HAYDEN CAPITAL

QUARTERLY LETTER

2022 | Vol.4

1345 AVENUE OF THE AMERICAS
33RD FLOOR
NEW YORK, NY 10105
HAYDENCAPITAL.COM

HAYDEN CAPITAL

February 24, 2023

Dear Partners and Friends,

The past few months have been memorable to say the least – perhaps a fitting end to an already eventful year.

Time Period	Hayden (Net)[1]	S&P 500 (SPXTR)	MSCI World (ACWI)
2014[2]	**(4.9%)**	**1.3%**	**(0.9%)**
2015	**17.2%**	**1.4%**	**(2.2%)**
2016	**3.9%**	**12.0%**	**8.4%**
2017	**28.2%**	**21.8%**	**24.4%**
2018	**(15.4%)**	**(4.4%)**	**(9.2%)**
2019	**41.0%**	**31.5%**	**26.6%**
2020	**222.4%**	**18.4%**	**16.3%**
2021	**(15.8%)**	**28.7%**	**18.7%**
1st Quarter	(39.2%)	(4.6%)	(5.7%)
2nd Quarter	(40.3%)	(16.1%)	(15.1%)
3rd Quarter	(18.9%)	(4.9%)	(7.2%)
4th Quarter	4.7%	7.6%	9.9%
2022	**(69.2%)**	**(18.1%)**	**(18.4%)**
Annualized Return	**5.0%**	**10.2%**	**6.7%**
Total Return			
1 Year	**(69.2%)**	**(18.1%)**	**(18.4%)**
5 Years	**(0.2%)**	**56.9%**	**29.6%**
Since Inception	**48.2%**	**119.8%**	**69.3%**

While our portfolio finished the fourth quarter in positive territory (and continuing into 2023), it masks several of noteworthy events – from the China's National Party Congress sparking panic in Chinese equities, to a drastic sentiment-turn just a few weeks later when China ended zero-

1 Hayden Capital returns are calculated net of actual fees directly deducted from client accounts, for the period from inception (November 13, 2014) to December 31, 2020. Starting on January 1, 2021, reported performance is reflective of a representative account, managed in accordance with Hayden's strategy with no client specific investment guidelines or limitations, made no subsequent investments or redemptions, and remains invested. The representative account paid a management fee of 1.5% and incentive fees of 0%. Clients who elect the performance fee option for their accounts may pay higher fees and therefore realize lower net returns, during years of strong investment performance. Individual returns may vary based on timing of investment and your specific fee schedule. Performance results are net of expenses, management fee and incentive fees. Past performance is not indicative of future results.

2 Hayden Capital launched on November 13, 2014. Performance for both Hayden Capital and the indexes reflects performance beginning on this date.

Covid, to several frauds and weak-players being exposed in the crypto ecosystem, to decades-high inflation finally turning a corner.

Last quarter I mentioned that it felt like the macro-driven valuation compression was largely finished, and going forward it would be up to our individual companies to execute and prove the durability & trajectory of their future earnings. I have even higher confidence in this now, as we're finally starting to witness meaningful dispersion among structural-winners within our universe vs. their weaker counterparts.

Typically these environments are best for stock-picking – especially when it's following a large market dislocation, where the market sentiment is still fragile, many stocks have gotten "thrown out with the bathwater", and inefficiencies abound.

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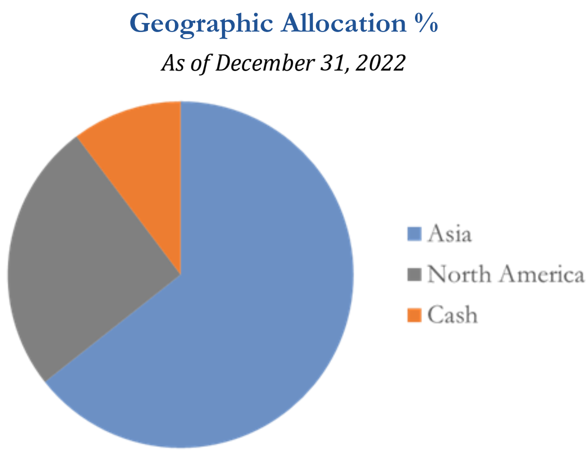

Our portfolio increased +4.7% in the fourth quarter of 2022, versus +7.6% for the S&P 500 and +9.9% for the MSCI World indices. This brings our annualized return since inception to +5.0%.

We took advantage of the market sell-off and the decade-low valuations last year, to build a few new positions in Chinese companies we've been following for years. As a result, we ended the quarter with ~64% of our assets invested in Asia, ~25% in North America, and the remainder in cash.

Knowing Who & Where We Are

We all know that markets move in cycles, and with typically extreme moves at the beginning and end. During good times, when the economy is chugging along and companies are easily hitting their financial targets, equities can be priced for perfection. And near the troughs when sentiment is lowest, even meeting these targets can cause their stock prices to drop, as investors look for any opportunity to sell their holdings.

