INSIDER MONKEY

Monthly Activist Newsletter
Special Edition Issue: 60

Inside This Issue

Don't pay hedge funds' hefty fees when you can buy the best stock picks of the best hedge fund managers at a fraction of the cost.

Executive Summary

• In this issue we analyzed the performance of Warren Buffett's historical 13F stock picks covering the 1999-2017 period. Our analysis indicated that Warren Buffett's stock picks underperformed the market across the board over the last 4 years. Buffett's top 10 large-cap stock picks are among his best ideas. An equal weighted portfolio of these 10 stocks outperformed the market by an average of 2 percentage points per year over the last 10 years with noticeably less volatility.

•.We also presented the complete transcript of Oleg Nodelman's Ascendis Pharma (ASND) presentation at the Ira Sohn Conference. The stock currently trades below the price it was trading when Nodelman pitched the stock. The October declines in the stock market provides an attractive entry point. The main factor that will determine Ascendis' returns over the next 12 months is the performance of its lead asset in Phase 3 trials which is expected to report positive data in the first quarter of 2019. This is a stock that is also currently recommended by our quantitative best performing hedge funds strategy in our quarterly newsletter.

Why Track Hedge Funds?

Our monthly activist newsletter features stock picks based on hedge fund presentations, investor letters, and activist filings. We also analyze the performance of historical stock picks of activist hedge fund managers starting with the March 2017 issue. Our list of activist stock picks returned 56% since its inception in March 2017 through October 18th. S&P 500 ETF (SPY) returned 20% during the same period.

We should note that we use our analysis of the historical stock picks of activist hedge fund managers as an idea generation tool. After identifying a short list of stocks, we perform fundamental analysis of some of these stocks and decide whether to include it in our buy list.

We don't go after most of the activist targets and we try to avoid troubled companies or companies that operate in troubled industries. That's probably why we were able to outperform the market by 36 percentage points over the last one and half years. These are our discretionary stock picks and there are no guarantees that we can replicate similar returns in the future.

In this issue we presented the complete transcript of Oleg Nodelman's Ascendis (ASND) presentation at the Ira Sohn Conference. The stock currently trades below the price it was trading when Nodelman pitched the stock. The declines in the stock market was primarily because of the unintended effects of Trump's trade war with the rest of the world. Surely increasing interest rates and investors disappearing appetite for risky assets will affect the stock prices of pharmaceutical stocks to some extend, but we believe the main factor that will determine Ascendis' returns over the next 12 months is the performance of its lead asset in Phase 3 trials. We believe that the probability of success is high and ASND is likely to deliver strong gains over the next 12 months. This is a stock that is also picked by our quantitative best performing hedge funds strategy.

We launched our best performing hedge funds strategy in May 2014 and started sharing its stock picks in our quarterly newsletter. Since its inception (through August 29 2018) this strategy's stock picks **returned 121% and beat the S&P 500 index by more than 54 percentage points**.

Our thesis is very simple: to buy the best stock picks of the best hedge fund managers. We identify the 100 best performing hedge fund managers every quarter and then list their 30 consensus small-cap stock picks. Then we further reduce this list to 5 to 15 stocks by excluding the battleground stocks that are targeted by short sellers.

Why should we pay a hedge fund an arm and a leg when we can identify its best ideas and avoid its mediocre picks? In this special issue of our monthly newsletter we showed that Warren Buffett couldn't beat the market in the last 4 years whereas our proprietary best performing hedge funds strategy outperformed it by a huge margin.

If you aren't already subscribed to our quarterly newsletter, you can get a $100 discount by following this link.

Stock Write-up: Ascendis Pharma A/S (ASND)

Ascendis Pharma (ASND)

Activist HF: EcoR1 Capital

Current Price: $60.45

Market Cap: $2.5 billion

Volume: $7 million/day

Five years ago we made our first biotech recommendations in a [Marketwatch article](). One of the stocks we highlighted in that article was NPS Pharmaceuticals which was trading at less than $8 at the time. Shire Plc acquired NPSP for $46 per share a year and a half later. Half of this valuation was due to NPS' NATPARA, parathyroid hormone to treat hypoparathyroidism.

In this issue we are going to bring another company operating in the same space to your attention. EcoR1 Capital's Ole Nodelman presented his ASND thesis at this year's Ira Sohn Conference. First we are going to share the transcript of his presentation and then share our thoughts regarding this investment idea:

My name is Oleg Nodelman and I am the Founder and Managing Director of EcoR1 Capital, a San Francisco-based, biotech focused, value oriented investment fund.

Investing in Biotech companies is easily in the top 5 worst ideas. Sandwiched somewhere in between eating tide pods on one end and investing in tulips and cryptocurrency on the other.

In biotech valuations are based on "hopes and dreams" vs. fundamental value, and less than 10% of the sector is profitable.

The underlying science is often complicated and unpredictable, and when the company is lucky enough to get a drug approved, it has an average of 9 years of exclusivity, so rather than a castle with a moat, they have a melting ice cube.

Success is often idiosyncratic and not repeatable, so these are not companies that you can buy and hold forever.

Many folks we have seen investing in biotech are PhDs and MDs who are betting on biology. There are certainly some who can make money that way, but overall I think it can be a dangerous way to invest because the science isn't nearly as predictable as folks might think.

