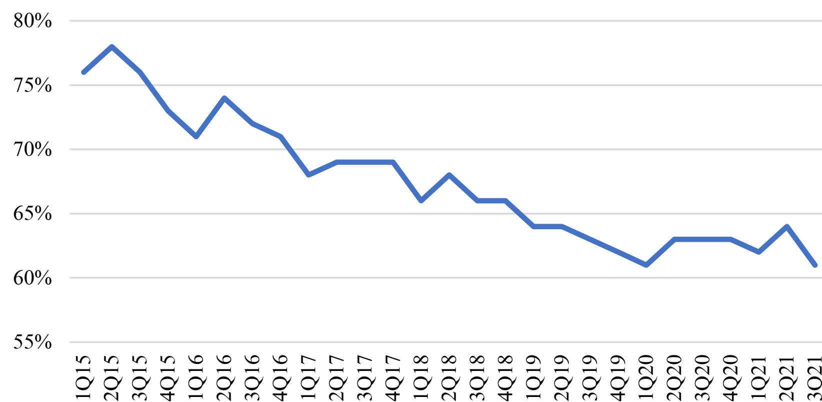
Market Share & Cohort Analysis

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

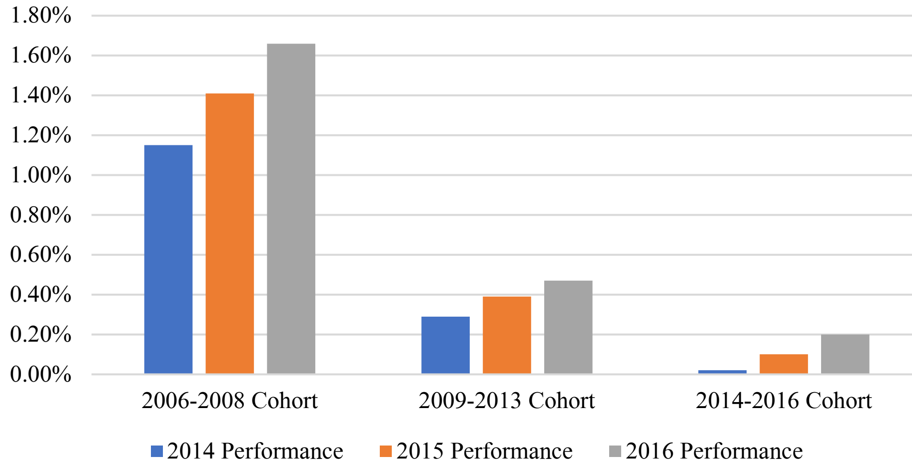
Redfin originally started its brokerage services in urban coastal cities and now serves over 100 markets. Its top 10 markets (Boston, Chicago, Denver, Los Angeles, Maryland, Northern Virginia, Portland, San Diego, San Francisco, and Seattle) continue to decline as a percent of total real estate services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

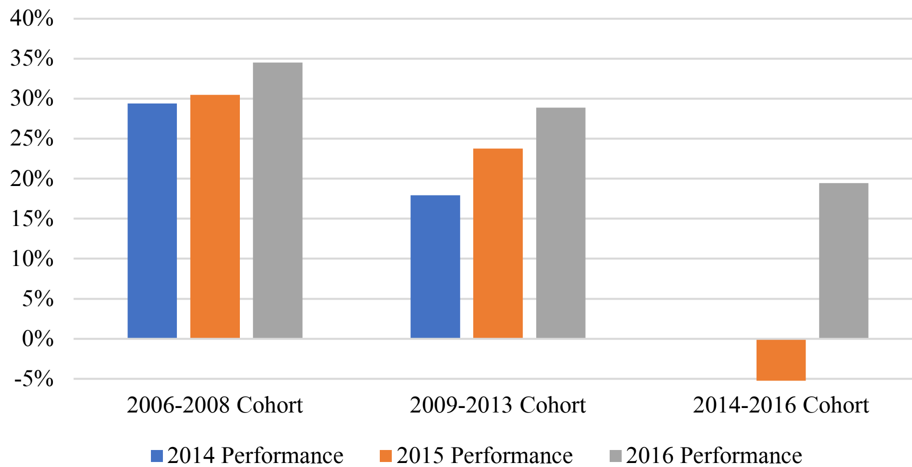


Source: Company filings

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.



