FACT Capital Analyst Handbook

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Position Maintenance and Intra-quarter Work Checklist

For any position for which you are the 'primary' analyst, the P&L / trading for the stock becomes your responsibility. While we are long term investors and don't view small deviations in volatility as a reason to trade in/out, we do care that we do **NOT** miss the big re-ratings / de-ratings in the name. This means **active** position maintenance, naturally more intensive for positions that are more underperforming the market or where there are active outstanding issues / debates unsettled.

For each quarter, please expect to do **ALL of the following** for all of your position maintenance names, with special care for the large positions. Please treat this like a checklist - you can print this out and measure progress through the quarter for your names.

If at any time, something changes in the thesis and you no longer feel comfortable with the position, **please flag immediately to the team, preferably in person** (not just in email, where it might accidentally get ignored). Likewise, if there is a positive catalyst that justifies up-sizing the position, please communicate this directly in our portfolio conversations so there is no ambiguity.

Commerciality is key - it is the analyst's responsibility to catch inflections and make the 'call' on the name for positive and negative changes that merit position changes. Communicate this very directly in portfolio chats and conversations - don't wait around for it to be 'discovered' - it is your responsibility as primary analyst to keep the team informed on latest developments.

Below is a checklist of the 10 action items that you should take for position maintenance

Done?	Action Item	Timing/Frequency	Additional Notes
1	Forum and Transcript Calls - BWG, Stream, ThirdBridge, Tegus (conducted by others), Sell-Side Expert Calls	Add them through the quarter, preferably real time to capture changing trends during the quarter. **Full capture must be done by the end of the quarter ahead of the earnings preview** (skip the summary of checks that are not insightful, add the ones that are meaningful/important and impact the thesis)	Due diligence tracker should be updated with full notes sent out to the research@factcm.com real-time To make the most of these calls, please send the expert questions in advance to make sure that the call covers our topics of interest

2	Individual Channel Check Calls (conducted by us) - Tegus, Stream, BCC/Pamirs/Capvision	Schedule as needed to supplement for the above, with more calls required for positions where there are outstanding questions and where there are fewer forum (hosted by other) resources. More individual calls are required by our smaller SMID cap China positions where there is less natural forum capture	Due diligence tracker should be updated with full notes sent out to the research@factcm.com real-time. By the end of the quarter, we should have at the minimum done ~3 checks (hopefully more) across individual checks and group checks
3	Reading of all relevant competitor and peer earnings and conferences transcripts	Reading through competitor / supplier earnings transcripts gives us a view of the consistency of company's commentary to its peer group and also ahead of earnings, a 'preview' of trends to come - EX: UNH earnings is a bellwether for ELV, TGT consumer commentary moves the broader sector	Add to the due diligence tracker and if there are any big inflections happening / key takeaways that are notable, send out a note to the FACT research chat and/or include in your ideation journal
4	1x1 management/IR call as a follow-up after the initial model update post the quarterly release	A good relationship with management helps us access important information. When you update the model post a quarter's earnings release, questions tend to arise. Jot these questions down and schedule a meeting with the company to go through these	Due diligence tracker should be updated with full notes sent out to the research@factcm.com real-time. **Prepare questions well in advance to extract the most information,** triangulating what you've heard from your own channel checks and suppliers. Preparation for management calls is key
5	Reading of all management and competitor presentations at brokerage conferences, or if we are attending the conferences,	Companies can sometimes give soft guidance updates at these events so important to track commentary (EX:	Add key takeaways to the due diligence trackers directly for presentations at brokerage conferences

	full notes from our 1x1 / group meetings at conferences	SNAP reducing its advertising forecast). Many of these are webcast or available to attend in-person	at are webcast. For in-person meetings that we have with the companies, full notes sent out to the research@factcm.com real-time with due diligence tracker logged
6	1x1 Management/IR call right before blackout period	The pre-blackout period call is important just to check for things that have changed to refine the model (EX: ICLR told us to adjust our FX rates). Make sure you time the outreach so that we can speak to the company without restrictions	Due diligence tracker should be updated with full notes sent out to the research@factcm.com real-time.
7	Monitoring of alternative data - MScience, BoFA credit card data, China data sources, Google Trends Search (https://trends.google.com/) Also includes monitoring of key industry data that is important for the sector (EX: RV Association Data for RV sales, Manheim Index for used cars, Senior Housing occupancy for SNF REITs)	This can be done periodically (monthly), but must be done certainly ahead of our quarterly preview, written ~1 week in advance of earnings coming out. Incorporate alternative data and industry data into the model but be mindful of tracking error - see the model best practices section for additional details	When the share price is weak for consumer or technology names with a lot of data (much harder for B2B businesses), this is one of the first resources I check for trends. Alternative data is inherently backwards looking (so it's insufficient to be a thesis alone) but it can move markets
8	Reading sell-side notes that come out, sell-side positioning calls / groups calls during the quarter if trading becomes unclear. Especially for new names, one sell side call ahead of earnings to capture positioning into the quarter and any surprises	Sell side calls are particularly helpful when the macro is uncertain and there are question marks on investor positioning (big gap between buyside 'whisper' vs consensus). As you get started with a new name, doing a sell side check ahead of earnings to	**Sell side is NOT a substitute for independent thinking**. It is not sufficient to take a sell side call and use their opinion as your own, especially if you haven't done all the reading beforehand. (In fact, actively avoid sell side or buy side until you

		capture positioning into the quarter (key upside/downside surprises) and investor sentiment is helpful	have done all of your independent primary reading / checks first so as to avoid bias)
9	Monitoring all other events and industry publications	Management changes, news on key industry associations	Set up automatic Bloomberg alerts and subscribe to relevant industry newsletters and data releases - when notable news comes out, send out to the research@factcm.com list-serve
10	Writing the earnings preview	Follow the format in the earnings document, using the prior examples as a template for what to include. The model should incorporate all the aforementioned #1-9 content and not only capture your most accurate view of the quarter, but also forward guidance (which moves stocks more). This should be sent out ~1 week in advance of earnings call	Send out to the research@factcm.com listserv and if there are active areas where there concerns of big drawdowns or big upside, make sure to flag vocally in a portfolio chat so it does not get accidentally ignored

Time is our most precious resource. In spending time on maintenance, please consider the following:

- **More time to spent on positions that are underperforming or where there are active unsettled investment questions** on the name that merit deeper investigation
- **More time on larger positions due to the importance of commerciality** (spend time in a way that is impactful to P&L and matches with the P&L that can be generated) - this is also one of the reasons why portfolio concentration is important to us so we
- **Make sure to balance longs and shorts in your checks and create consistency in the broader economic framework used** (IE: if you are concerned about recession for the shorts, cannot be sanguine on the longs)

As you gain more experience, some steps can be cut out for stocks that don't move as much. For example, consumer staples names have Nielsen data, which provide a lot of transparency into quarterly trends, along with structural slow/low growth that does vary much. However, for a starting analyst, err on the side of comprehensiveness first to develop your skills.

Skills for Active Reading and Reading Checklist

There is no substitute for reading - while it feels like a shortcut to get answers directly from the sell-side and the company, reading widely/broadly helps you filter disparate information and drill down to the key questions and debates. Since we spend so much time reading (see the investment process document "Research Process" section for a typical order of reading), figuring out a way to 'actively read' to retain / digest information is critical (vs passive reading where information can just filter through the mind without sticking). Especially with our access to expert network databases and also sell-side summaries from expert network and company calls, reading is far more efficient and faster than trying to assemble all the calls yourself.