Ticker	SH/ PRN	Option	Value (x1000)	Activity	% in Portfolio	% of Market Cap	Fund
ASND	SH	N	293572	31%	3.5%	11.7%	OrbiMed Advisors
ASND	SH	N	282080	0%	18.3%	11.3%	RA Capital Management
ASND	SH	N	188741	0%	1.4%	7.5%	Baker Bros. Advisors
ASND	SH	N	137253	0%	5.3%	5.5%	venBio Select Advisor
ASND	SH	N	97390	-20%	9.3%	3.9%	EcoR1 Capital
ASND	SH	N	96939	13%	0.6%	3.9%	Farallon Capital
ASND	SH	N	71352	9%	1.9%	2.8%	Perceptive Advisors
ASND	SH	N	37732	-15%	0.0%	1.5%	Millennium Management
ASND	SH	N	32094	0%	1.1%	1.3%	Deerfield Management
ASND	SH	N	29969	New	1.0%	1.2%	Lakewood Capital Management
ASND	SH	N	24728	0%	1.8%	1.0%	Cormorant Asset Management
ASND	SH	N	16198	-14%	0.6%	0.6%	Rock Springs Capital Management
ASND	SH	N	14967	-61%	0.0%	0.6%	Adage Capital Management
ASND	SH	N	12744	New	2.7%	0.5%	Foresite Capital
ASND	SH	N	11641	25%	3.4%	0.5%	Ghost Tree Capital

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And I know that because of the volatility that we see in the sector.

At EcoR1 we start our analysis by focusing on opportunities with a discernible margin of safety based on patterns that we have identified over years of biotech investing experience. In terms of understanding the assets, we are one of the few biotech funds not managed by PhDs and MDs, which for us means we do not fall in love with the science.

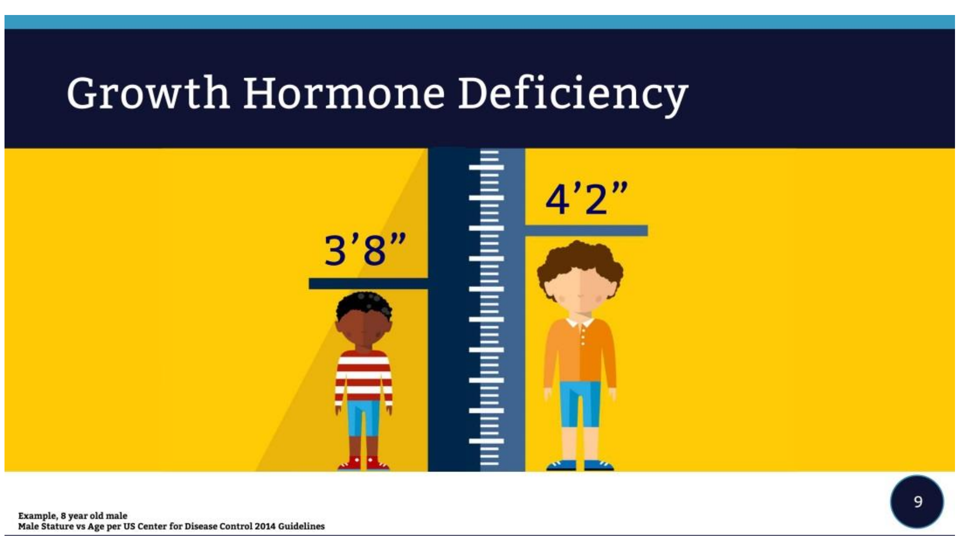
Instead we have fluency for the language of biotechnology that serves as a filter. We often invest in companies that are unfollowed, unloved, misunderstood or left for dead and that have great downside protection. These are extraordinary companies that have found themselves in an extraordinary time.

Today I am here to tell you about something that George Costanza knows. That Donald Trump knows. And that Napoleon knew. And despite what your mother told you, most of you know: size matters. We're going to talk about height and I am going to tell you about a company working in the endocrinology space, with a lead drug candidate to help patients lacking enough hormone to grow.

Ascendis Pharmaceuticals is $2.7 billion market cap Copenhagen-based biotech. Ascendis has a platform technology that enables them to modify proven drugs to enable less frequent dosing or improved efficacy. Pharma giants Genentech and Sanofi validated this delivery technology called TRANSCON, by shelling out nearly $100 million for access to the technology. The company has $485 million in cash which should last them for 3 years or more years, although they may never need to raise money again.

Ascendis' lead asset will be on the market in 2 years and alone is worth twice the company's current market cap.

Even better, Ascendis is a golden goose, a true platform company which means their delivery technology can be used again and again on dozens if not hundreds of drugs.



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Ascendis is a company that could keep laying golden eggs, and at this valuation we get the pipeline, which based only on the disclosed programs, could be worth another 5x from here, for free.

The company’s lead drug is in late stage clinical development for the treatment of growth hormone deficiency. This is a condition where children do not produce adequate levels of hormone to grow. Specifically, diagnosed kids fall 2 standard deviations below the mean height expected for age and gender, and are confirmed to have deficient levels of growth hormone with a lab test.