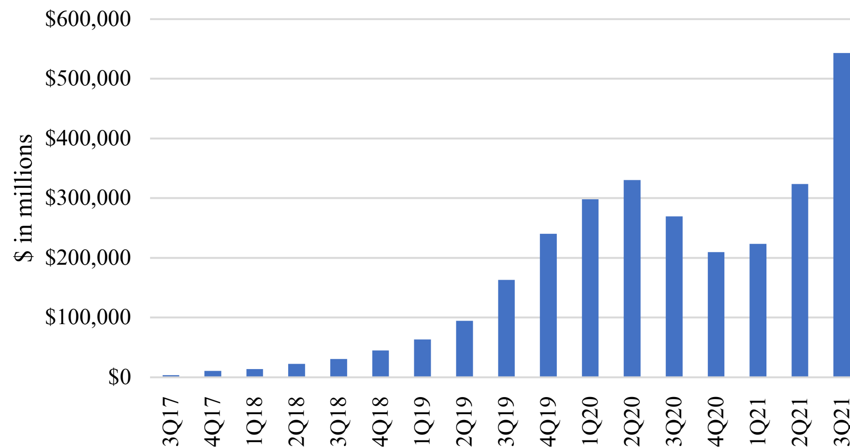


Source: Company filings, Saga Partners

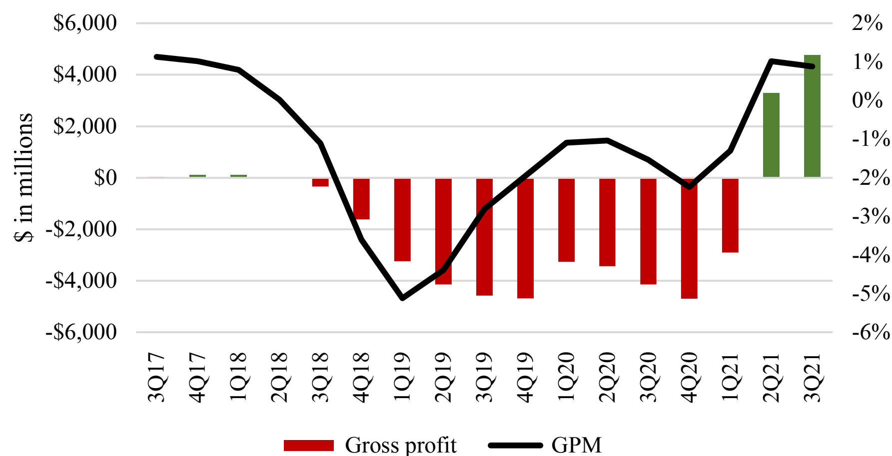
RedfinNow

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.

Redfin Mortgage

Launched in 2017

56 markets in 20 states and the District of Columbia

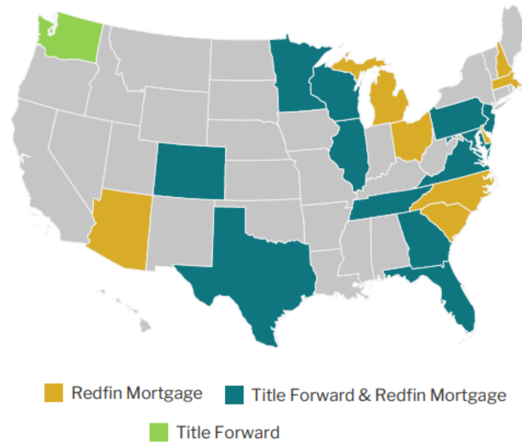
#1 lender for Redfin homebuyers in 10 states and the District of Columbia[1]

