



GILDER GAGNON HOWE & CO.

Fourth Quarter 2019

February 13, 2020

Electric Cars and Quick Service Restaurants

Dear Client:

As the performance tables at the end of this letter show, we did well in the fourth quarter with most of our accounts up double digits.

An upstart coffee chain in China

The top contributor to our performance was the Chinese coffee chain Luckin (+107% in the quarter), which we purchased when they first sold shares to the public in May. For Chinese consumers, Luckin stands for a consistent convenient premium beverage at a reasonable price.

Two of the biggest changes to the world economy in the last twenty years have been the invention of the mobile phone and China's economic explosion. For the last few years, we've been expecting someone to create an entirely new retail concept built with mobile phones in mind rather than just using mobile technology to supplement their existing stores. It makes sense that this would happen first in China, where there are so few legacy models. If it works, Luckin could be the first of an entirely new category

Everyone in China has a mobile phone and uses it to pay for everything. Luckin has built a 4507-location coffee chain, now larger than Starbucks in China, that doesn't have a single cash register. By processing all orders through the phone, they get huge benefits in labor efficiency and throughput that help costs. But we were even more excited to learn about the advantages in quality assurance, customer retention, and store placement that come from having a direct connection with your customer. Revenue growth in Q3 (they haven't reported Q4 yet) was a staggering 540% YoY, driven by the number of stores tripling from 1200 in Q3 of 2018 to 3680 at the end of Q3 2019, while the number of items sold per store doubled from 6k per month to 12k per month over the twelve months.

Investing in something that is growing this quickly is like riding a rocket ship where the g-forces make it hard to hold onto your lunch. While the risks involved have encouraged us to keep the initial position size small, we also feel like the opportunity is too exciting to ignore.

Due to the recent outbreak of the Covid-19 virus in China, many of Luckin's stores are closed, likely for months. We're amazed that everyone in the stock market knows this and yet the stock price -- so far -- hasn't been immolated in a hypergolic explosion. We have to admit that some part of our brain was excited that it might sell off more significantly so that we could buy more at a discount. Be careful what you wish for!

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An American electric vehicle

While Luckin is a newer position, we first bought this quarter's second best performer, Tesla, when we started managing money in 2011. After remaining essentially flat since 2014 as the company first worked out its designs and then proved to the world that it could build a high volume production car, Tesla's stock went from \$240/share at the start of the quarter, below where it was trading in March of 2014, to \$418/share on the last day of the year (+74%), and has almost doubled again since then. Within the period of two months, four significant things happened that changed how investors think about Tesla, causing the incremental investor to focus less on the admitted management chaos and missteps and more on the long term opportunity.

First, Tesla announced they had completed their second factory in the world, built in Shanghai in a record ten months. China is now the largest automobile market in the world, and Tesla has an immensely powerful brand in China. We've even seen water bottles for sale in a market in Shenzhen with a fake Tesla logo on them. China has substantial EV incentives; there is a multi year waiting list to get a new Beijing license plate for an internal combustion car, but a much shorter wait for an EV. Without producing the car domestically in China, Tesla was subject to 40% Chinese import tariffs that made the car much less attractive in the local market, but the Shanghai factory changes that. Based on the strong interest in Tesla that we've sensed in China, we think they'll easily sell all 150k cars/year they can produce at the new Chinese factory, and apparently other investors agree.

Second, on November 11th, Elon Musk unveiled the Cyber Truck. We think the Cyber Truck is by far the most interesting vehicle they've ever designed. While the Model 3 rejected the gratuitous creature comforts common in the inside of European luxury cars, delivering an ascetic interior that's optimized for usability, trimming the fat to afford the expensive battery pack, the Model 3 remains a classic sedan on the outside. The Cyber Truck, on the other hand, deploys the same radical thought that successfully redesigned the interior of the Model 3 to re-think what a Truck can look like -- and how it can be constructed. Tesla's designers dispensed with conventional automotive marketing wisdom that to be successful a car's look needs to appeal to our reptilian brains and solved exclusively for cost and function. The result is a radically efficient but insane-looking Mad Max vehicle with very low drag that uses a folded stainless steel exoskeleton to replace body panels making a truck with an astoundingly low drag coefficient that has a body which costs a fraction of what it costs to manufacture an F-150. While it looks nothing like a traditional truck, we're convinced that consumers will love it for its shocking future forward appeal and at a \$40k starting price we think it is going to sell really well when they start shipping in 2021, priced at a level that other EV truck companies may find impossible to compete with.