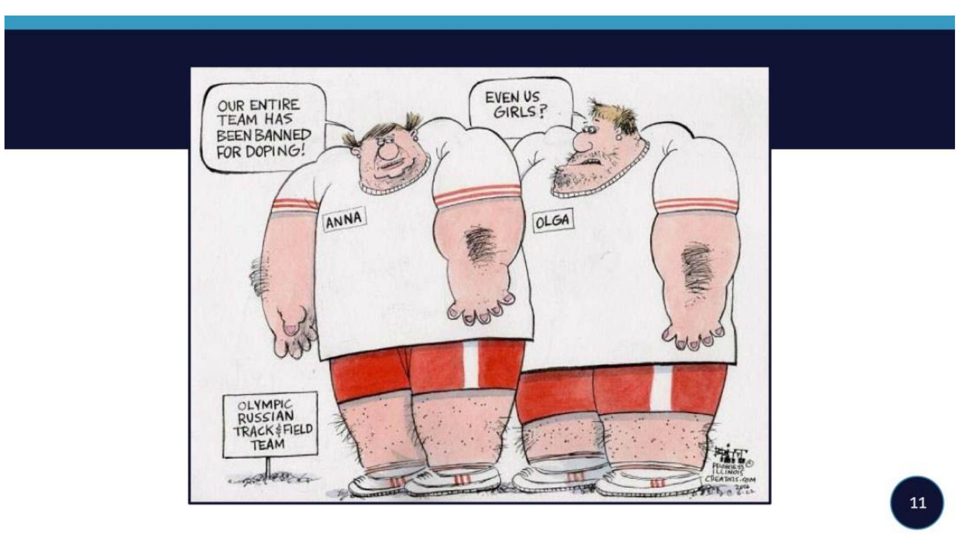
Left untreated, these children never experience normal growth, and will not reach typical height.

There is one important term to understand before we discuss growth hormone drug development. Annualized height velocity refers to how much a child grows in one year. In order to get approval for the treatment of growth hormone deficiency, a company needs to prove their drug causes an improvement in annualized height velocity.

Let’s start off with our margin of safety at Ascendis. To understand that we actually need to take a quick detour back into the early history of the biotech industry. Genentech's first ever approved drug was for the treatment of growth hormone deficiency, and was approved in 1985. Since then, tens of thousands of children with growth hormone deficiency have been successfully treated.

Thanks to this extensive data set, we know replacing growth hormone in children who do not have adequate levels is a safe and effective therapy. Ascendis is employing exactly the same strategy as that FDA-approved Genentech drug, and again, we’ve known that this strategy works for the past 33 years.

If you are still not convinced, one quick look at the Russian Olympic Contingent should once and for all prove to you growth hormone works pretty darn well.



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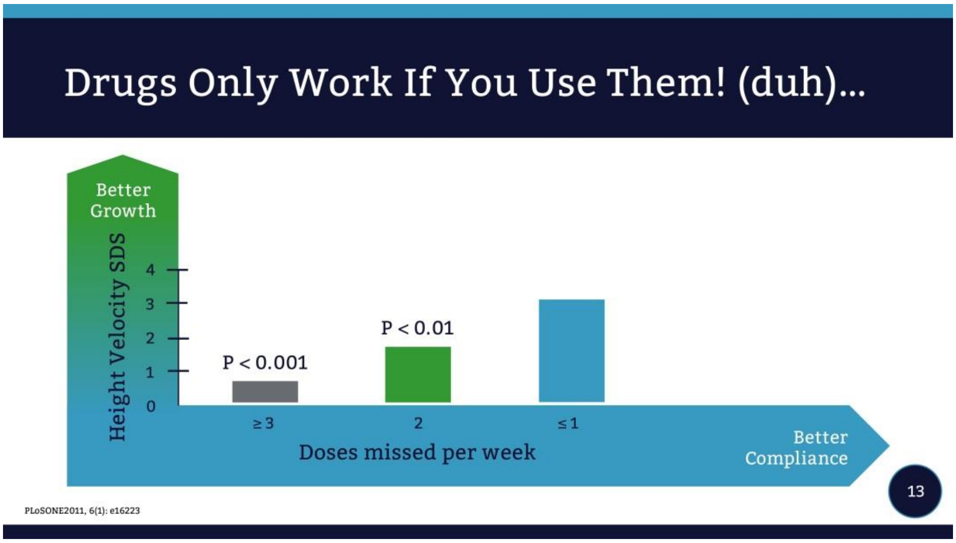
What I have told you so far begs an obvious question: why in the world do we need this drug if we've already got one from the mid 1980's that works so well?

The major issue with currently available drugs is that they require an injection every single day. The parents in this audience will appreciate, and I know this well as the proud father of two girls, it is nearly impossible to get your kids to eat their vegetables or take a bath. Now imagine adding a nightly injection into that routine for a decade or more.

Large real-world data sets have shown that two-thirds of parents admit to skipping one or more doses a week in the first year. And compliance only gets worse with longer term dosing.



You can see here that missing just two or more doses per week causes statistically significant inferior growth. And you really do not need much data, or an MD or PhD to get convinced that if you don't take your drugs, they won't work.

Ascendis has generated robust clinical data comparing their weekly drug head-to-head versus the daily injection standard of care. In their clinical study, three different doses of the Ascendis drug were tested, and all three showed better growth than daily injections. Importantly, the Ascendis drug was safe and well tolerated.