For every NEW stock, you must read the following (checklist below in recommended order) - note that this is a **MINIMUM** checklist and the hope is that you can do more. As you build up domain expertise, it'll be easier to move through models

	Document	**Why this is important:**
1	**Primary filings material** - 10K, prospectus (especially important if IPO in the last ~5 years or if the company is A-share or H-share listed due to enhanced disclosure requirements) If you are new to a company/industry, then read **industry primers** (BoFA has many good ones, MS also has good thematic reading pieces) or a **stock initiation report**	The MD&A, business description, segment overview/disclosure structure, accounting policy sections, etc are all a critical baseline for the terminology and key drivers for the business. Primers/initiation reports come after the corporate filings but can help you interpret the information you subsequently read in the transcripts a bit better
2	**Last 3 transcripts** and **last annual transcript**	Transcripts give a key sense of the debates / questions taking place currently. Unfortunately, this is not always available for Chinese stocks. If transcripts are not available for Chinese stocks, then read sell-side recaps as a proxy (though the detail is often lacking). This is also why we are extra aware of China NDRs / post-call presentations and want to take notes in advance so we have more detailed materials to refer to later.

3	**Current Corporate presentation** and all **intra-quarter conference presentations** (EX: JPM healthcare, GS communacopia presentations, etc)	Corporate presentations provide a high-level summary and intra-quarter conference presentations give updates post earnings and also business overviews since they tend to be general. This is helpful to capture intra-quarter trends or to give an overview of the most relevant
4	Most recent Analyst Day (even if several years back) and corporate presentation	Analyst Day transcripts give a more detailed business over and management strategy, usually accompanied by LT targets. It's important to read Analyst Day materials
5	Look at **SURP** on BBG and read any transcripts where there is a very big stock move in the last several years	Big moves on SURP highlight situations where there were big inflections vs expectations- it's worth going through these transcripts to figure out where the upside/downside surprises occurred. Going through transcripts on past periods of big stock moves can also help contextualize how good management is at setting guidance (IE: if they are trustworthy in communication during various positive/negative periods)
6	**Recent sell side pieces, especially any longer pieces** (sort by file page) or any inflection upgrades/downgrades	Sell side recaps of earnings are far less helpful (better to read the transcript yourself), but recap pieces of private roadshows/management meetings, upgrade/downgrade pieces, and or deeper thematic industry reports or company dives (typically longer in nature) are helpful to have on hand Please not look at sell-side until you've read the primary company materials first - independent thinking is very important
7	Skim through Tegus / Third Bridge / Stream / BWG **expert network databases** for existing calls Note that these calls give a better sense of longer term business quality / market structure dynamics (competition) / longer	For less familiar businesses, better to read more closely. For more familiar businesses, then can CTRL+F and search around for takeaways. If there are many checks, read the summaries and the key takeaways first before delving in. Some experts will be more

	term industry trends vs near term data since we do not speak to current employees	helpful than others in the transcript databases, but still important to skim through and spend more time on the most helpful calls
8	**Any relevant peer / customer commentary** (EX: WSM position requires reading through RH, W, and other furniture company commentary)	Depending on the company, sometimes there are companies that are very similar (EX: all of managed care tends to be fairly correlated). In such a case, it's worth it to read through peer conference transcripts, earnings calls, and sell-side research just to check for consistency between the company and its closest comps. Or, if the customer concentration is really high (EX: China Tower has 3 China telco customers that are the vast majority of sales), read the key materials of such customers to check for consistency in outlook and commentary

Please note that this is a minimum reading checklist for a new stock. Once you have sector expertise, it's possible to take a few more shortcuts based on latent knowledge but there is no shortcut as a new analyst looking at a new sector. Reading widely, broadly, and comprehensively helps us improve accuracy in our earnings modeling and also on understanding underlying business dynamics.

Below are some key helpful items for active reading:

- When reading primary and secondary materials, **jot down any key findings and takeaways into the "Notes" Google Doc file** for the respective stock - this will serve you well later on when you revisit a library name. These notes are also helpful for the broader team when there is a stock discussion or reunderwriting that takes place. **Good notes are particularly important because FACT does not have a pitching culture and these notes substitute for a more formal pitch deck that would contain all this material**. Formatting / structure for the notes doesn't matter as much as having key snippets of information available for easy digestion

- If you find helpful charts or data from both primary and secondary sources (including sell-side market research), take screenshots and embed them into the aforementioned "Notes" file. This makes it far easier to find helpful data vs going through reports and forgetting where they might be located later on.

- **When reading transcripts or company investor days w/ guidance, put down notes into the "Notes" or "Guidance" section for the model.** Inputting quantitative / guidance-related (both current year and also LT targets) items into the model section will save you time when you get to refining assumptions. That way you can read these details once and have them quickly on hand when you build your model, as shown in the BSX example below. It’s also helpful to show how guidance has evolved over time (in this case a guidance upgrade for 2022). When the fiscal year passes, you can move these notes into the bottom of the model as a record of past guidance. Don’t delete old guidance taken because it helps us get a sense of how guidance has dynamically shifted - you can always move legacy materials to the bottom of the model.

BSX EQUITY	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
GUIDANCE (2022)				**Q1'2022**														
Full year net sales (reported)	6%	8%		5%	8%				**Valuation based on multiples (2024)**									
Less: FX	(1%)	(1%)		(2%)	(2%)				Historical P/E		25.0x							
Operational growth	7%	9%		7%	10%				2024 EPS		$2.00							
Less: impact of acquisitions	1%	1%		2%	2%				Target price		$50.12							
Organic growth	6%	8%		5%	8%				% upside		23.8%							
EPS (GAAP)	$0.94	$1.04		$0.16	$0.20													
Amortization	$0.45	$0.45		$0.11	$0.11													
Acquisiton/divestiture	$0.10	$0.08		$0.04	$0.03													
Restructuring	$0.08	$0.07		$0.03	$0.02													
Other adjustments	$0.15	$0.14		$0.04	$0.04													
EPS adjusted	$1.73	$1.79		$0.38	$0.40													
INVESTOR DAY TARGETS	**2022-2024**			**LT**														
Avearge reported organic growth	6%	8%		faster than market LT														
Adj operating margin	>50bps improvement YOY			30%+														
EPS adj target	DD growth			DD growth														
FCF growth	10%+ adjusted FCF growth			10%+ adjusted FCF growth														
~2.5x EV/EBITDA but want to maintain leverage of 2.25-2.5x leverage																		
Mix of sales	2012	2016	2019	2021	2024													
Low growth markets	45%	35%	30%	20%	15%	Low growth markets (<4% CAGR) - IC (DES), RM (Pacers, Defibrillators)												
Moderate growth markets	45%	50%	45%	45%	45%	4-7% CAGR markets: IC (Complex PCI), PI (Core Arterial), RM (ICM), NM (SCS), Endo (Biliary, GI Cancer, Bleeding), UroPH (Stone, Pelvic Health)												
High growth markets	10%	15%	25%	35%	40%	>7% CAGR: IC (structural heart), PI (IO, drug-eluting, venous), RM (EP, diagnostics), NM (MIS Pain, DBS), Endo (S/U scopes), UroPH (propstate health)												
Served market growth	(1.0%)	4.0%	4.0%	5-6%	6.0%													
Normalized growth:	2021 Bn market size	growth of market																
Interventional cardio	13.0		7.0%	Structural Heart: Watchman FLX™ LAAC, ACURATE neo2™ TAVR; Complex PCI: ROTAPRO™, AVVIGO™ Guidance, PI - DES														
Peripherail Intervention	8.0		7.0%	Interventional Oncology: TheraSphere™ Y90; Venous: EKOS™, Varithena™; Arterial: ELUVIA™ DES, RANGER™ DCB														
Rhythm Management (CRM+EP)	17.5		5.0%	• Core CRM: EMBLEM S-ICD™; • Diagnostics: LUX-Dx™ ICM, Preventice AECG portfolio; Electrophysiology: STABLEPOINT™, POLARx™ single-shot, Farapulse PFA														
Neruomodulation	3.5		8.0%	Pain: WaveWriter Alpha™ SCS, Superion™ spacer; Brain: Vercise Genus™ DBS														
Endoscope	5.0		6.0%	Pancreaticobiliary Disease: EXALT™ D single-use duodenoscope, AXIOS™ stent; Gastrointestinal Cancer & Bleeding: Resolution 360™ hemostasis clip; Pulmonary: EXALT™ B single-u														
Urology & pelvic health	4.0		8.0%	Stone: LithoVue™ single-use ureteroscope; Prostate Health: SpaceOAR™, Rezūm™														
TOTAL	51.0		6.0%															