Of course, it's always easy to spot these turning points in hindsight, but hard to distinguish while in the thick of it. Market narratives (in either direction) have an unusual habit of sounding plausible at that moment.

What's unique about the past three years though, is that we've watched these cycles unfold in such a compressed time period. Within just three years, we have gone from worrying about a Covid-induced Great Depression, to so much consumer demand that even mundane products like sofas had months-long waiting lists, back again to fears of a Fed / rising interest rates induced recession.

Throughout all of this, our strategy remained the same. Our goal is to identify promising companies earlier in their lifecycles, that are investing their capital (either external or internally generated) into high ROI projects in a thoughtful manner, and before these new developments are obvious to the rest of the market, typically when the "output" / returns of these projects show up on the financial statements years later.

For example, Charlie Munger mentioned at the recent Daily Journal meeting, that in America, great businesses trade for "at least 25x earnings, maybe 30 or 35x…" (or just 3-4% earnings yield)[3]. But "what makes investing so difficult is the fact that the good businesses don't stay cheap. *You have got to recognize a good business before it's recognizable as a good business* (LINK)."

I thought this was a very concise way to frame such an investing style. Of course, there will be plenty of mistakes along the way, and seemingly good businesses may not turn out as envisioned – whether due to changes in the competitive environment, misjudgment on management decisions, new regulations, or simply getting it wrong. But over time, the goal is that asymmetric rewards from the "winners" will more than offset the "losers"[4].

Within this framework, we seek to invest in companies that 1) are in industries that have secular tail-winds, 2) have a unique & defensible customer value-proposition that gives them a "right to win", 3) have best in class management teams, and 4) we're able to purchase our initial stakes at prices that give little credit to the aforementioned new projects / developments.

We've pursued this strategy through varying market environments by now – when we first launched Hayden, in 2018 when we first purchased what would become our core positions, in 2020 as we entered the Covid-period, and now at the start of 2023 in the middle of a bear-market and potential economic recession. It's integral to who we are as investors, and is unlikely to ever change.

What drives this steadfast belief, is simply we believe our strategy will be able to generate market-beating (albeit volatile) returns for our partners over a longer time period, while being aligned with our skillset & how we think.

The structural changes we invest behind, are important enough to society, that they continue to power through regardless of the economic cycle. It's highly unlikely a recession will derail the next billion people in emerging markets from gaining access to the internet. Companies will continue utilizing software to automate their operations and make their cost structure more efficient (arguably even more so during a recession). And manufacturers will continue utilizing

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[3] Often these businesses are also mature by the time they're recognized in the market, and therefore exhibit just mid-single digit rates of growth.

[4] See our Q4 2019 investor letter for discussion of this power law (LINK).

technology to make their own supply chains more efficient. This ultimately benefits both the manufacturer and end consumers by redistributing middlemen profits, who have traditionally relied upon relationship-based trust to make a living (which is being displaced by data and reviews instead).

So why am I using this space to give a "soapbox" speech? It's that I genuinely think knowing who you are as an investor is *the* most important aspect in this craft (plus its year-end and a time to reflect, so I'll take the liberty to be more philosophical than usual). And it's just useful to occasionally remind ourselves too.

There are hundreds of different strategies and ways to make money in the financial markets. They all have their merits, and can be equally successful.

During turbulent times though, it can be tempting to switch strategies to a different game, thinking the "grass is greener" elsewhere (and over the last year, I've personally watched a few investors start investing in sectors that they've never built expertise in before – notably, energy and commodities).

In my experience, this decision often fails – simply because certain strategies come in and out of favor, just like markets do. But by "playing someone else's game", you're probably not only joining late, but also prone to being the least knowledgeable one at the table. In my opinion, the best way to mitigate this temptation is first knowing who you are as an investor.

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I was re-reading one of legendary debt investor, Howard Marks', older memos recently. In this memo, written as the markets were in the middle of a multi-year bear market in the Fall of 2001, Marks famously wrote: "The key to dealing with the future lies in **knowing where you are**, even if you can't know precisely where you're going" (LINK). I can't think of a better way to frame today's environment.

The macro outlook remains murky, as it always does during periods like this. But what we know today, is that many companies within our universe have already started preparing for worst case scenarios, by shedding excess headcount, hoarding cash, and cutting R&D projects that won't produce a return in the near-term. Sell-side banks are calling for a recession as a foregone conclusion, with the debates being not *if*, but *how deep*? Investment positioning and risk-taking appetite is near cyclical lows, and the IPO market has frozen to a standstill.