Title Forward

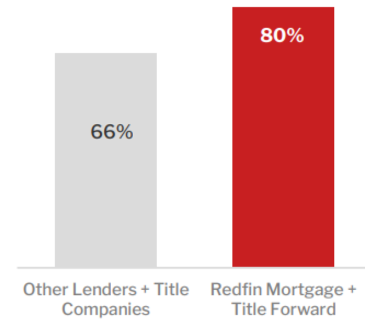
Launched in 2012

27 Markets in 13 states and the District of Columbia

#1 title company for Redfin customers in 6 states and the District of Columbia[1]



On-Time Closings



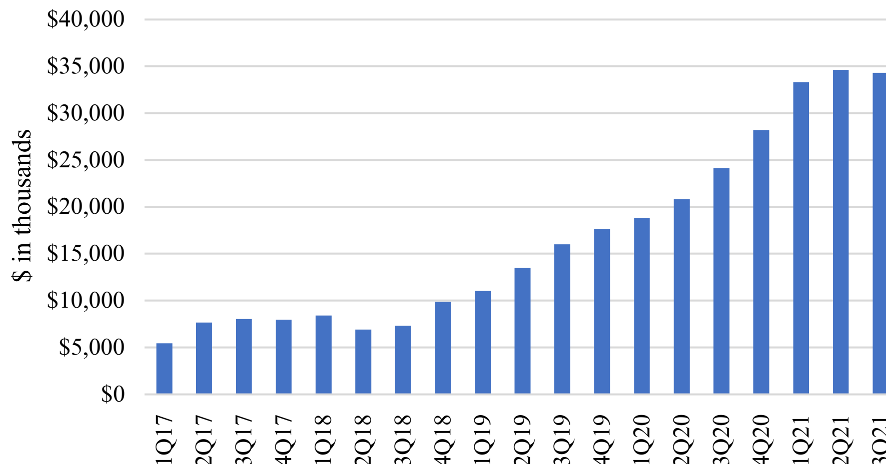
SOURCE: On-time closing percentages from Redfin brokerage data, deals completed in 2020.

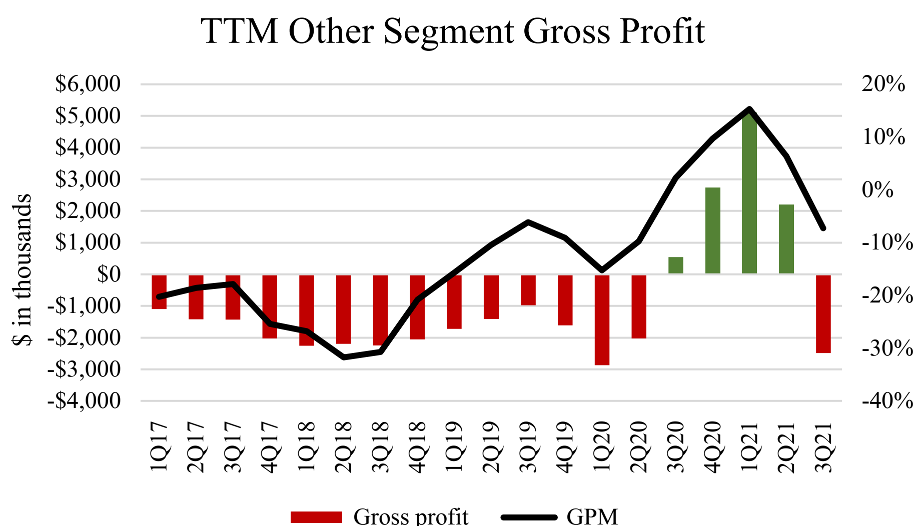
The goal of Redfin Mortgage is to make conventional lending faster and easier. When the agent and lender work together, it can help make the closing process more seamless and increase the percentage of on-time closings. Since Redfin employs the agents and the website is the source for demand for those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

TTM Other Segment Sales





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.