- **Specifically for a company for which you are new, jot down the segment structure, business overview details, and any helpful quantitative / qualitative details into the model.** The reason why putting this into model is helpful is because this (a) gives you a quick guide on segment and driver definitions (“cheat sheet” within the model), (b) provides quantitative metrics on hand to consult (even if it is NOT a model driver, example below with TASK), and (c) serves as a quick reference for important accounting/revenue recognition policy that could impact model drivers

TASK EQUITY	2015	2016	2017	2018	2019	2020	2021
CLIENT METRICS							
Net revenue retention				**121%**	**139%**	**117%**	**141%**
% of revenue from recurring revenue contracts, %						99%	
Voice						20%	
Omnichannel						7%	
Non-voice						73%	
% of revenues						100%	
Total # of clients						**100**	
# of new clients won				24	27	36	41
Clients generationg 500K of revenue			40	49	57	72	69
Win rate				42%	45%	57%	49%

TASK above is a quantitative example of metrics in the model that are helpful to track (even if not a driver). A qualitative example is listed below where notes were taken from the 2269 HK Annual Report to define key platforms for the business

RMB mm financials - note that USD are specified when relevant

2269 hk equity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	202
NOTES															
From the 2018 AR															
Biomanufacturing milestone	U.S. FDA cGMP certification in March 2018 and completion of a Pre-Approval Inspection by EMA in February 2019														
Commercial manufacturing	Exclusive partnership agreement with Amicus Therapeutics ("Amicus") (Nasdaq: FOLD) for commercial manufacturing of Amicus' biologic drug for the treatment of Pompe disease, ATB200														
	Dual sourcing strategy - can manufacture from 2 facilities from global supply network across China, US, and EU														
	Right now building a new biologics manufacturing facility in Ireland (2018) - utilizing single use biorectors														
WuxiBody	Biospecifics platform - proprietary bispecific antibody platform														
	$450mm contract with Oxford Biotherapeutics														
	stable test database has resulted in accellerated growth for the company - helps partners considerably increase speed														
WuXia	proprietary cell line development platform, high productivity														
	WuXia platform is widely accepted by the industry and >20 clinical projects are enabled by WuXiao for development and a 60 WuXia-enabled projects to be developed														
	provided more than >220 cell lines for pre-clinical development and beyond - proprietary expression vendor system, top 3 clones with high titer can be ontained and utilized														
	Combined with cGMP cell banking and cell line characterization services, ideal for production of a variety of therapeutic proteins including monoclonal antibodies, bispecific antibodies, fusion proteins, ADCs and														
WuxiUp	proprietary biologics cell culture process platform with ultra-high productivity														
	The platform enables almost any biologics, including mAbs, fusion proteins and recombinant proteins, to be manufactured at ultra-high productivity														
	The intensified and continuous cell culture process can be rapidly developed or converted to traditional fed-batch process														
	Also coupled with continuous column chromatography, which enables continuous product capture with a similar purification yield to traditional purification process														
Monoclonal Antibodies (mAB)	reduced the IND-enabling timeline to between 15 and 18 months, record short program at 7 months														
TaiMed Biologics (4147 TT)	received the U.S. FDA's approval for Ibalizumab (Trogarzo™)														
WuXi Vaccines	Joint venture agreement with Shanghai Hile Biopharma (Stock code: 603718)														
	CDMO for vaccine development and end to end discovery, development, manufacturing (concept to commercial)														
	Exclusive partnership with AC immune SA (ACIU NASDAQ code) to explore AC Immune vaccine portfolio in china														
Facilities in operation	note that all of these also have attached R&D centers														
Wuxi	houses part of the clinical and commercial manufacturing facilities, provides services such as assay, formulation and process development, process validation, lot release testing, stability studies, drug product for														
- MFG1 site	first commercial manufacturing facility, passed US FDA pre-license inspection for Ibalizumab (Trogarzo) in August 2017. Commenced production in 2018 with full cGMP and kept high manufacturing utilizationi ra														
- MFG2 site	began its cGMP biologics manufacturing in 2017 and is the largest facility globally using single-use bioreactor technology														
	14x 2k L capacity and 2x 1k L capacity bioreactor - gives compeitive COGS, used for late phase project manufacturing														
	July 2018 - process validation campaign at 6k L scale to support global product registration and launch for a key partner														
- MFG4 site	2x 2k L capacity, 2x 1k L capacity, and 1x 4k L capacity bioreactor ==> will commence in 2019														

- When reading Tegus, Third Bridge, Stream, and other expert network database transcripts, rather than just passively read, **create the due diligence tracker and input the key takeaways as you go along**. This is helpful since we might pass on a stock but pick it up later in library mining - having the due diligence summaries already there will save you a lot of time vs re-reading everything again

- **Log questions as you read -** This is the most important!! When there are questions about the business model, discrepancies / inconsistencies in the reading across competitors / peers / customers, or just model structure questions that you don't understand, just jot them down into the notes file in a question list. There is no such thing as a stupid question during initial reading and chances are, you'll answer some of your own questions as you do more reading - in short, the question list itself gets more refined as your knowledge deepens. The question list then becomes the backbone of any future calls we have with IR/management, sell-side, alternative data providers, and our own direct expert network checks. **Questions are the best form of active reading since it shows that you are thinking critically about the materials and formulating follow-ups on the material.** It's too hard to remember questions right before a specific call - it's far better to write questions as you go along the reading when you accumulate and digest the information. **Good questions directly enhance the quality of due diligence calls** - the same one hour with management or in an expert network channel check can yield far better results if questions are crafted incisively.

To conclude, memory is very imperfect and we are inundated by lots of materials/news - don't assume that just because you read and understood at the time of doing the reading that you will remember months down the line. It's very common for us to complete work on a stock, find it unattractive to invest at the current time, and then pick it up later in library mining when valuation becomes more palatable (EX: ELF we did the work on pre-COVID but bought at the height of COVID depths). All this active reading, question lists, due diligence trackers, and notes just makes it easier to pick-up past work even with a time lapse and also to "carry the team" for easier position conversion into the book. **Carrying the team means having all the supporting materials and evidence in place to make it easier for the partners to add as an actual investment.** Put yourself into the shoes of the partners - what would he or she need to know about the business in a "cliff notes" format to make an informed decision about the investment thesis?

Reading speed will increase with practice, but some of the key ways to read faster:

- **Skim the Main Points FIRST** - Rather than read from start to finish, skim the various section headings, look at the main graphs / charts / data tables and their respective captions, or CTRL+F (search) the keywords of interest first. Once you get a structure of the main points, then you can go back and read more deeply. This will make you more efficient. Sometimes the expert network transcript databases have bad summary points (sell side tends to be better on summaries being accurate) so just be aware that summaries might not always align. Better to do keyword searches directly yourself for topics of interest and read those areas more closely.

- **Stop the inner monologue - absorb the words as you read (word chunking as a skill), but don't repeat inside your mind.** If you sound all the words out aloud in your mind as you read, reading speed tends to be slower since it is constrained by the speed of your vocalization. Rather, try seeing the words and have the brain process directly (without having to 'hear' it internally in your voice). Word chunking is a skill that can be practiced - the goal is to be able to look at a section of a page and then absorb phrases all at once.

Model Formatting and Best Practices

FACT does one-sheet models with detailed drivers - please try and follow the sample model in formatting and structure, as well as the many models we have of portfolio companies in the shared drive. The exceptional analysts are able to observe the details and replicate in their own work via their observation.