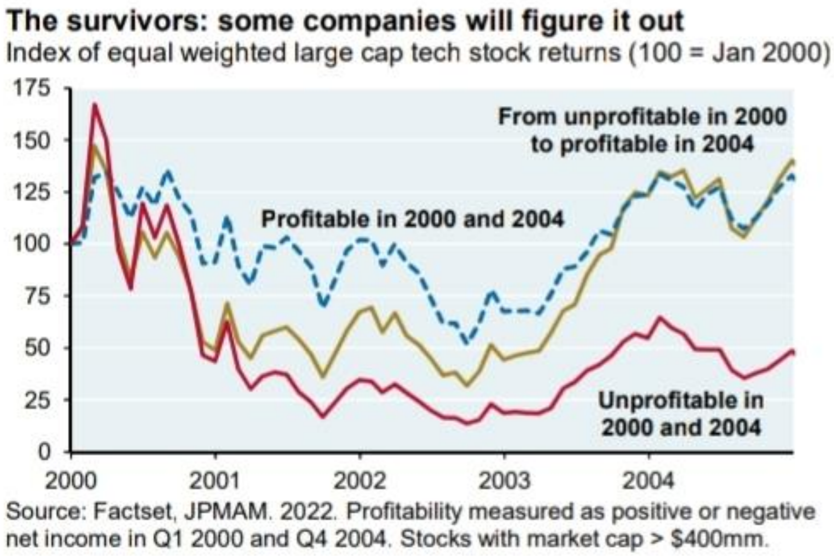
By all indications, it seems like a lot of potential negatives are already priced in – whether they'll actually occur is a different question. Usually this would indicate the tail-end of a bear-market, if not already in the very nascent beginnings of a new cycle.

If this is correct, then where should we look for opportunities over the next few years? Where can we find the most fertile fishing pools (while also within our circle of competence), to have the highest odds of producing market-beating returns for our partners?

On that topic, this chart from JP Morgan's Eye on the Market report stood out (LINK). It shows that during the 2000 – 2002 bear-market and the years after, the companies that declined the most were unprofitable technology companies, by ~-80% at their troughs. Meanwhile companies that started the period as unprofitable but ultimately became profitable, also declined

~-70%. And companies that were reliably profitable throughout the entire period experienced max drawdowns of ~-50%.

Tech Stock Performance from 2000 - 2005
Source: JPMorgan Eye on the Market Outlook 2023 (LINK)



Logically, this makes sense. These unprofitable companies were dependent upon the generosity of others (i.e. capital markets funding) to sustain their operations, until they could stand on their own two feet.

Especially when there are fears of a recession, the future financial outlook is uncertain, and the capital markets are closed, few investors are willing to take the bet that these companies will be able to develop self-sustainable business models in such an adverse environment. Many would prefer to wait until their business models are "proven" and the results obvious in the financial statements, rather than trying to make that judgement beforehand.

However the fact is, that some companies do figure it out. Actually not just *some*, but history shows that *half* (!) are able to make this transition. A higher percentage than I would have expected…

Through a combination of cost-cutting, capturing structural growth in their industries, and taking additional market share from weaker competitors, the best of breed firms <u>do</u> become self-sustainable within a few years.

The report states, *"…for stock pickers that sift through the wreckage to try and identify survivors, there may be attractive opportunities. The size of this unprofitable -> profitable cohort was* ***roughly 50% of the 'unprofitable in 2000' universe****."*

So what's the reward for those that correctly "sifted through the wreckage"? A little over a year after hitting their troughs, these stocks had recovered ~+320%, to match the cumulative returns of the companies that had been profitable all along.

Essentially, these stocks suffered the brunt of the draw-down alongside the (what I'll call) "broken business model" companies during the first phase of the bear-market. And as the market realized that some of these businesses actually developed self-sustainable models, their share price re-rated to reflect their new profitable profile. It was a steep downward, then steep upward trajectory for their stock prices over just a few years.

As a side note, it seems even the "broken business model" stocks managed to produce attractive returns (~+150% as a group). Granted, this cohort never managed to return to their prior highs, and some of these companies eventually went bankrupt. But the point is that during the depths of a bear-market, expectations are often too pessimistic, even for the companies that deserve this cynicism the most. Essentially, if even the downside scenario is positive expected returns, perhaps this indicates a fertile pool to go fishing.

More recently, Henry Ellenbogen of Durable Capital, also shared a similar sentiment in this year's Barrons Roundtable (LINK). He stated, *"In the aftermath of the 2000 TMT [telecom, media, technology] bubble, unprofitable companies that became profitable proved to be some of the best stocks for the next decade. IPOs from the class of 2021 are down about 65% in price. That is an attractive area."*

This also matches our own case studies on Amazon, MercadoLibre, and Cisco, published in our Q1 2022 letter (LINK). Almost a year ago, we gave similar examples to highlight companies that went through these exact transitions, and their resulting stock performance. At the time, the goal was to mentally prepare our partners (and ourselves) for what to expect during this phase of the cycle.

Fast-forward to today, and we're starting to see these patterns unfold in real-time. For example, the below chart comes from Asia Partners, a Singaporean growth-stage private equity firm. It shows just how large of a premium the market's ascribing to "growth" and "profitable" factors, with high growth companies trading at a ~70 - 140% premium, and profitable companies trading at a ~40 - 100% premium.