Third, at the beginning of the year, conventional wisdom was that 2019 was finally the year that Tesla would have to compete with the big boys... and they'd be crushed by VW's manufacturing acumen or Jaguar's Jaguarness. Instead, what we've seen is existing car companies come to market with cars that cost more than Tesla while having less range and worse performance. For example, the most recent "Tesla Killer," the Porsche Taycan, is, like the 2012 Tesla Model S, a 4 door sedan. However, it costs 192k compared to 101k for the Tesla, accelerates to 60mph almost exactly as fast as the Tesla, has 134 miles less range, and the

coming Tesla Model S “Plaid” cleaned the Porsche’s literal and figurative clock around Germany’s famed Nürburgring race track, essentially Porsche’s home court. What became very clear during 2019 is that the advantages that Tesla has in battery cost from their Gigafactory investment and their superior understanding of electric vehicle drive trains are substantial, and that companies that are accustomed to simply integrating components from Tier 1 auto suppliers are going to struggle to compete and this is ignoring Tesla’s autonomy stack and other advances in software.

And finally, fourthly, to keep the spreadsheet junkies happy, Tesla reported strong Q3 profitability with both positive operating margins and generation of substantial cash. At the current price, we estimate that Wall Street investors are assuming the company grows to sell about 2mm units per year at something like a 25% margin, about 4x where they are today with a modest continued improvement in margin. We don’t think this is crazy. While these margins are meaningfully better than other car companies, we think that Tesla’s success in turning hardware problems (with hardware margins) into software problems (with software margins) makes them achievable.

A Chinese electric vehicle

Still on the topic of electric vehicles and China, among our biggest losers during the quarter was our short of “the Tesla of China,” NIO (158% against us in the quarter), which as far as we can tell doubled during the quarter mostly in sympathy with Tesla’s rising share price, as investors consider Tesla’s fame might lead to an acquisition of NIO. We’re not so quick to make the same comparison.

When we met with NIO at their facility in Shanghai in 2018, we learned that because they rely on a contract manufacturer to integrate parts from Tier 1 component suppliers, it costs them more to make a car than what Tesla sells the car for at retail. Because of this, they were losing something like 100mm USD a month during the third quarter and need to raise substantial funding to remain an operating concern.

While the market has bid up NIO’s price, assuming a larger Chinese company will gobble them to become a player in the Chinese electric vehicle market, we wonder if such a strategic investor will think twice before spending 5bn dollars to buy a company that is hemorrhaging cash and lacks Tesla’s ability to grow into profitability with scale. We also think that Tesla’s success, rather than showing a path for NIO to follow, will cause NIO significant issues. As Tesla ramps up Model 3 production in China, NIO will find itself, like Porsche, trying to sell what is a clearly inferior car at a price premium but without Porsche’s storied brand and with serious questions among consumers if the company will be an operating concern to support their cars in a year.

An American burger shop

Our biggest loser was the American hamburger chain Shake Shack (-39% in the quarter). Like Luckin, Shake Shack is a quick service restaurant, but that’s where the path the two companies have taken ends.

While Luckin was designed to get big fast, with the founder spending two years writing software and planning specifically to manage thousands of units before he opened the first store, Shake Shack was originally a hamburger stand in Madison Square Park in NYC that was created nineteen years ago by the famed restaurateur Danny Meyer as a fun side project to his restaurant empire. Over the last two decades, Shake Shack grew slowly from that one location to 173 locations at the end of 2019, but in going slowly and focusing on authenticity they developed a brand with a cult-like devotion where customers will drive past a dozen other burger shops to get to a Shake Shack. While Shake Shack might not be growing as quickly as Luckin, the more modest growth means that it is also less likely to detonate on the launch pad, wiping out investors.

The stock was down meaningfully in the quarter because the company released a forecast for year over year same store sales, which had been growing, to contract for the next two quarters. The company says that as they've moved from five delivery partners (UberEats, DoorDash, Caviar, Postmates and GrubHub/Seamless) to only doing delivery via Grub/Seamless, they expect to lose some delivery business in markets like Los Angeles where Grub/Seamless has less density.