The #1 goal for models is accuracy. Assuming that valuation is still reasonable, the great longs are where we are significantly <u>above </u>consensus in both revenue / earnings and the great shorts are where we are significantly <u>below </u>consensus on both metrics. When consensus converges to our estimates, we can see the stock working out in our favor. However, to be able to make this call, we need our models to be **accurate**. All the aforementioned reading in the prior section is to help us get to better model accuracy. This section below focuses more on the mechanics.

<u>Structure</u>
A typical model will have the following sections, usually within this order

1. **Summary statistics** - Pulls in key statistics like capital structure, revenue, EBIT, EBITDA, EPS, key margins / valuation ratios, as well as other company-specific important metrics in our model, but also formulaically what is captured in BBG consensus for easy comparison (calculation of % difference; also a good source of model checking if something looks very off). The purpose of this section is readability and a quick 'snapshot' of our estimates vs consensus and also headline valuation ratios

2. **Guidance section + multiples valuation** - It's very important to have notes in the guidance section on the quantitative and qualitative color given by the company in the last quarter on future outlook. It's important to put into the model since it makes model checking easier and comparing all your estimates. For old guidance that was revised you can show OLD vs NEW within this section for directionality, and once long past, you can move old guidance into the Notes section at the end. When building a model, **model to guidance FIRST** and then only after that, adjust it for where you think guidance could be wrong based on your view of the underlying structural growth, market structure, competition, macro/raw material inflation outlook, etc. The most recent quarter should then be adjusted to incorporate the best alternative Nevertheless, in modeling to guidance first, you can see the underlying assumptions first and then determine where management/company could be over/under optimistic.

3. **Income statement** - **Enter from the press release / HKEX announcement / or earnings corporate presentation**, which gives the company more latitude to provide important adjusted metrics and additional drivers critical to business performance (EX: # of users, GMV, among other industry-specific metrics). It's quite common for us to have an as-reported adjusted income statement and then bridge into GAAP, or to have GAAP reported bridged into adjusted, whatever creates the cleanest model drivers. It's very important to be able to have the income statement and all financial statement information match <u>EXACTLY</u> to reported metrics. Canalyst tends often to be quite good (Bloomberg "as reported" historical financials download also OK) but the sell-side models can be very messy due to legacy reporting. As such, **never copy/paste any line item until you are sure that the numbers are correc**t. A time-saving best practice typically used for data entry is to set up the model line items from a fresh sheet (matching exactly to the press release), manually enter the last quarter and the year ago, as well as the last year and the prior year, and then copy/paste line items from Canalyst / other third party sources only if they match up to what you have entered in manually.

    - **Bridge to reported metrics (or vice versa)** - If you start with adjusted, show the bridge to reported GAAP. If you start with GAAP, show the bridge to adjusted. Even if we end up doing headline comparisons as adjusted (apples to apples to consensus), companies that have consistently very messy non-GAAP add-backs (sometimes non-legitimate) give us information about earnings quality so do not skip this bridge
    - **If a company re-segments or changes reporting, make sure to restructure the model to capture the new reporting structure.** Don't delete any of your past work (EX: can move old segmentation below the new segmentation structure), but make sure to capture restatements of financials and make a note of what has been restated in the period column

Keep years and quarters separate (years to the left, quarters to the right), and make sure that you include enough years to see the company through a down-cycle, as well as at the <u>**minimum**</u> quarters from 2019 (pre-COVID) to quarters out to current fiscal year + 1 (so if we are in 2023, to have quarterly projections out to 2024). Seasonality can make a big difference in certain companies as well as quarterly fluctuations off an unusual COVID base so make sure to project from quarters for the current fiscal year + fiscal year +1.

Below the adjusted section, we have at the minimum 3 key ratios section (#1 - % YOY Growth, #2 - % MARGIN, #3 - BPS CHG YOY, calculated off the margin**).** In general, it's better to over-document % YOY, % Margin metrics, and BPS CHG metrics because then trends become a lot more evident. Don't assume mental math ca- for model checking, it's better to have everything laid out discreetly and directly for easy viewing. Below is the most parsimonious example. <u>**Fixed costs should be modeled as % YOY growth, variable costs should be modeled as BPS CHG**</u> (which thus drives % margin).

FIVE EQUITY	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
INCOME METRICS											
Revenue	**297**	**419**	**535**	**680**	**832**	**1,000**	**1,278**	**1,560**	**1,847**	**1,962**	**2,848**
COGS	(192)	(269)	(347)	(442)	(540)	(643)	(815)	(994)	(1,173)	(1,310)	(1,818)
Gross profit	105	150	188	238	292	357	463	565	674	652	1,030
SG&A	(79)	(112)	(134)	(161)	(199)	(243)	(306)	(378)	(457)	(498)	(651)
Operating income	26	38	54	77	93	114	157	187	217	155	380
YOY CHG											
Revenue		41.0%	27.8%	27.0%	22.3%	20.2%	27.8%	22.0%	18.4%	6.2%	45.2%
COGS		39.9%	29.1%	27.4%	22.1%	19.1%	26.6%	22.1%	17.9%	11.7%	38.8%
Gross profit		42.9%	25.5%	26.5%	22.8%	22.3%	29.8%	21.9%	19.3%	(3.2%)	58.0%
SG&A		42.7%	19.7%	19.7%	23.8%	22.2%	25.9%	23.5%	20.8%	8.9%	30.8%
Operating income		43.6%	42.7%	43.3%	20.7%	22.6%	38.1%	18.9%	16.1%	(28.8%)	145.4%
% MARGIN											
Gross profit	35.3%	35.8%	35.1%	35.0%	35.1%	35.7%	36.3%	36.2%	36.5%	33.2%	36.2%
SG&A	(26.5%)	(26.8%)	(25.1%)	(23.6%)	(23.9%)	(24.3%)	(23.9%)	(24.2%)	(24.7%)	(25.4%)	(22.8%)
Operating income	8.8%	9.0%	10.0%	11.3%	11.2%	11.4%	12.3%	12.0%	11.8%	7.9%	13.3%
BPS CHG - YOY											
Gross profit		48	(66)	(16)	13	60	57	(2)	26	(325)	293
SG&A		(32)	170	144	(28)	(38)	36	(29)	(50)	(63)	252
Operating income		17	105	129	(15)	22	92	(31)	(24)	(388)	545

Note that this is a very simple example for the minimum metrics - see more models in the "research" folder for more detailed examples