Valuation Multiples, by Growth & Profitability

Source: Asia Partners, 2023 Southeast Asia Internet Report (LINK)

BACK TO BASICS: THE PUBLIC MARKETS HAVE REDISCOVERED THAT IT ISN'T GROWTH *OR* PROFITABILITY, IT'S BOTH

ASIA PARTNERS

Global Software Industry Valuation Metrics as of December 30, 2022

	Average Metrics				
	CY22E Revenue	CY22E/21A Revenue Growth (Street)	CY22E Free Cash Flow Margin	'Rule of 40' Performance	Average CY23E Revenue Multiples
High Growth + Profitable	$1,142MM	64%	18%	82%	**8.8x**
High Growth + Unprofitable	$571MM	59%	(17%)	42%	**6.2x**
Moderate Growth + Breakeven	$750MM	24%	4%	28%	**5.1x**
Moderate Growth + Unprofitable	$772MM	13%	(16%)	(3%)	**2.6x**

Methodology:

- High Growth + Profitable defined as companies with greater than 40% CY22E/21A revenue growth and positive CY22E FCF margins
- High Growth + Unprofitable defined as companies with greater than 40% CY22E/21A revenue growth and negative CY22E FCF margins
- Moderate Growth + Breakeven defined as companies with between 20% - 30% CY22E/21A revenue growth and CY22E FCF margins between 0%-10%
- Moderate Growth + Unprofitable defined as companies with less than 30% CY22E/21A revenue growth and negative CY22E FCF margins

Source: Morgan Stanley

Asia Partners | January 2023 193

And in the best case scenario, if a company can reaccelerate growth after reaching profitability by reinvesting that new-found cash flow into attracting new customers, the data suggests the reward for merely closing this relative valuation gap can be as high as ~+240%. While this analysis is simplistic, and there's a lot of nuances to the data, I think it does a good job illustrating the market today[5].

That degree of discrepancy also indicates to us, more than adequate compensation for taking business model risk today, especially if the historical "success rate" of ~50% holds true this cycle. The opportunity lies in determining which companies will fall within this cohort, where we have a different opinion on the business' quality, and where we have high confidence that the economics will prove itself in the near-term.

Granted, this is just one arena where investors might find ample opportunities today. There are plenty of other fishing pools in today's markets, but I thought this one was interesting as it falls squarely within our skillset.

Of course, there's no guarantee that this cycle will follow a similar pattern. The starting and ending valuations also differ between cycles, and the exact timing and magnitude will differ as well. However even if history doesn't repeat, it often does rhyme…

Capital earns the highest returns, in sectors or periods when it's most scarce. Whether that's investing in young startups, frontier markets, or during bear-markets. Obviously these arenas also carry additional risks. But often market prices also over-compensate for these risks, and investors can earn higher returns simply by putting in the effort when others won't, or structurally aren't able to do so.

Given the state of the markets, and with the widespread negative expectations baked into many stocks' prices, it's important to know where we are in the cycle, and where the most opportune fishing pools are. It's a good time to have some playbooks in hand, and begin searching for opportunities.

PORTFOLIO REVIEW

Pinduoduo (PDD): We have been building a new investment in Pinduoduo over the last few months. Related to this, we also published an investment memo for our partners, outlining our investment rationale early last month.

[Link To Our Pinduoduo Memo]

For those that aren't familiar, Pinduoduo is one of China's "Gen-2" technology companies, launched in 2015[6]. That period turned out to be a fertile environment to launch a new mobile-centric, value-based ecommerce company. The timing couldn't have been better – as low-cost

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[5] For example, the reason the growth premium is larger than the profitability premium, is probably because the market assumes the current losses are a symptom of the company choosing to reinvest its underlying profits into growing faster. The implicit assumption is that if the company were to slow down reinvestment spend, they would easily become profitable.

Meanwhile "moderate growth + unprofitable" companies don't have that excuse – they aren't reinvesting to spur growth, and yet they're still not able to make a profit – thus indicating higher odds of a broken business model.

[6] See our Q1 2021 investor letter, for more discussion about Gen-2 companies (LINK).

smartphones were driving rapid mobile internet penetration increases, and the proliferation of Alipay and WeChat Pay allowed the mass consumer to seamlessly purchase goods online.

Pinduoduo cleverly built their business model around this development. Combined with their innovative team-purchase and consumer-to-manufacturer models, which allowed the platform to offer un-beatable prices, the company soon rose to compete in the same leagues as the incumbent platforms of Alibaba and JD.

Fast-forward to today, and the company is one of China's top ecommerce firms, with ~900M users and ~24% ecommerce market share. We expect the company will produce over ~$8BN in profits this year, while growing to ~$15BN by 2025.

The foundation for our thesis rests upon Pinduoduo's core ecommerce operations in China, with additional upside from Duoduo Grocery achieving profitability later this year (and ultimately surpassing the market's implied expectations for this division).

However, there's a third aspect to Pinduoduo's business that we didn't spend much time on in the memo. That's [Temu](), Pinduoduo's newly launched US-focused platform launched just a few months ago.

In our memo last month, we described Temu as a "call option" within our broader Pinduoduo valuation framework. What we know for sure, is that Pinduoduo plans to invest several billion dollars into the initiative over the next couple of years, and is targeting a ~$3BN GMV goal this year, and ~$30BN GMV in five years' time (approximately Shein's size today).