We're convinced that Shake Shack's deep brand means they've got a great shot at having ten times this number of locations worldwide.... or more... even if it takes them a few years to get there.

Thanks for your support,

A handwritten signature in dark ink, appearing to read "Alex" followed by a stylized flourish.

Alex Derbes

We have always reported a single performance statistic, summarizing a range of results. Many factors affect where your account landed in that range. Accounts that missed one or more top performing stocks, or had a larger position in a poorly performing stock, can land at the bottom of the range. The performance of new accounts, smaller accounts, and accounts that had significant deposits or withdrawals during the period is particularly variable. Also, in 2019, smaller accounts paid a higher rate of commissions compared to larger accounts, which had an adverse impact on the performance of those smaller accounts¹. Starting in 2020, all non-retirement accounts pay the same commission rate of 1.5% per trade. Even among the remaining accounts, there is a wide range from the aggregate performance we report.

We derive aggregate performance by totaling the equities in all of the accounts under management² and calculating performance (net of commissions or wrap fees) as if we managed one account. This

¹ In 2019, commissions were charged per trade on a sliding scale with a maximum of 2% and decline gradually as the trade value increases. Starting in 2020, all non-retirement accounts pay a commission rate of 1.5% per trade. Retirement accounts are charged an annualized wrap fee with a maximum of 3% based on assets under management, with a decrease in the fee when the asset value reaches \$1,000,000.01. See GGHC ADV for details

² Deposits and withdrawals within individual accounts, and accounts opened or closed during the period, are included in the calculation of aggregate performance.

methodology weights large accounts more heavily and is not representative of any particular accounts. Therefore, we also provide the worst performing account in the relevant period to give an indication of the potential range in investment performance.

	Q4 2019 aggregate³	Q4 2019 worst⁴	FY 2019 aggregate	FY 2019 worst
Margin	15.7%	4.3%	74.1%	37.6%
Cash	13.4%	11.7%	58.0%	51.6%
Retirement	11.5%	6.7%	50.4%	47.9% ⁵
S&P 500	9.1%		31.5%	
Nasdaq	12.5%		36.7%	

Please look at your account statement for changes in value from one period to the next. If you would like further clarification, please do not hesitate to give us a call.

The companies discussed in this letter were selected because they are representative of our investment thesis. Since GGHC manages individual accounts, some of the companies discussed in the letter are not necessarily held in every account.

Please remember our goal is to build your wealth by aggressively investing your capital over the long term. This approach carries considerable risk and is not for everyone. It requires tremendous patience and commitment in the face of large swings, and has the possibility of failure. At the same time, success can only be measured on an absolute basis. We don't invest with any particular benchmark in mind. While we provide comparative performance of various widely- reported indices to give you a sense of the overall market environment, you should not expect our results to track any one of them. There are material differences between GGHC accounts and the indices shown, as volatility, investment objectives and types of securities differ.

The S&P 500 Index is a market-capitalization weighted index containing the 500 most widely held companies, and covers approximately 80% of available market capitalization. The NASDAQ Composite Index is unmanaged and measures all NASDAQ domestic and non-U.S. based common stocks listed on the NASDAQ Stock Market. The index is market-weighted. The index results shown are calculated on a total return basis with dividends reinvested. Index results do not reflect the deduction of any fees or expenses.

Please notify us immediately of any changes in your financial or personal circumstances, so that we may consider them in relation to the size of your account relative to your other assets.

You can access the GGHC Privacy Policy and our Firm Brochure, Part 2A of Form ADV (required by the SEC that describes our firm at length) on our website at www.gghc.com. This letter is intended for you, our client. If you would like to share it, please contact us and we will be glad to provide a copy to the intended person.

³ Past performance is not indicative of future results. Aggregate performance and the worst performing account are net of all fees, commissions and expenses and includes the positive impact of reinvestment of dividends. At the end of Q4 2019, Alex Derbes, managed 78 margin accounts, 8 cash accounts, 32 retirement accounts.

⁴ When determining the worst performing account, we include closed accounts, but exclude accounts that were opened within the relevant period, accounts with an equity of less than \$1,000 and uninvested accounts;

⁵ During the third quarter, a retirement account was transferred to Alex Derbes' management from another GGHC manager. The performance of that account during the period of Alex Derbes' management was 5.9%. The next worst performing account is stated in the above table.