SKIN EQUITY	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23	Q3-23	Q4-23
KEY METRICS																
YOY GROWTH										21.5%						
Delivery systems					81.6%	481.7%	127.7%	145.4%	62.5%	85.7%	6.8%	9.6%	22.8%	(32.8%)	4.2%	5.1%
Consummables					18.4%	290.1%	72.0%	71.7%	54.3%	22.8%	23.8%	23.8%	36.6%	30.2%	33.0%	27.5%
NET SALES					**45.7%**	**371.6%**	**97.7%**	**105.5%**	**58.7%**	**55.8%**	**14.8%**	**16.0%**	**29.0%**	**(9.2%)**	**18.8%**	**15.9%**
COGS					20.5%	142.2%	78.9%	48.8%	55.8%	72.3%	12.4%	21.0%	26.6%	(14.1%)	16.7%	13.5%
Gross profit (adjusted)					58.5%	591.1%	106.4%	132.8%	59.9%	50.3%	15.8%	14.5%	29.9%	(7.3%)	19.6%	16.7%
D&A					(1.8%)	(12.4%)	(1.3%)	8.8%	11.2%	23.7%	27.4%	19.1%	20.5%	12.6%	12.6%	12.6%
Gross profit (reported)					66.9%	#######	119.7%	146.8%	63.8%	51.7%	15.1%	14.3%	30.4%	(8.2%)	20.1%	16.9%
SG&A					(3.4%)	323.8%	188.9%	133.1%	113.0%	71.2%	12.2%	14.8%	21.0%	(15.5%)	13.4%	11.0%
R&D					5.5%	400.5%	225.8%	118.6%	53.6%	(13.0%)	2.3%	1.6%	15.9%	(20.0%)	4.3%	(0.6%)
G&A					50.3%	720.4%	172.2%	127.9%	142.9%	(37.9%)	7.4%	8.0%	14.5%	(4.6%)	9.4%	7.9%
Income from ops (reported)					(132.2%)	233.0%	(290.9%)	51.8%	(653.9%)	(87.1%)	(174.2%)	(203.1%)	(162.5%)	(474.3%)	150.0%	84.7%
% OF SALES																
Delivery systems	43.3%	42.6%	46.1%	45.9%	53.9%	52.5%	53.1%	54.8%	55.2%	62.5%	49.4%	51.8%	52.5%	46.3%	43.3%	47.0%
Consummables	56.7%	57.4%	53.9%	54.1%	46.1%	47.5%	46.9%	45.2%	44.8%	37.5%	50.6%	48.2%	47.5%	53.7%	56.7%	53.0%
COGS	(33.6%)	(48.9%)	(31.6%)	(32.5%)	(27.8%)	(25.1%)	(28.6%)	(23.5%)	(27.3%)	(27.8%)	(28.0%)	(24.5%)	(26.8%)	(26.3%)	(27.5%)	(24.0%)
Gross profit (adjusted)	66.4%	51.1%	68.4%	67.5%	72.2%	74.9%	71.4%	76.5%	72.7%	72.2%	72.0%	75.5%	73.2%	73.7%	72.5%	76.0%
D&A	(8.1%)	(20.8%)	(7.5%)	(6.9%)	(5.5%)	(3.9%)	(3.8%)	(3.6%)	(3.8%)	(3.1%)	(4.2%)	(3.7%)	(3.6%)	(3.8%)	(4.0%)	(3.6%)
Gross profit (reported)	58.3%	30.3%	60.9%	60.7%	66.7%	71.0%	67.6%	72.9%	68.9%	69.2%	67.8%	71.8%	69.6%	69.9%	68.5%	72.4%
SG&A	(54.3%)	(43.9%)	(30.6%)	(41.9%)	(36.0%)	(39.4%)	(44.6%)	(47.6%)	(48.3%)	(43.3%)	(43.6%)	(47.1%)	(45.3%)	(40.3%)	(41.6%)	(45.1%)
R&D	(4.2%)	(4.2%)	(1.7%)	(2.3%)	(3.1%)	(4.5%)	(2.8%)	(2.4%)	(3.0%)	(2.5%)	(2.5%)	(2.1%)	(2.7%)	(2.2%)	(2.2%)	(1.8%)
G&A	(22.1%)	(38.4%)	(20.4%)	(29.0%)	(22.8%)	(66.8%)	(28.2%)	(32.2%)	(34.8%)	(26.6%)	(16.6%)	(14.4%)	(13.4%)	(13.8%)	(14.0%)	(12.4%)
Income from ops (reported)	(22.3%)	(56.2%)	8.2%	(12.5%)	4.9%	(39.7%)	(7.9%)	(9.3%)	(17.2%)	(3.3%)	5.1%	8.2%	8.3%	13.6%	10.8%	13.1%
Interest expense	(12.7%)	(40.2%)	(16.3%)	(15.4%)	(12.0%)	(3.1%)	(0.8%)	(4.5%)	(4.5%)	(3.1%)	(4.1%)	(3.6%)	(3.3%)	(3.4%)	(3.5%)	(3.1%)
Net income margin	(27.6%)	(73.7%)	(6.4%)	(19.9%)	(7.0%)	(209.6%)	(315.5%)	(22.2%)	43.1%	7.7%	0.8%	3.7%	4.0%	8.1%	5.8%	8.0%
BPS CHG																
Adjusted gross profit					583	2,378	300	896	52	(266)	59	(100)	50	150	50	50
Gross profit (reported)					847	4,070	677	1,219	215	(186)	18	(110)	75	77	72	61
SG&A					1,830	445	(1,410)	(562)	(1,230)	(390)	100	50	300	300	200	200
R&D					116	(26)	(108)	(14)	10	198	30	30	30	30	30	30
G&A					(70)	(2,839)	(771)	(315)	(1,207)	4,014	1,155	1,777	2,146	1,281	263	197
Income from operations					2,723	1,651	(1,611)	328	(2,212)	3,636	1,303	1,747	2,552	1,687	565	488

Revenue is driven off the drivers section in this case, GPM / SG&A are treated as variable expenses and are modeled off BPS while G&A is treated as fixed (modeled YOY).

4. **Segment Summary and Drivers** - This is the most important section of the model - setting up the drivers appropriately can significantly shift model accuracy. Drivers differ depending on the type of business model - whether subscription (billings/bookings), price * volume, segment % growth, GMV * take rate, organic + FX by segment, SSS + new stores + base productivity, deciding what is appropriate requires familiarity with the business model (which comes only from reading). As a new analyst, please ask questions and speak with the partners if you are unsure about the model drivers - better to ask upfront and get some guidance before going down a rabbit hole that results in re-doing a lot of work. The best way to figure out model drivers is to evaluate how the company discloses its metrics (best to have model drivers be based off consistently reported metrics in the quarterly press releases), the KPIs the company itself discuss in transcripts (how the company measures its own progress), as well as learning from sell-side and Canalyst models. Below is a continuing example