As stated in the original memo, it's still too early to tell whether Pinduoduo will be successful, or to estimate how material the initiative will be for PDD's overall results. The initiative was launched in the middle of our research process and didn't factor into our investment decision.

However, over the last few weeks we've received some new datapoints and insights, which sheds additional light on the division's unit economics and whether it's trending in the right direction. The below is meant to provide additional context on this emerging division, and can be thought of as an addendum to our original memo.

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Customer Acquisition Funnel

Beginning with the customer journey, Temu already does things different than their Western competitors. Instead of advertising on Instagram, Google or Tiktok to acquire customers, Temu gives this would-be marketing cost directly to users instead.

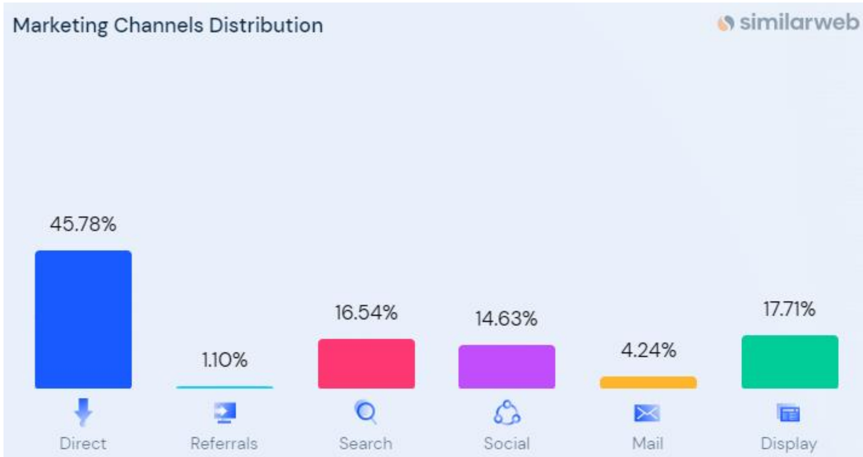
This takes the form of deep-discounts on popular items (similar to "doorbusters" on Black Friday), significant coupons / discounts for returning customers (for example, $30 off if you spend $120), or rewards for referring new customers (for example, a $20 credit for each new referred customer).

We can see evidence of this in Temu's traffic source distribution. The majority of users come to Temu's site directly, versus being persuaded by an external advertisement (i.e. performance or brand marketing).

According to Similarweb, ~46% of Temu's traffic is direct (customers directly entering Temu.com into the URL bar), and another ~17% is from search engines, where the most common keywords include "Temu"[7] (LINK).

Temu's Marketing Channels

Source: Similarweb



Temu's Top Keywords

Source: Similarweb

Albeit, these discounts were more common in the first few months of Temu's launch (September 2022 – December 2022), and we've noticed a significant decline in the reward frequency now that Temu has gained momentum in the US market (it's currently the #1 app in both the Apple and Google app stores). Additionally, rewards are personalized for each customer – those that are

[7] This search engine dynamic is essentially direct traffic. It shows that customers are already aware of Temu, and intended to reach the site (vs. happening to come across a Temu Google Ad, and then visiting the site based on that ad). Additionally, this search engine traffic should be low cost, since users aren't reaching Temu.com via ads on the search engine (meaning Temu doesn't have to pay the search engines).

frequent users receive fewer coupons, while new or infrequent users get coupons more frequently.

In this aspect, the main question should be, "Is this method of paying customers directly a more efficient method of acquiring (quality) customers, versus the traditional method of advertising via Google or Instagram?"

Several sources indicated that Temu's CAC was likely ~$50 – 60 when it first launched, versus Shein's ~$35 CAC (LINK). And even if we assume there's some additional marketing that should be attributed to the direct traffic channel (in addition to the coupons for new users), it's still comparable to other ecommerce companies that use a traditional advertising method[8]. For example, Amazon spends ~$160 per new customer, while the average ecommerce company spends ~$45 – 50 (LINK 1, LINK 2)[9].

The result of all this, is a total ~13M downloads from launching in September to December 2022. Shein and Temu share many similarities – low-priced products sourced from Chinese factories, and catering to Western users. As such, one method of estimating Temu's user base is using Shein's early adoption metrics as a proxy.

For example, when Shein first started gaining traction, its app downloads-to-purchase conversion rate was ~9.9%. If we assume the same ratio for Temu, this implies ~1.3M users at the end of 2022, four months after launch.

Shein Users & App Downloads

Source: BusinessofApps (LINK)

Shein Users

	Annual Users (Global)	Annual Users (US)	Annual Downloads	Cumulative Downloads	Users : Cumulative Downloads
2022	74.7	13.7	200.0	565.8	13.2%
2021	43.7	7.5	157.1	365.8	11.9%
2020	15.5	2.8	103.1	208.7	7.4%
2019	5.6	1.1	57.2	105.6	5.3%
2018	4.8	0.7	48.4	48.4	9.9%
2017	2.8	0.5			

However SensorTower, an well-known app intelligence company, recently reported that as of February, Temu has already garnered 13.4M monthly active users and 24M downloads (LINK). If this is correct, that'd indicate a ~55% user-to-downloads conversion rate, or 5x higher than Shein. This feels high, and the real answer is probably somewhere in-between.