To get the drug approved, all Ascendis has to do is replicate this data in their current phase 3 trial and show that their drug is not *inferior* to the daily option. The technical statistics plan calls for the lower bound of the two-sided 95% confidence interval of the difference between Ascendis' drug and the daily injection be less than 2 cm. All that statistical jargon basically means the Ascendis drug can actually show slightly numerically worse growth than the daily arm and still get FDA approval. And remember, Ascendis has already shown 3 different doses and all were better than the daily option.

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Now, it's not a novel insight parents and patients prefer once-weekly dosing to a daily injection. This was so obvious to drug developers they set out on the quest for a less frequent dosing option immediately after the first approval back in 1985. But every competitor has failed.

All of those programs made a common mistake. Growth hormone is an endogenous hormone, meaning it's natural, our bodies produce it. The competing programs pursuing a less frequent dosing option made permanent modifications to the hormone.

Ascendis TRANSCON, however, enables them to deliver unmodified, natural growth hormone. That way, the receptors in our body that bind growth hormone see the exact same unmodified hormone that our bodies produce naturally.

Ascendis is the first and only less frequent dosing program with the technology to enable this.

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Barry Bonds, frat guys, and other doping athletes account for some growth hormone use, but the current total branded market for growth hormone is $3 billion in annual revenue, and growing. We don't think abusers will care much about less frequent dosing, nor will they have access to the new product.

But, according to our primary research and interviews with pediatric endocrinologists, we anticipate nearly all physicians treating growth hormone deficient children to switch to the Ascendis drug when available.

But to calculate our conservative scenario, we assume it captures only half of that $3 billion market, implying peak annual sales of about $1.5 billion. And despite the superior product Ascendis is developing, we assume they price their drug at parity with daily hormone.

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Remember that big pharma has been selling daily growth hormone for decades. There is a precedent in other therapeutic areas for the introduction of a great long-acting alternative cannibalizing the standard of care.

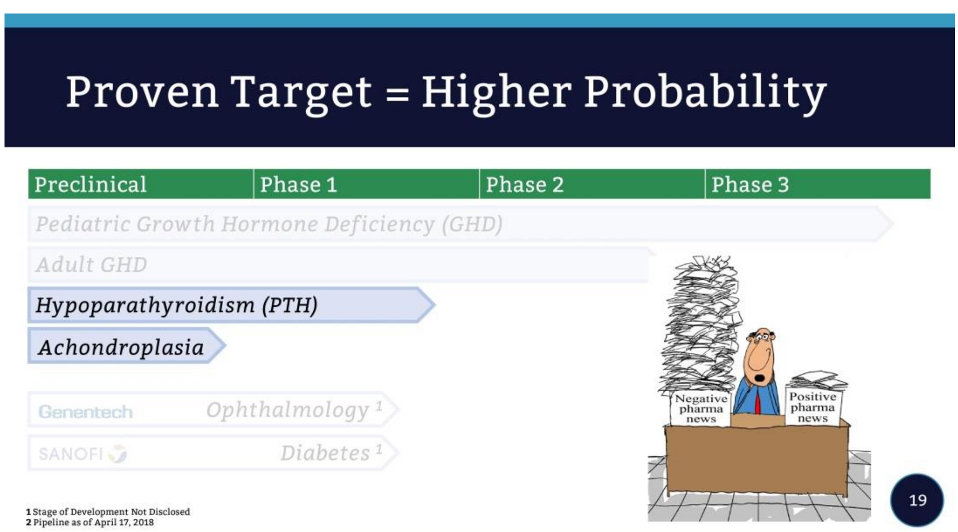
We think once Ascendis launches their long-acting product, pharma companies with billions of cash flow at stake will not sit idly by. There are almost 10 relatively obvious buyers for a long-acting program. M&A buyers often think in terms of multiples of peak sales. For example, earlier this month Novartis purchased AveXis, a one-asset rare disease company with no pipeline for 4x peak projected sales. Using that same 4 times peak projected sales, we find an M&A clearing price of $129 a share for just the Ascendis growth hormone program.

So, we have a biotech company that trades below its margin-of-safety case on one asset alone. Sounds great, but it gets better when you realize we haven't even talked about the pipeline yet.

A common bias among investors looking at biotech stocks is to myopically focus on the lead asset, and pay no attention to the remainder of the pipeline. This often creates opportunities for free call options, which present pure upside for our investment. With Ascendis, you buy the lead asset for half off, and get the golden goose for free.

Now, investors often place no value on early stage assets, like the ones called out on this slide, for good reason. Success in biotech is often idiosyncratic and drug development is hard and risky, so it's usually a safe assumption that few if any early stage assets will work.

Success with Ascendis' drug development strategy may change that narrative. Remember, Ascendis is applying their platform technology to drugs already proven to work. So their candidates have a much higher probability of success than industry averages.