	May-19	Aug-19	Nov-19	Feb-20	May-20	Aug-20	Oct-20	Jan-21	May-21	Jul-21	Oct-21	Jan-22	Apr-22	Jul-22	Oct-22	Jan-23
FIVE EQUITY	Q1-2019	Q2-2019	Q3-2019	Q4-2019	Q1-2020	Q2-2020	Q3-2020	Q4-2020	Q1-2021	Q2-2021	Q3-2021	Q4-2021	Q1-2022	Q2-2022	Q3-2022	Q4-2022
STORE METRICS																
# of stores	**789**	**833**	**894**	**900**	**920**	**982**	**1,018**	**1,020**	**1,087**	**1,121**	**1,173**	**1,190**	**1,225**	**1,252**	**1,322**	**1,347**
seq chg	39	44	61	6	20	62	36	2	67	34	52	17	35	27	70	25
yoy chg	19.9%	20.4%	20.0%	20.0%	16.6%	17.9%	13.9%	13.3%	18.2%	14.2%	15.2%	16.7%	12.7%	11.7%	12.7%	13.2%
Sales per store (avg)	**0.47**	**0.51**	**0.44**	**0.77**	**0.22**	**0.45**	**0.48**	**0.84**	**0.57**	**0.59**	**0.53**	**0.84**	**0.53**	**0.54**	**0.48**	**0.80**
yoy chg	2.6%	(0.1%)	0.4%	(5.0%)	(53.4%)	(12.9%)	9.0%	10.0%	157.0%	30.7%	11.2%	0.1%	(6.7%)	(7.8%)	(9.9%)	(4.8%)
2YR geometric comp		1.6%	1.4%	(2.6%)	(30.9%)	(6.7%)	4.6%	2.2%	9.4%	6.7%	10.1%	4.9%	54.9%	9.8%	0.0%	(2.4%)
3YR geometric sales per s									7.1%	4.4%	6.8%	1.5%	3.8%	1.6%	3.0%	1.6%
Comp SSS	**3.1%**	**1.4%**	**2.9%**	**(2.2%)**	**(51.8%)**	**(12.2%)**	**12.8%**	**13.8%**	**162.0%**	**39.2%**	**14.8%**	**3.4%**	**(3.6%)**	**(4.8%)**	**(9.0%)**	**(3.0%)**
Store base growth	19.9%	20.4%	20.0%	20.0%	16.6%	17.9%	13.9%	13.3%	18.2%	14.2%	15.2%	16.7%	12.7%	11.7%	12.7%	13.2%
Productivity gap of non-co	0.1%	(1.7%)	(2.2%)	(3.8%)	(9.7%)	(3.6%)	(0.4%)	(2.2%)	17.4%	(1.6%)	(2.5%)	(4.0%)	(2.1%)	(3.4%)	(2.7%)	(2.6%)
Total sales growth	**23.1%**	**20.0%**	**20.7%**	**14.0%**	**(44.9%)**	**2.1%**	**26.3%**	**24.9%**	**197.6%**	**51.7%**	**27.5%**	**16.1%**	**7.0%**	**3.5%**	**1.0%**	**7.6%**
3YR geometric	**9.2%**	**14.2%**	**17.0%**	**8.1%**	**(48.7%)**	**(8.3%)**	**21.6%**	**16.2%**	**30.2%**	**23.9%**	**33.2%**	**15.1%**	**21.7%**	**16.4%**	**17.8%**	**14.1%**
Comp store sales	306	353	322	589	176	366	426	782	526	593	547	888	576	616	553	966
Sales per new store	59	65	56	98	25	60	51	77	71	53	60	109	63	53	61	105
TOTAL REVENUE	365	417	377	687	201	426	477	859	598	647	608	996	640	669	614	1,072
% new store contribution	16.2%	15.5%	14.7%	14.2%	12.5%	14.0%	10.7%	8.9%	12.0%	8.3%	10.0%	10.9%	9.9%	8.0%	9.9%	9.8%
Calculated sales per comp	0.46	0.51	0.43	0.79	0.22	0.44	0.48	0.87	0.57	0.60	0.54	0.87	0.53	0.55	0.47	0.81
yoy growth		2.0%	0.2%	(6.8%)	(52.0%)	(13.7%)	10.2%	10.6%	156.8%	37.3%	12.9%	0.2%	(7.3%)	(9.1%)	(12.3%)	(6.7%)
Calculated sales per new	0.45	0.46	0.37	0.65	0.19	0.40	0.41	0.64	0.43	0.38	0.39	0.64	0.46	0.41	0.41	0.67
yoy growth		(11.2%)	3.3%	7.6%	(57.7%)	(12.9%)	10.0%	(2.1%)	123.5%	(4.0%)	(4.9%)	0.2%	7.2%	6.1%	5.0%	5.0%

For drivers, note that we care about both YOY change and QoQ change to capture seasonality - retail businesses like the above are better modeled using YOY (holiday period sales are very large for the year), while more secular subscription businesses are often better on QoQ since the base becomes more persistent. ***Drivers are very different depending on the model - do not assume that drivers look the same across models; determining the correct drivers requires reading and thinking through the underlying business model.***

Please add notes contextualizing key assumptions into the cell or in-line on the model. Assumptions are critical to the work that we do - it's better to err on the side of conservatism and over-document a model vs the opposite. Documenting why assumptions are set the way they are help with model checking (see subsequent section). For example, this is a contextualization of a key assumption we have on sales per store in MNSO adjusting for COVID

calculation for Q4-2022 underlying				
26.7%	400mm headwind from 1.5bn China revenue			
0.56	underlying sales per store trend			
13.0%	normal Q2 to Q3 seasonality (CY) = 13-24%			
0.63	CY2019	13.9%		
	CY2020	23.8%		
	CY2021	(0.6%)	had more COVID lockdowns w/ summer	
Q4 tends to be flat with Q3 hence we have projected			0.63	

5. **Balance sheet** - As reported from the press release, along with the **key working capital ratios like inventory and AR days** (a big red flag if both these metrics are deteriorating - working capital is essential to check in particular for Chinese companies with high government exposure since reported earnings will disconnect heavily from cash earnings), leverage metrics (debt to EBITDA more important in situations of higher leverage, also important to model out floating rate debt exposure in a time of interest expense increases if the company is particularly sensitive). Deferred revenue is also important to check for certain types of subscription / software / gaming businesses since deferred revenue portends future revenue recognition.

6. **Cash flow statement -** As reported from the press release. One of the most important metrics is to look at **cash flow conversion from adjusted net income** (calculated OCF less capex /net income). A company with high FCF conversion to net income has better earnings quality and therefore deserves a higher multiple even for the same net income. This is why a lot of high growth software companies have higher multiples because companies pay up-front in their subscriptions so cash can be often significantly higher than recognized net income. Make sure that this FCF conversion in the historical period aligns well with the FCF conversion that you project into the future as a check. **Notably, for your DCF, make sure that the D&A = capex for the terminal period** (reflective of steady stage). If there is a wedge where D&A > capex, you will artificially explode your model's valuation.

7. **Notes** - Section discussed as per above. When you do reading from the 10-K / prospectus reading (listed as #1 in the checklist in the prior section), take notes directly into the model Notes section since it provides a helpful resource on hand. For example, it's easy to sometimes forget what a certain segment includes (EX: BSX has a lot of products in each segment, worthwhile to have in the notes section what are the core devices for each segment)

8. **DCF (separate tab) -** Follow the format already in the model, with 10% COE minimum but can be adjusted upwards to ~15% for countries like India, Brazil, or more risky business models. We do an equity DCF meaning that we use equity cash flows and repayment of debt is treated as a draw away of cash flows from equity holders. For terminal FCF yield, look at mature peers in the market to give a rough sense of where terminal FCF yield

should be set and annotate this in the model (EX: DAVA in IT services uses the current year ACN FCF yield as a terminal yield). For DCF, also make sure to check for your FCF conversion from NI and make sure that it does not explode in outer years. Notably, we always treat **SBC as a real cash cost** - even if the company adds this back and we track their adjusted metrics, share based compensation has a true equity cost in the form of dilution so subtract this out. **Always have D&A = capex in the terminal year**.

Model Formatting

A great analyst users observation to learn, but in terms of model formatting, we do the following:

- **Arial Narrow, 10 point** - we use this because this takes up the least space in the sheet
- **Model always in millions** - even if the company reports in thousands, much easier to do millions. If there are metrics like customers disclosed in thousands, make sure you annotate in the row title that the unit is different
- Enter all of the decimal points in company disclosure, but display 0-1 decimal places depending on the company
- **Annuals to the left, quarterlies to the right -** this avoids any formula pull-through mistakes
- **Grid lines visible with section dividers as per the section above -** visible grid lines make it easier for the eye to model check
- **Historicals always in light blue** - Light blue is used for any data that you can find verified/written in company press releases and official filings
- **Estimated historicals always in green** - Green is used for metrics that we deem important to models but which the company does not provide. For example, in the BSX model, the company only updates the sales number for WATCHMAN periodically, but this is a critical growth driver. In between quarters where no specific disclosure is given (sometimes might be referenced as 'high DD') we'll put in an estimated green number to help us drive sales growth for the segment into the future. Please annotate green assumptions with notes in cell - this is particularly important since the estimates are not sanctioned by the company officially
- **Formulas of all types into black** - Calculated YOY growth metrics, pull-in from model drivers. Anything with a formula should be in black font
- **When a formula breaks (IE: inconsistent from one column to the next), shade the cell into gray**. As an example below, the historicals (Q2'22 and before) pull in revenue from the reported income statement and then use sales per new store as a plug (comp store sales formula is the same since it is calculated off SSS disclosure so sales per new store is the difference). For projections, however, the sales per new store is estimated directly vs just interpolated as the plug. As a result, the formula break is flagged in shaded gray even as all the numbers are in black (formula). This is important because it helps avoid a model error where you accidentally forget that there is a break in formula structure when you update a model for historicals.