More importantly, even if it's only directionally correct, this would indicate a *declining* CAC versus when the app first launched a few months ago. In our view, this is the most important metric investors should be watching for at this stage of development.

As each incremental new user becomes cheaper to acquire, it signals that the app's addictive features are working – users are referring friends & family to drive organic growth, and existing

[8] For example, someone may see an influencer promoting Temu, but not check out the website until a week later. This would be categorized as direct traffic, when it was actually a paid influencer that brought the user in.

Additionally, Temu offers deeply discounted products, sometimes at cost. These items attract new users and encourage them to purchase at a higher conversion rate. In this way, "advertising" via deep discounts might be a cheaper form of marketing than traditional marketing.

For example, offering $10 off an item is cheaper than getting a user from Instagram marketing for $55.

[9] Amazon's average Prime customer spends ~$1,400 per year, so it makes sense for them to pay more to acquire a customer.

users are sticking around to reorder (versus only coming for the deep new customer promos, and abandoning the platform afterwards).

If SensorTower's 13M MAU figure is accurate, that'd mean more people are using Temu than Target (9M MAUs), is similar to Shein's US base (14M MAUs), and will soon catch up to Walmart (18M MAUs) in a few months.

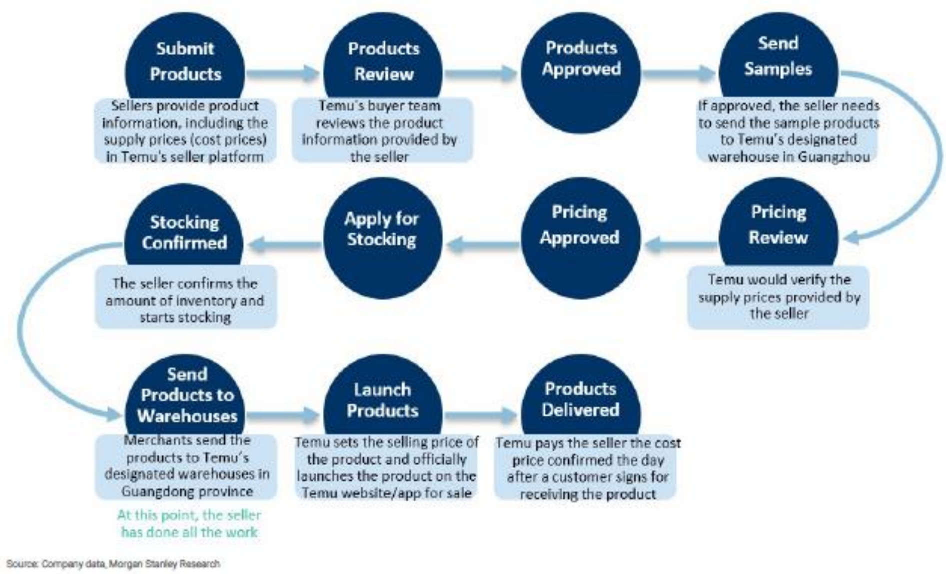
Product Margins

From our understanding, Temu is currently targeting a ~80% retail mark-up from factory prices. After promotions and discounts, the platform seeks to make an average ~30% gross profit margin. Obviously this will differ by category, as clothing and handbags can be as high as 150%, while electronics will be on the low end.

For example, Temu might agree to pay a $10 factory price (cost price) to a factory merchant, and then mark up the platform retail price to $18. After all coupons, flash sales, and other promotions are accounted for, the customer ends up paying $14.28 or a $4.28 gross profit for Temu (~30% gross margins)[10].

Temu's Operating Process

Source: Morgan Stanley



It's important to point out that Temu has pioneered a hybrid 1P + 3P model, whereas PDD's core ecommerce platform in China is a pure 3P marketplace. Temu has aspects of a 1P retailer, in that Temu is the one that sets the wholesale prices with factory merchants. It also marks up these products on its platform, and keeps the additional profits for itself (similar to how traditional retailers purchase products at wholesale prices, and resells them to customers at a

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10 This gross margin is lower than PDD's core ecommerce margins in China, of ~80%. However this is due to Temu's hybrid 1P + 3P model, whereas the core platform is a pure 3P model. The core platform also monetizes predominately off advertising, which Temu hasn't launched yet (but is almost guaranteed to, as it gains more scale).

mark-up). However unlike other 1P retailers, Temu doesn't hold product inventory. This conserves capital, and keeps the business model asset-light.

Also similar to a 3P marketplace, Temu lists these products under the factory merchant's own brand on the platform, instead of its own[11]. This incentivizes factories to maintain a high quality standard (since it's their own reputations on the line), and allows them to build their own brand recognition with US consumers (vs. just being an OEM manufacturer for other brands). Temu is meanwhile responsible for customer service and return logistics.