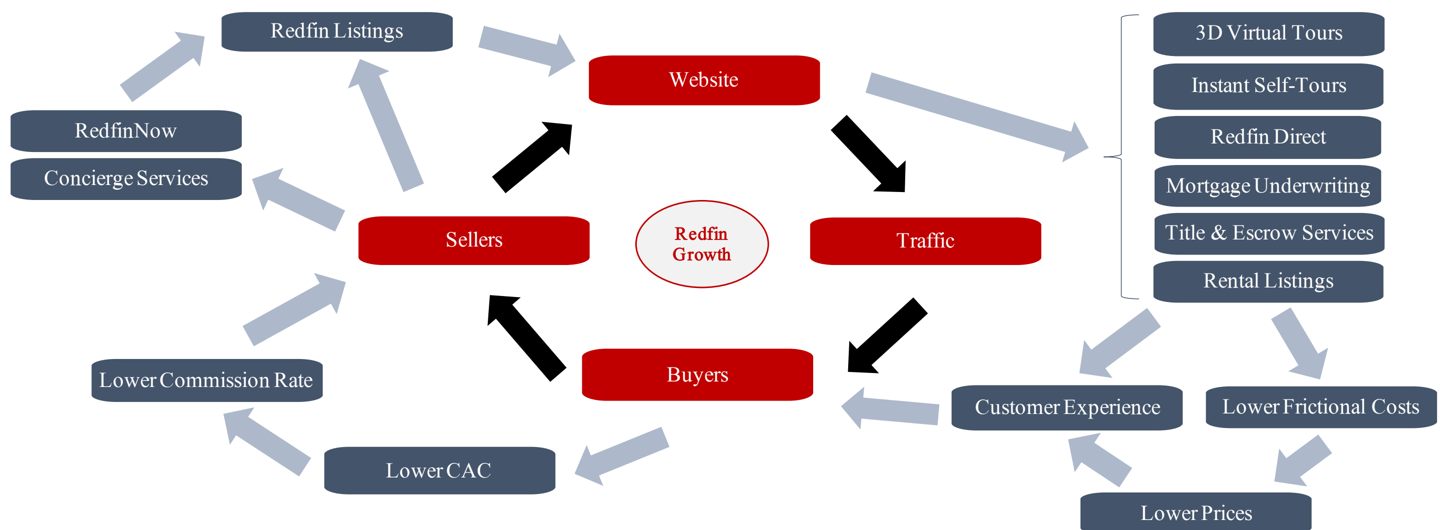
As adoption of the service grows under a company that fully integrates each of these processes/services, eventually the quality of each part of the transaction can be assured and the platform would be able to open up parts of the service offerings to third parties. It could support any listing that plugs 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

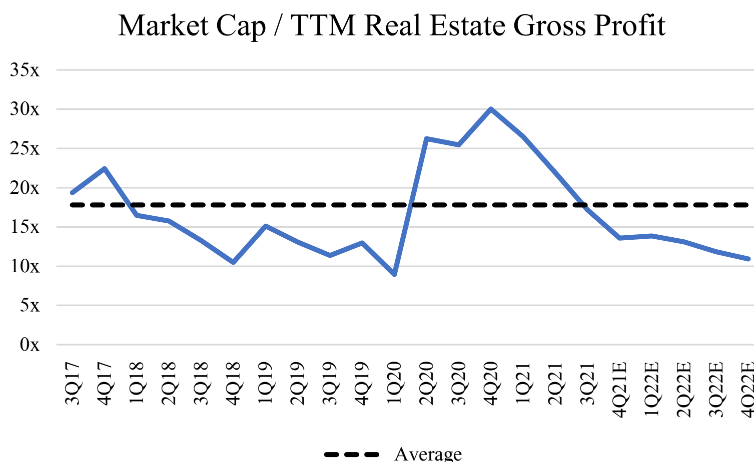
The above IRRs do not consider share dilution. There was some historic share dilution in 2018 which was related to convertible stock in connection to the IPO. In March 2020, Redfin raised capital in response to the spread of COVID by issuing common and preferred stock. While a capital raise was dilutive 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.