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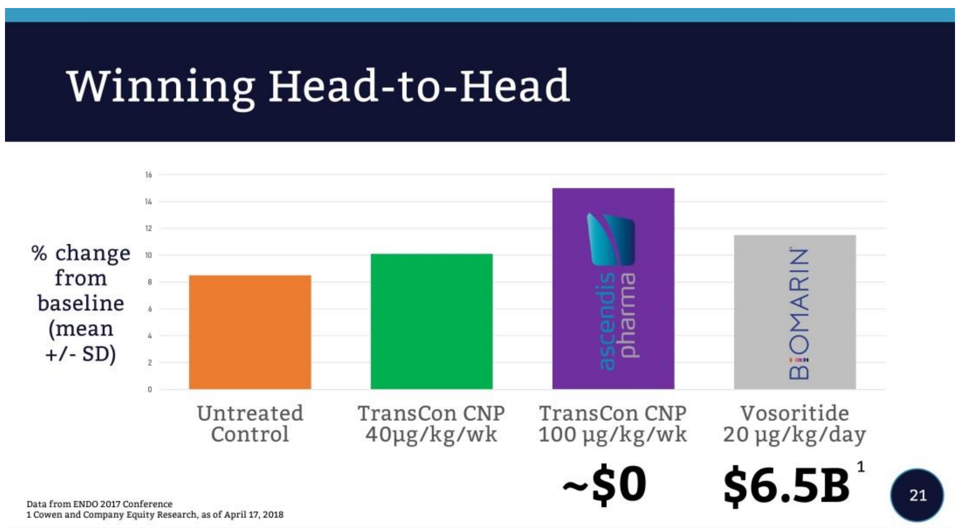
The first free call option or golden egg at Ascendis is for the treatment of achondroplasia, which is the most common form of dwarfism, and perfectly situated within the company's expertise on growth related disorders. Achondroplasia patients are born with hypotonia, often referred to as floppy-baby syndrome. Around 8 years of age, bowing and instability of the knees is common. As they enter teenage years, achondroplasia patients can suffer from spinal stenosis, or narrowing of the spinal canal. This can result in serious morbidity, including shooting pains, difficulty walking, numbness in limbs, loss of bladder control and sexual dysfunction.

Perhaps the most famous example is Verne Troyer, the actor who played Mini-Me in Austin Powers, who sadly passed away this weekend.

BioMarin Pharmaceuticals is also developing a drug for these patients, and has already demonstrated proof of concept. However, their drug causes hypotension when dosed, and only lasts in the body for a few minutes, muting its efficacy. Ascendis has modified this drug to avoid the hypotension safety issues, and extend the time the drug persists in the body to enable better growth.



Ascendis is so confident in their platform, they tested their drug head-to-head against BioMarin's in primates. You can see the purple bar is the Ascendis candidate, the grey bar is the BioMarin drug, and along the y-axis is a measure of growth. The Ascendis candidate demonstrated a robust improvement in efficacy vs BioMarin. Importantly, the BioMarin drug is injected daily, while Ascendis is only once per week, just like growth hormone.

It can be challenging to value an early stage drug like this one. We typically use a bottoms up approach and assume a modest penetration rate. Another method that we seldom employ is relative valuation analysis. In this case, since their competitor is so well followed, one exercise is to look at how much value analysts attribute to the BioMarin program Vosoritide. Sell-side analysts attribute $6.5 billion in value to Vosoritide, and nothing to TRANSCON CNP.

And remember, you are looking at the head-to-head data suggesting Ascendis has the best-in-class drug.

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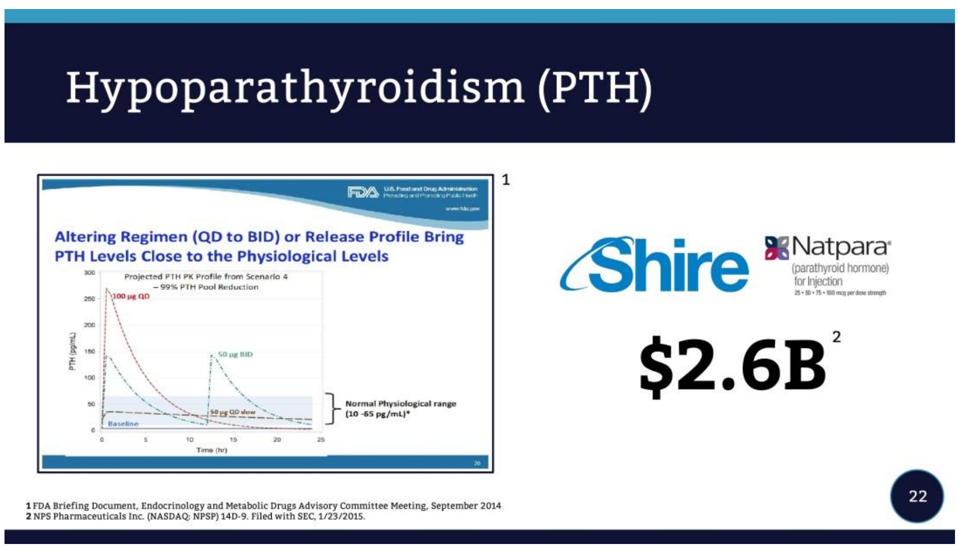
The second call option or golden egg is for the treatment of hypoparathyroidism, or PTH. Roughly 80,000 patients per year in the US are diagnosed with PTH, most commonly resulting from thyroid or head and neck surgery.

Patients who do not have adequate levels of parathyroid hormone experience chronic fatigue, cramping, chest pain, inability to concentrate or focus, and often progress to kidney disease.