But we suspect the real genius behind this, is that Pinduoduo plans to eventually monetize the Temu platform through advertising services, similar to how its core Chinese platform makes the bulk of profits today. If all the products are labeled under the "Temu" brand (like Shein is today), there's no incentive for factories to compete against each other and pay for marketing / advertising on the platform to promote their own products.

Considering Amazon sellers (~38% of all Amazon sellers are based in China; LINK) are paying up to 50% take-rates (up from ~35% in 2016), there's ample headroom for Temu to raise their take-rates over time (LINK). In fact, ~15% of Amazon's take-rate was just for advertising. As long as Temu can bring traffic to its platform, these Chinese Amazon sellers will be heavily incentivized to try listing their products on competing sites.

Logistics Costs

Temu and merchants also share logistics costs, in another demonstration of the hybrid model[12].

Merchants are responsible for shipping products to Temu's Guangzhou warehouse (i.e."first-mile" delivery). The platform is then responsible for "middle" and "last" mile delivery – shipping these products from the Guangzhou warehouse to the US, and then handing off the packages to the US postal service for delivery to the customer's door.

Temu chose this model instead of having merchants ship orders directly for several reasons (like they do in China). First off, these factory merchants are unsophisticated, and not familiar with dealing with overseas postal companies, freight forwarders, etc.

Second, timely delivery and missing packages are the among the biggest concerns of online shoppers, so this segment of the value chain is particularly crucial for maintaining Temu's brand & customer loyalty. By aggregating packages in bulk, it lowers the risk of missing parcels vs. shipping in small batches.

With Temu taking responsibility for the middle and last miles, factory merchants are happy not having to deal with the headache of overseas logistics & customs, while Temu benefits by ensuring service quality and delivery times meet their customer's expectations.

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[11] For example, Shein outsources manufacturing to external factories, but then labels the items under its own brand.

[12] 1P retailers would typically have to handle the first-mile themselves, taking responsibility once the product leaves the factory gates. Meanwhile for 3P marketplaces, merchants are generally responsible for all logistics costs, all the way to the customer's door.

Sources have estimated Temu's current shipping costs at ~$5 per order. Passing customs and shipping the packages in bulk via air freight costs ~$1 per package. It's also possible this can be reduced by a further -60%, if Temu gains enough order volume to justify chartering their own flights vs. using airline freight capacity or freight forwarding companies.

The remaining ~$4 is attributable to the last-mile, and consistent with USPS domestic shipping rates. It's also likely to bring this down with scale, since the USPS offers bulk negotiated rates.

Piecing it Together

Latepost reported Temu's average order values were $20-25 USD back in November (LINK). But since November, we've witnessed Temu raise its free shipping minimum from zero to ~$20 per order[13]. As such, we estimate that current AOVs are >$30 today.

Piecing it together, we can see that Temu's per order contribution profits are likely around ~$4 per order. Note though that this is only *contribution* profits (incremental profits from existing customers), and doesn't include corporate costs.

The largest of this is the aforementioned new customer acquisition costs – which we've heard might be over 50% of Temu's total expenses today. Other costs like staffing and R&D costs are likely negligible, since most of the staff are existing Pinduoduo employees moved over from other divisions, and the website & app themselves are relatively simple.

Temu Unit Economics	
Listed Retail Value	$ 38
- Coupons & Promos	(8)
= Avg. Order Value	$ 30
- Factory Price	(21)
= Gross Profits	$ 9
- Logistics Cost - Middle Mile	(1)
- Logistics Cost - Last Mile	(4)
= Contribution Profit per Order	$ 4
memo: Discount %	*20.6%*
memo: Gross Margin	*30.0%*
memo: Logistics, as % of AOV	*16.7%*
memo: Contribution Margin	*13.3%*

Going forward, the key questions we're watching are:

1) Can Temu increase its AOV to approach Shein's $75 per order, by encouraging customers to order more items per package? Given that logistics costs would stay relatively the same, profits per order would increase exponentially if so. For example, at a $50 AOV, Temu would make $10 per order (~20% margin). And matching Shein's $75 per order would mean a $18 profit (~23% margin).

2) If AOVs remain at current levels, can Temu build customer loyalty and usage habits to increase order frequency? PDD's Chinese customers order 6.3x per month. Can Temu's

[13] It seems Temu also personalizes this minimum order size, tailored to each user's shopping habits.

customer base reach similar levels? Doing so will likely require the platform to expand into more categories, to fulfill a greater variety of shoppers' needs.

3) When is Temu able to dial-down its new customer acquisition spend? Existing customer contribution margins are probably positive already (according to our math). But if you're spending hundreds of millions on gaining new users, it will be a while before the overall division is profitable and evident to investors.

4) And if CAC spend does slow down, at what point does Temu saturate the US consumer base? Is it at Shein's current ~14M US customers (i.e. Temu's current size)? Can terminal penetration be higher than this, due to Temu offering more categories, like home goods, kitchen, toys, etc.?