2		Apr-22	Jul-22	Oct-22	Jan-23	Apr-23	Jul-23	Oct-23	Feb-24
3	**FIVE EQUITY**	Q1-2022	Q2-2022	Q3-2022	Q4-2022	Q1-2023	Q2-2023	Q3-2023	Q4-2023
4									
75	Comp store sales	576	616	553	966	640	669	614	1,072
76	Sales per new store	63	53	61	105	79	74	79	136
77	TOTAL REVENUE	640	669	614	1,072	718	743	693	1,208
78	% new store contribution	9.9%	8.0%	9.9%	9.8%	11.0%	10.0%	11.4%	11.3%
79									
80	Calculated sales per comp	0.53	0.55	0.47	0.81	0.52	0.53	0.46	0.80
81	yoy growth	(7.3%)	(9.1%)	(12.3%)	(6.7%)	(1.5%)	(2.7%)	(1.5%)	(2.0%)
82									
83	Calculated sales per new	0.46	0.41	0.41	0.67	0.47	0.42	0.42	0.69
84	yoy growth	7.2%	6.1%	5.0%	5.0%	3.0%	3.0%	3.0%	3.0%

- **Important projections in red font with yellow cell background** - We do this to make the important projections really stand out
- **Less important projections (like BS "as is" pull forward, putting in "zeros" for special adjustments) just red (no highlighting)**- Still should be red since this is a direct projection but no highlighting since not important; this makes it easier for visual inspection on what is important vs less important

Please contact Joyce for a formatting macro to make this easier.

For projections, one very big time saving trick is to really spend time on the projections that matter and not worry too much about inconsequential projections. For example, if there are 3 segments in a company but 2 segments represent 95% of the total sales, spend time really diving into the 2 large segments with all the key drivers. For the 3rd segment, even if lots of individual metrics are disclosed, just enter in historicals for these metrics but then do a simple YOY sales % driver rather than a detailed build out. This saves a lot of time and keeps the model parsimonious. We can always layer in complexity later.

Version history control and folder structure:

Since we use Google Workspace with version history control and also SpinOne for additional back-ups, there is no need to create a new version each time. Just save over the model as you update - we can always go back and revert an older version. This keeps the folders very clean.

More broadly, keep the folders very organized. We look at many different stocks so it's helpful to keep your virtual workspace very easy to navigate. **All notes, checklists, and thesis presentations are in the FIRST layer of the folder (never in a sub-folder)**, even if it happens to be grouped thematically vs explicitly by ticker. Research and company materials can be saved in a sub-folder if there is a thematic grouping of names.

Model Checking

Model checking is essential - attention to detail is a critical aspect of the job since improving the hit rate of our calls really depends on accuracy in our models and our analysis. We deal with a great amount of uncertainty, so model checking is important. This section lays out some basic areas for model checking so you can check high your high level assumptions

Income Statement

- **Check if terminal margins and growth make sense to the mature peer group and broader industry growth - inputting industry data and modeling out industry growth rates vs implied company market share in your terminal year is a very helpful check to avoid over optimistic assumptions.** This is very important to not explode the model. For example, PDD might be investing heavily in their e-commerce business with big subsidies, but you can look at BABA's 3P platform and other mature platforms for their long-term margins as an indicator where GPM / OPM / take-rate can settle out. There can be a lot of regional differences depending on competitive intensity - for example, e-commerce is far more competitive in China which means that SG&A % can remain more elevated even if 3P GPM margins are higher. Document in the model WHY your terminal margin and terminal growth assumptions are the way that they are. For example, in the PDD case, it's worth taking the whole China GMV and growing it at retail sales + (moderate online penetration growth) through the projection period. If you calculate your own PDD share to be 80% of the market by 2030 then clearly something is wrong - IE: you are over-optimistic on the specific company relative to the broader industry growth rate. **Please input as much industry data as possible to be able to sanity 'check' your company assumptions.** As per the law of large #s, it becomes increasingly hard for a company to out-grow the industry as the base gets larger. **The terminal year growth has to eventually converge to industry growth, especially if the company becomes a big % of the broader market**. Note that conversely in super fragmented markets, industry growth is less representative of company growth but industry growth is VERY important in concentrated / oligopolistic markets.

An example of this is below for Inovance - industry data is important to allow us to gauge whether our terminal multiples are reasonable.

Denominated in mm RMB																
300124 CH EQUITY	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
INVERTER																
					MIR data											
China low voltage inverter market size (	21,274	23,246	23,709	26,458	30,953	33,429	36,772	40,266	43,889	47,620	51,430	55,287	59,157	63,002	66,782	70,455
YOY%		9%	2%	12%	17%	8%	10%	10%	9%	9%	8%	8%	7%	7%	6%	6%
China high voltage inverter market size	3,354	3,800	4,223	4,660	5,459	5,896	6,485	7,101	7,741	8,398	9,070	9,751	10,433	11,111	11,778	12,426
YOY%		13%	11%	10%	17%	8%	10%	10%	9%	9%	8%	8%	7%	7%	6%	6%
Total inverter market size	24,628	27,046	27,932	31,118	36,412	39,325	43,257	47,367	51,630	56,018	60,500	65,037	69,590	74,113	78,560	82,881
YOY%		10%	3%	11%	17%	8%	10%	10%	9%	9%	8%	8%	7%	6%	6%	5%
Inovance inverter revenue (pro forma)	2,229	2,840	2,972	3,502	4,765	6,154	7,531	9,139	11,000	13,131	15,542	18,240	19,152	20,110	21,116	22,171
YOY%	34%	27%	5%	18%	36%	29.1%	22.4%	21.4%	20.4%	19.4%	18.4%	17.4%	5.0%	5.0%	5.0%	5.0%
Implied Inovance market share (not the	**9%**	**11%**	**11%**	**11%**	**13%**	**16%**	**17%**	**19%**	**21%**	**23%**	**26%**	**28%**	**28%**	**27%**	**27%**	**27%**
						** Here I calculated Inovance's inverter revenue using the old inverter segment revenue before 2021 and growth rate of new segment to get to future*										
Inovance inverter revenue growth%		27%	5%	18%	36%	23%	16%	15%	14%	13%	12%	11%	10%	8%	7%	6%
Inovance outperformance to market		196%	134%	54%	112%	188%	63%	61%	59%	56%	51%	46%	39%	30%	20%	8%

- **% growth can be misleading especially as the base is a lot bigger** (EX: 20% growth off 10mm sales only requires 2mm incremental but 20% growth off of 1bn = 200mm of sales) - **to avoid exploding the model, look at $ sequential add or $ yoy add to make sure that your out-year assumptions do not assume too high**. It's helpful to add the $ add as an additional formula line item to help with modeling correctly.

- **Build bridges as much as possible when there are one-off events that impact results** - The MNSO example was given above on adjusting for underlying sales per store trend net of disclosed COVID impact; another example could be the company has a product life cycle where there is very strong one-time impact that is not repeatable into the following year (EX: 80% sales growth of which underlying growth was 20% and the remaining was one-time replacement - for the following year, model underlying growth off the 20% base not the 80% base). Explicitly build the bridge within the model with heavy annotation - only when the historicals clean (IE: adjusted for one-off and one-time factors if prevalent, days adjustment if calendar periods shift), will accuracy on future periods modeled off this base rate improve

- **Sanity check model consistency**: If you are below consensus on revenue but significantly above/below on EBITDA/EPS then it's worth digging in further to make sure that you are not making a model error. Sometimes you can make this assumption explicitly because of anticipation of a change (for example, if you think that there will be a massive cost cutting program despite a weak top line), but more often than not, there will be substantial negative fixed cost operating deleverage when sales is weaker such that % margins compress (fixed cost $ does not change but sales is lower thereby negatively impacting margin)

- **FX bridges and raw material cost bridges are VERY important when there is high inflation or currency depreciation**: See AMBU model as an example - FX itself is helping by 8pp+ due to depreciation of the Danish kroner against the USD. For raw material costs (especially for businesses with lower GPM and lagged pricing power), big inflation can squeeze margins - in such a case, model out what a basket of materials look (% steel, % oil, etc) and then calculate out the increased cost per unit