In 2015, the FDA approved the first drug for the treatment of PTH, called NATPARA. However, the regulators went out of their way to caveat their approval with concerns that the drug was suboptimal. They noted the drug was only present in the body for 12 hours after each injection, leaving patients covered for only half the day. Ascendis has improved this drug to enable a full 24 hours of coverage for patients.

Again, to value this drug, we are able to use comparables, although the DCF analysis isn't much different. Shire acquired NPS, the company developing NATPARA in 2015, and attributed $2.6B in value to this asset.



We believe the Ascendis product may be a vast-improvement over NATPARA, and still, analysts ascribe little value to the program.

And now, the obligatory safety warning: Ascendis is not for everyone. You should consult your biotech analyst before purchasing Ascendis. Initiating a position may cause increased anxiety and reduced ability to sleep through the night. Serious, sometimes precipitous, drops in stock prices occur in biotech. Immediately after investing, you may experience sudden volatility due to headline risk from competitors. If stock declines are experienced for no fundamental reason, call your broker immediately to increase your position. Rare, but serious safety concerns have arisen in other companies' late stage clinical development programs. While no safety concerns have occurred with any Ascendis clinical programs to date, they may in the future. The use of PEG to extend the half-life of drugs has been

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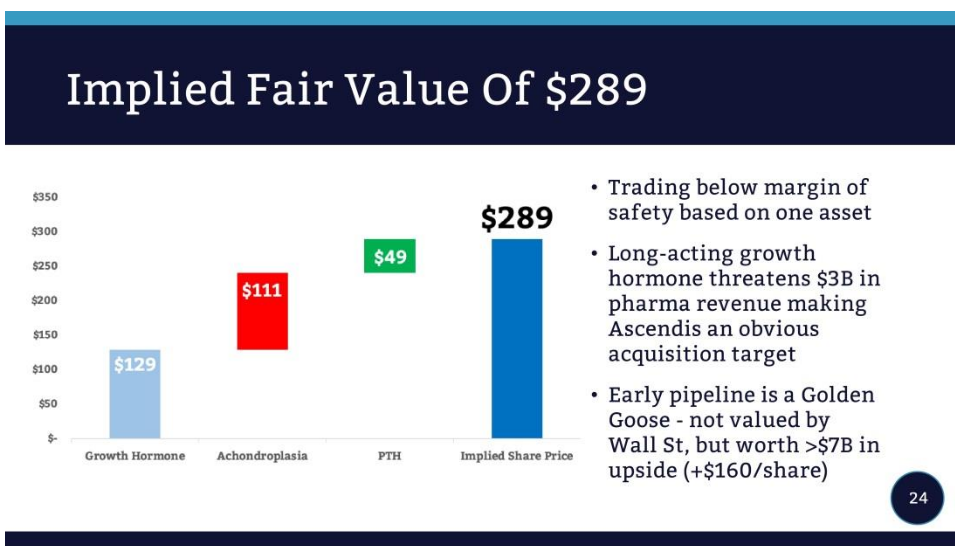
historically associated with toxicity. While the Ascendis PEGylation technique is fundamentally different from all prior attempts and the company has thoroughly investigated this, a theoretical risk with the use of PEG remains. Ascendis has no marketed products, and thus no recurring revenue. Dilution from equity offerings may occur. In the event of a secondary offering, immediately schedule a call with Ascendis management team to discuss placing an order. There is no guarantee past successful clinical studies will be replicated. The data from the approval study of Ascendis' long-acting growth hormone is expected in early 2019 and may cause a dramatic change in stock price.

So in summary, we have a lead drug nearing approval worth 100% more than the value of the company. This asset happens to threaten $3 billion of big pharma revenue which makes Ascendis an obvious acquisition target. Close behind that, we have two assets completely ignored by analysts, both using mechanisms already proven to be effective in humans. Using a sum of the parts valuation methodology, we believe Ascendis could be worth $289 a share, or nearly 5 times from where the stock is trading. And this isn't just another fairy tale!



Conclusion:

We think Ascendis really has a "margin of safety" as stated by Nodelman. We agree that the approval probability of its all three drug candidates are highly correlated. If Ascendis' long-acting growth hormone fails to get FDA's approval, the stock can easily lose a large chunk of its value. On the other hand the stock's price can cross the $100 mark upon approval. "We assume an 80% probability of success for the TransCon hGH program, since the Ph3 study is very similar to the Ph2 study and longer duration should give more confidence of success if compliance holds up," Credit Suisse said last year about Ascendis' lead asset.

Given that the probability of success is high and ASND's stock price hasn't moved much since Nodelman's presentation, we believe ASND is likely to deliver strong gains over the next 12 months.

Analysis of Warren Buffett's Historical Stock Picks

Back in 2013 we analyzed the performance of Warren Buffett's historical stock picks spanning the 1999-2012 period. We uncovered that Warren Buffett's entire equity portfolio outperformed the S&P 500 index by around 6 percentage points per year between 1999 and 2012. Between 2008 and 2012, Warren Buffett's entire equity portfolio also beat the market by 49 basis points per month.

Warren Buffett's top 5 large-cap stock picks also performed very well between 1999 and 2012, beating the market by nearly 4 percentage points annually. These stocks also surpassed the market by an average of 37 basis points per month between 2008 and 2012.