5) Temu is launching in Canada soon (LINK). How will this affect overall profitability (mainly due to the additional CAC spend)? Will Canadian consumers find as much value in the offering as US consumers do, and how will the unit economics differ?

**

Temu also surprised us by advertising during this year's Super Bowl (unlike other brands, they didn't announce it before the event). They purchased not just one, but *two* ad slots – with each ad slot costing ~$7M (LINK). In combination, they also gave away $10M in prizes to those who downloaded the app (LINK). Essentially, this was their coming out party.

Personally, I thought their "Shop Like a Billionaire" ad was cheesy… but the only thing that matters is whether potential customers remembered it, and if it drove sales[14]. It's too early to know the latter, but we do have some early signs pointing to the ad's effectiveness.

According to Edo, a TV ad analytics firm, the Temu ads ranked 4th and 8th for online engagement, out of the 124 ads played during the game (LINK). Additionally, you can see a clear spike in Google Trends right after the ads aired.

Temu's Superbowl Ads Drive Interest

Source: Google Trends

Considering the total $24M cost, we estimate Temu will need to covert ~435K new users to make the event worth it[15]. Pinduoduo representatives also seem happy with the results, stating "*We did see a significant surge in visitors to the Temu marketplace site as well as app downloads both during and after the game and the interest remains elevated (LINK).*" The number of users increased by ~20% after

[14] The ad was created by Saatchi & Saatchi, a well-known ad agency.

[15] $14M for two ad slots + $10M rewards pool. The break-even point is calculated as $24M / its historical $55 CAC.

the Superbowl ads, which is another datapoint indicating the marketing investment likely paid off.

If Temu is successful, this could be a significant "third leg" to Pinduoduo's business. Even if not, our main thesis is predicated on Pinduoduo's Chinese ecommerce and Duoduo Grocery divisions, and the stock remains attractive based these two profit centers alone[16].

Either way, it's clear that Temu has made a splash in the US, and is gaining customers' attention. We'll be watching the data over the next few months, to see how this pans out…

CONCLUSION

After a tumultuous 2022, I'm certain that our partners will agree, when I say I'm glad it's finally behind us. I'm confident that we'll be reflecting and ingraining the recent lessons for years to come, and our process will undoubtedly improve as a result. The economic environment, the availability of information, and the market structure, are all constantly evolving.

As investors, we must adapt to the way the world *is*, not as we *wish* it to be – or else risk extinction at the hands of those who do. In an odd way, that's one of the joys of this business – we can never stop learning and honing our craft.

As mentioned previously though, equally important is adhering to tenants that are central to who we are as a firm and as investors. Especially when the world around us is changing so rapidly, it can be tempting to shift to the market's "flavor of the day". But I've noticed that those who do so, often find that without core principles and knowing who they are as investors, they just end up failing at someone else's game.

At Hayden, our core principals include:

- Believing that the best research is conducted away from the desk & through real-life conversations with stakeholders. The most relevant information lies in people's heads, not on the internet.
- Only investing in a handful of our best ideas.
- Acknowledging that investors are rewarded, based on the value they create. Whether this is simply providing liquidity to businesses during times when capital is scarce, or conducting deep research to surface a business' evolving unit economics and help the investment community gain a better appreciation, or actively sitting on the board of directors to help guide a company operationally.
- A business' earnings and cash flow are like gravity. Sooner or later, the company will be valued as such. Sometimes it may be prudent to forgo profits today, to earn even greater profits tomorrow. But the "universal truth" of investing, requires all decisions to be made in pursuit of maximizing these goals.
- Always maintaining communication & transparency with our partners, since they are the foundation of our firm.

[16] Even after accounting for Temu's anticipated cash burn.

- Trust and relationships are the only lasting (and therefore most valuable) aspects of our business. Everything else changes.

These are the tenants that provide our "North Star" and prevent us from getting lost as market environments change over time. We should never modify "who" we are, but the "how" (we conduct research to answer questions) and the "what" (companies or types of businesses we invest behind) should evolve. If we adhere to these principles, hopefully it will give us the greatest odds of success.

**

I'm excited to head back to Berkshire this May, and reconnect with our partners and fellow investors. I've met so many new friends and received so much value out of them over the years, that four days in Omaha always seems too short.

No one knows just how much longer Buffett will host these events in-person (for example, Daily Journal just went to a virtual format this year). So as long as he has the energy to do so, I'll be there.

After Berkshire, I'm also heading back to Asia. The trip schedule is still a work-in-progress, but I'll likely be in Korea, Singapore, and then possibly Indonesia, Thailand, Vietnam, the Philippines, and / or Australia. As always, I love grabbing coffee with fellow investors, entrepreneurs, and just interesting individuals during these trips. Please reach out, if you'd like to try and find some time to meet up.

Thank you again to all of our partners and friends for supporting Hayden, especially in light of a difficult year. We genuinely wouldn't be here without you.

I look forward to seeing many of you in person, on these trips as well. If not, hopefully we'll catch each other in New York or over Zoom in the near future.

Sincerely,

Fred Liu, CFA
Managing Partner
fred.liu@haydencapital.com

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