DISCLOSURES & DISCLAIMERS

This document should not be the basis of an investment decision. An Investment decision should be based on your customary and thorough due diligence procedures, which should include, but not be limited to, a thorough review of all relevant offering documents as well as consolation with legal, tax and regulatory experts. Any person subscribing for an investment must be able to bear the risks involved and must meet the particular fund's or account's (each a "Fund" and, collectively, "Funds") suitability requirements. Some or all alternative investment programs may not be suitable for certain investors. No assurance can be given that any Fund will meet its investment objectives or avoid losses. A discussion of some, but not all, of the risks associated with investing in the Funds can be found in the Funds' private placement memoranda, subscription agreement, limited partnership agreement, articles of association, investment management agreement or other offering documents as applicable (collectively the "Offering Documents"), among those risks, which we wish to call to your attention, are the following:

Future looking statements, Performance Date: The information in this report is NOT intended to contain or express exposure or concentration recommendations, guidelines or limits applicable to any Fund. The information in this report does not disclose or contemplate the hedging or exit strategies of the Funds. All information presented herein is subject to change without notice. While investors should understand and consider risks associated with position concentrations when making an investment decision, this report is not intended to aid an investor in evaluating such risk. The terms set forth in the Offering Documents are controlling in all respects should they conflict with any other term set forth in other marketing materials, and therefore, the Offering Documents must be reviewed carefully before making an investment and periodically while an investment is maintained. Statements made in this release include forward-looking statements. These statements, including those relating to future financial expectations, involve certain risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. Unless otherwise indicated, Performance Data is presented unaudited, net of actual fees and other fund expenses (i.e. legal and accounting and other expenses as disclosed in the relevant Fund's Offering Documents"), and with dividends re invested. Since actual fees and expenses have been deducted, specific performance of any particular capital account may be different than as reported herein. Due to the format of data available for the time periods indicated, both gross and net returns are difficult to calculate precisely and the actual performance of any particular investor in a Fund may be different than as reported herein. Accordingly, the calculations have been made based on a number of assumptions. Because of these limitations, the performance information should not be relied upon as a precise reporting of gross or net performance, but rather merely a general indication of past performance. The performance information presented herein may have been generated during a period of extraordinary market volatility or relative stability in the particular sector. Accordingly, the performance is not necessarily indicative of results that the Funds may achieve in the future. In addition, the foregoing results may be based or shown on an annual basis, but results for individual months or quarters within each year may have been more favorable or less favorable than the results for the entire period, as the case may be. Index information is merely to show the general trend in the markets in the periods indicated and is not intended to imply that the portfolio of any Fund was similar to the indices in either composition or element of risk. This report may indicate that it contains hypothetical or actual performance of specific strategies employed by The Adviser, such strategies may comprise only a portion of any specific Fund's portfolio, and, therefore, the reported strategy level performance may not correspond to the performance of any Fund for the reported time period.

Investment Risks: The Funds are speculative and involve varying degrees of risk, including substantial degrees of risk in some cases, which may result in investment losses. The Funds' performance may be volatile. The use of a single advisor could mean lack of diversification and, consequently, higher risk. The Funds may have varying liquidity provisions and limitations. There is no secondary market for investors' interests in any of the Funds and none is expected to develop.

Not Legal, Accounting or Regulatory Advice: This material is not intended to represent the rendering of accounting, tax, legal or regulatory advice. A change in the facts or circumstances of any transaction could materially affect the accounting, tax, legal or regulatory treatment for that transaction. The ultimate responsibility for the decision on the appropriate application of accounting, tax, legal and regulatory treatment rests with the investor and his or her accountants, tax and regulatory counsel. Potential investors should consult, and must rely on their own professional tax, legal and investment advisors as to matters concerning the Fund and their investments in the Fund. Prospective investors should inform themselves as to: (1) the legal requirements within their own jurisdictions for the purchase, holding or disposal of investments; (2) applicable foreign exchange restrictions; and (3) any income and other taxes which may apply to their purchase, holding and disposal of investments or payments in respect of the investments of a Fund.

The S&P 500 Index is an unmanaged index of 500 widely held common stocks. The S&P Index is not available for investment, and the returns do not reflect deductions for management fees or other expenses.

Saga Partners LLC is an independent registered investment advisory, providing portfolio management to individuals, retirement plans and institutional investors.

Contact Information:

www.sagapartners.com

Joe Frankenfield
joe.frankenfield@sagapartners.com