Warren Buffett's small-cap stock picks outperformed the market by even a larger margin between 1999 and 2012 (average monthly return of 0.93% vs. 0.35% for the S&P 500 Index). Overall, we concluded that Warren Buffett is very good at picking both small and large stocks but he is relatively better at picking large-cap stocks because there aren't a lot of hedge fund managers who can beat the market by 4 percentage points annually over long stretches of time.

It's been 5 years since our analysis and now we have 5 more years of data to analyze Warren Buffett's stock picking ability. Our dataset covers the 1999-2017 period. We have a high degree of confidence in our analysis because Warren Buffett's 13F portfolio and the weight of each stock in the portfolio don't change dramatically from quarter to quarter.

First we are going to take a look at Warren Buffett's value-weighted returns using the same weights used by Buffett himself:

Value-weighted Avg. Monthly Returns	1999-2017			2008-2017			2014-2017		
	Buffett	S&P 500 TR	Four Factor Alpha	Buffett	S&P 500 TR	Four Factor Alpha	Buffett	S&P 500 TR	Four Factor Alpha
All Stock Picks	0.64%	0.59%	11 bps/month	0.77%	0.78%	14 bps/month	0.59%	0.99%	-30 bps/month
Top 10 Stock Picks	0.60%	0.59%	9 bps/month	0.71%	0.78%	11 bps/month	0.53%	0.99%	-33 bps/month
Top 5 Stock Picks	0.56%	0.59%	5 bps/month	0.68%	0.78%	7 bps/month	0.49%	0.99%	-40 bps/month
Large-cap Stock Picks ($20+ Billion)	0.61%	0.59%	10 bps/month	0.76%	0.78%	16 bps/month	0.58%	0.99%	-29 bps/month
Top 10 Large-cap Stock Picks	0.60%	0.59%	10 bps/month	0.74%	0.78%	15 bps/month	0.55%	0.99%	-30 bps/month
Top 5 Large-cap Stock Picks	0.58%	0.59%	7 bps/month	0.68%	0.78%	7 bps/month	0.49%	0.99%	-40 bps/month
Mid-cap Stock Picks ($10B - $20B)	0.64%	0.57%	-23 bps/month	0.80%	0.78%	-4 bps/month	0.54%	0.99%	-46 bps/month
Smid-cap Stock Picks ($5B - $10B)	0.92%	0.53%	28 bps/month	0.83%	0.78%	-6 bps/month	0.62%	0.99%	-81 bps/month
Small-cap Stock Picks ($1B - $5B)	0.75%	0.59%	6 bps/month	0.92%	0.78%	0 bps/month	0.90%	0.99%	-5 bps/month
Top 5 Small-cap Stock Picks ($1B - $5B)	0.73%	0.59%	4 bps/month	0.89%	0.78%	-1 bps/month	0.94%	0.99%	-2 bps/month
Micro-cap Stock Picks (Less Than $1B)	2.57%	0.87%	NA	3.29%	1.59%	NA	-3.51%	0.88%	NA

Mind blowing. Warren Buffett's stock picks so badly over the last 5 years that their poor performance wiped out the strong outperformance we observed between 1999 and 2012. Warren Buffett's entire portfolio outperformed the market by only 5 basis points per month between 1999 and 2017, whereas it underperformed the market by 40 basis points per month over the last 4 years.

Ironically Warren Buffett's stock picks in every market cap bucket we used performed worse than the S&P 500 Index. It is ironic because Warren Buffett himself has been increasingly advising investors to invest in low-cost index funds. Buffett is known to shun high growth tech stocks which are behind S&P 500 Index's strong returns in recent years. Another factor behind Buffett's poor performance may be his inability to rebalance his portfolio weights because of his portfolio's size. That's why we are going to take a look at equal-weighted returns on the next page.

Analysis of Warren Buffett's Historical Stock Picks

Warren Buffett has nearly $130 billion invested in his top 5 positions. Some of these stocks has been in his portfolio for decades. Even when he might have an insight into near-term performance of any of these stocks, he won't be able to tilt the portfolio weights mainly because of tax implications and the market impact of executing very large transactions.

We also know that it takes Warren Buffett months to buy enough shares of a new stock pick so that it has a meaningful effect on Berkshire's returns. By using equal-weights, we will be giving smallest and largest positions the same weight in our return calculations.

This analysis is useful because it will show us whether we can generate better returns than Warren Buffett simply using his quarterly 13F filings even though they are filed with a 45-day delay.

Here are the equal-weighted returns for Warren Buffett's 13F stocks:

Equal-weighted Avg. Monthly Returns	1999-2017			2008-2017			2014-2017		
	Buffett	S&P 500 TR	Four Factor Alpha	Buffett	S&P 500 TR	Four Factor Alpha	Buffett	S&P 500 TR	Four Factor Alpha
All Stock Picks	0.97%	0.59%	27 bps/month	0.99%	0.78%	19 bps/month	0.70%	0.99%	-29 bps/month
Top 10 Stock Picks	0.80%	0.59%	25 bps/month	0.78%	0.78%	17 bps/month	0.64%	0.99%	-17 bps/month
Top 5 Stock Picks	0.62%	0.59%	10 bps/month	0.70%	0.78%	10 bps/month	0.43%	0.99%	-44 bps/month
Large-cap Stock Picks ($20+ Billion)	0.71%	0.59%	18 bps/month	0.93%	0.78%	25 bps/month	0.78%	0.99%	-15 bps/month
Top 10 Large-cap Stock Picks	**0.76%**	**0.59%**	**27 bps/month**	**0.93%**	**0.78%**	**36 bps/month**	**0.76%**	**0.99%**	**-3 bps/month**
Top 5 Large-cap Stock Picks	0.68%	0.59%	18 bps/month	0.70%	0.78%	10 bps/month	0.43%	0.99%	-44 bps/month
Mid-cap Stock Picks ($10B - $20B)	0.57%	0.57%	-20 bps/month	0.68%	0.78%	-9 bps/month	0.60%	0.99%	-41 bps/month
Smid-cap Stock Picks ($5B - $10B)	1.07%	0.53%	41 bps/month	1.00%	0.78%	14 bps/month	0.75%	0.99%	-58 bps/month
Small-cap Stock Picks ($1B - $5B)	0.98%	0.59%	3 bps/month	0.98%	0.78%	-15 bps/month	0.61%	0.99%	-27 bps/month
Top 5 Small-cap Stock Picks ($1B - $5B)	1.01%	0.59%	6 bps/month	0.95%	0.78%	-14 bps/month	0.98%	0.99%	2 bps/month
Micro-cap Stock Picks (Less Than $1B)	3.17%	0.87%	NA	4.48%	1.59%	NA	-1.29%	0.88%	NA

If you compare the two tables, you will see that switching to equal-weights improved the returns during the 2014-2017 period. You can also see an improvement in earlier periods. An equal-weighted portfolio of Warren Buffett's entire stock picks outperformed the market by 38 basis points per month between 1999 and 2017. This means an investor who simply creates an equal-weighted portfolio of Warren Buffett's 13F stock picks would have outperform Warren Buffett by an average of 4 percentage points per year over the last 18 years.

The brightest spot among Warren Buffett's stock picks over the last 4 years are his top 5 small-cap picks followed by his 10 largest large-cap picks. An equal-weighted portfolio of Buffett's small-cap picks failed to generate positive alpha over the last 10 years, whereas an equal weighted portfolio of Buffett's top 10 large-cap picks generated a monthly alpha of 36 basis points. These stocks outperformed the market by 15 basis points per month in the last 10 years and they had lower risk. We believe the poor performance of value stocks relative to high octane growth stocks will improve in the coming years and we should base our decision on the results of 2008-2017 period.

That's why we believe Warren Buffett's best stock picks are an equal-weighted portfolio of his top 10 large-cap stock picks.

Analysis of Warren Buffett's Historical Stock Picks

Performance/Risk Metrics	Buffett Strategy	SPY
Avg. No of Stocks	10.0	500
Average Monthly Return	0.9%	0.7%
Monthly Std. Deviation	4.2%	4.6%
Best Month	17.4%	10.9%
Worst Month	-14.0%	-16.8%
Maximum Drawdown	-41.2%	-48.5%
Sharpe Ratio	0.78	0.51
2008 Return	-15.8%	-37.0%
2009 Return	20.1%	26.5%
2010 Return	18.6%	15.1%
2011 Return	10.1%	2.1%
2012 Return	12.8%	16.0%
2013 Return	30.1%	32.4%
2014 Return	9.7%	13.7%
2015 Return	-8.7%	1.4%
2016 Return	19.7%	12.0%
2017 Return	17.9%	21.8%
Cumulative Return	174.0%	126.0%

An equal weighted portfolio of Buffett's top 10 large-cap stock picks (stocks with more than $20 billion in market cap) delivered less volatile returns than the S&P 500 Index between 2008 and 2017, yet it managed to outperform it on a cumulative basis (174% vs. 126%). These 10 stocks lost only 16% in 2008, its maximum drawdown was lower than that of S&P 500 Index's, and its best monthly performance was 7 percentage points better. Its poor performance over the last 5 years was primarily due to 10 percentage point underperformance in 2015. We should note that S&P 500 Index needed to gain 58.7% to recover from its 2008 declines whereas our Buffett strategy needed only 18.8% gain to neutralize its 2008 losses.

Based on the latest 13F filings we presented Warren Buffett's top 10 large-cap stock picks below:

Company Name	Ticker	SH/ PRN	Option	Value (x1000)	Activity	% in Portfolio	% of Market Cap
APPLE INC	AAPL	SH	N	46639553	5%	23.8%	5.1%
WELLS FARGO & CO NEW	WFC	SH	N	25059643	-1%	12.8%	9.3%
KRAFT HEINZ CO	KHC	SH	N	20456379	0%	10.5%	26.7%
BANK OF AMERICA CORP	BAC	SH	N	19141009	0%	9.8%	6.7%
COCA COLA CO	KO	SH	N	17544001	0%	9.0%	9.4%
AMERICAN EXPRESS CO	AXP	SH	N	14857849	0%	7.6%	17.6%
U S BANCORP DEL	USB	SH	N	5036709	11%	2.6%	6.1%
MOODYS CORP	MCO	SH	N	4207677	0%	2.2%	12.9%
PHILLIPS 66	PSX	SH	N	3900471	-24%	2.0%	7.5%
BANK OF NEW YORK MELLON CORP	BK	SH	N	3494685	4%	1.8%	6.4%