- **Especially for large cap Chinese companies, read sell-side previews closely and make sure to pay attention to any post- earnings or pre-earnings previews**. Chinese companies often will adjust expectations with the sell-side before and after earnings releases (more often than not, they will not give the same candor to buy side). Make sure that we are in the flow of information here - it's unfortunate that the companies are less forthcoming on the direct earnings calls, but we do not want to miss and nuances in guidance - sometimes the companies will sound more bullish on public calls but more bearish in private calls

- **Over-calculate formulas and also build in additional guide formula guide posts for easier analysis** - Once again, don't assume any mental math - explicitly show BPS change, YOY % change, % margin for all of the key company and industry metrics, as well as $ sequential change when relevant. It's far better to have these explicitly shown for more identifiable error checking. Additionally, you can look at helpful calculated additional metrics like 2YR comp stack, 3YR geometric average, QoQ growth rates (for seasonal businesses), % of total year earnings by quarter, and any other additional metrics to help identify trends

- **Compare with consensus estimates and be able to explain why you are different** - Especially for new analysts getting a handle of modeling and trying to improve accuracy, make sure that you can explain why you your estimates are different from consensus - differences should be **deliberate** vs just purely accidental

Balance Sheet

- **Never use shareholder equity or any line item as a plug** - The temptation is there for a new analyst but this is a very bad idea and can lead to many errors. Go through the many examples in the research forecast on how to explicitly model out each line item and achieve balance through the correct direct formulas

Cash Flow Statement

- **Make sure that capex = D&A in the outer years** - Having D&A > capex in the outer years will artificially elevate upside, while the converse will have the opposite effect. In steady state, you should assume that capex and D&A become more neutral - growth companies achieve this balance only later in the projection period while value companies already are close

- **Calculate the implied multiple to make sure that it makes sense** - Take the DCF implied multiple and divide by forward estimates for EPS/EBITDA. More often than now, when the model is appropriately calculated, the implied multiple is consistent with peer multiples. After all, multiples are nothing more than a summarized DCF

- **Cross check working capital assumptions -** it's a red flag if historically working capital suddenly flips from being a cash flow drain vs a cash flow - unless there is an explicit reason for this, it's worth checking working capital drain as % of revenue for consistency

- **Only give credit for leverage when business cash flows are dependable and the company has an explicit track record of capital allocation policy of using debt to enhance equity returns**. Leverage can enhance equity returns in an equity DCF, but only be selective cases where the company has a track record of doing so. Many Chinese companies just let cash flow pile up up on the BS - in such a case, don't add this lever

DCF

- **Sanity check terminal year growth multiples -** it's helpful to know that between today and our 10-YR forecast period what the revenue, net income, and cash flow multiples are. EX: During the forecast period, sales might be up 4x, net income up 5.5x, and cash flow up 6x. When there is a multiplier that does not make sense in context to the broader industry (**make sure that you input as much industry data as possible and calculated implied market share**), then it is very likely that there is a mistake somewhere

- **Sanity check terminal EBITDA, EBIT, net income, and CF margins** - The terminal period is very important since we apply the terminal multiple to this base. Be very explicit in justifying your assumptions on terminal margins - make sure that these are consistent with current mature businesses in the industry (EX: NOW terminal margins converging to ORCL margins) and if there is divergence, to explain why

Another helpful tip is that if you get stuck in a model, just put in a plug (EX: as-is formula, straight-line etc - this works especially well for assumptions that are less material to the model)**, annotate that this is an area where you are uncertain and keep going**. Write down your list of questions / areas of uncertainty as you progress so you can get help later. Not getting stuck and just moving forward helps you with greater time efficiency - this allows you to finish the big picture first before going back to spend a lot more time on the details. This is also why we always start with the most parsimonious shell model first before we drill down into the details - the 80/20 rule can help a lot in conversion. Efficiently getting to a high hit rate decision of escalation into position conversion or dropping the name is a hallmark of an effective analyst.

A note on forecasting: Making accurate forecasts - as close to what will play out, and certainly more accurate forecasts than the market - is a key part of being a great analyst. When we are significantly above or below consensus (particularly in the Next Twelve Months (NTM) for shorts and in both the NTM and 2-3 years for longs), there is a big opportunity for out-sized P&L. **Great forecasts are NOT mechanical in nature** (IE: purely trend following)**,** but rather come from reading, deep understanding of the underlying drivers, and your critical evaluation of the addressable market, company's competitive position, cost components, market conditions, among other factors.

Superforecasting is a good book, with a link to the summary below worth reading as a quick re-cap. In particular, I'd highlight the following
https://goodjudgment.com/philip-tetlocks-10-commandments-of-superforecasting/

- **Inside vs outside probabilities** - If apparel broader as a group is seeing promotional pressure, it's hard for any one company to out-run. Even though we'd like to believe our own portfolio companies are special, the broader environment / peer group performance matter a lot and you should not fall into the logical fallacy of assuming your own companies are immune (EX: in an advertising slowdown, everyone is impacted whether the company is a share gainer or not). Start with the outside probability first before figuring out how the specific company performs

- **Break difficult problems into smaller components** - This is the whole purpose of drivers - you can decompose a big revenue line item into individual components that are far easier to track, monitor, and evaluate
- **Look at revenue/earnings performance through various economic cycles as a gauge of resilience** - Stocks that are recession resilient tend to get a higher multiple. You can look at past revenue/earnings through down cycles as well as that of the peer group (EX: DAVA was not publicly listed in 2008 but EPAM was) and then adjust for any company-specific factors that might cause divergence in performance
- **Explore areas of inconsistencies and build model resilience in the form of % sensitivities** - There will be clashing evidence / divergent commentary in your reading and calls. Make sure to weigh the devil's advocate view appropriately and consider 'shades of gray' in your model via sensitivity modulations. As mentioned in the investment process document, we typically do not like the black / white "bull / bear / base" case since rarely do all the drivers work out favorably / unfavorably all at once. Rather it's helpful to think through model sensitivities in the case of: what does 5% increase in raw materials do to EPS? How does a 10% price cut (price flows through with very high incremental margins in contrast to volumes where incremental margins are much lower) impact EPS?

Model Sanity Checklist

To synthesize this section above, please use this cheat sheet for model checking (for quick screening at a minimum after every single model update) - ideally you would explore all the action items above

One big caveat is that if there is a big revenue acceleration in the near term, **all** of the terminal multiples end up shifting so be particularly careful about your out year assumptions

For example, if growth turned out to be 60% for the current year, even if you use the same current structural growth rate for 10 years, the growth multiplier is a near vertical shift which can distort whether the final terminal value makes sense relative to market size

1.6 * (1.15)^10 = 6.47 by terminal year
1.0 * (1.15) ^ 10 = 4.04 by terminal year

Statement	Checklist Item	Y/N
IS, BS, CF	Make sure that the structure of reporting (GAAP, adjusted non-GAAP metrics, additional KPIs) matches the line items and structure of the **press release / corporate quarterly earnings**	

	presentation and that there are no key adjusted or reported metrics that are missing. Check that the historicals are accurate and spot check if you are copying/pasting	
IS, BS, CF	All 3 statements balance without using any plugs	
Guidance	Make sure the guidance section is **fully updated** for quantitative and qualitative commentary; use this to cross-check with all your assumptions. Better to put in more detail rather than less and use model notes and excel comments to explain key assumptions and why Old commentary can be moved to the end of the notes section	
IS	**Check that terminal growth and margins make sense to the mature peer group -** this is very important to not explode the model in assumptions. Make sure that the implied market share for the industry and margin makes sense in context to the industry (does not assume outsized market share by the end of the projection period)	
IS	Compare revenue, EBIT, EBITDA, EPS to consensus for both the current fiscal year, FY+1, FY+2, but also compare to the current quarter, next quarter, and distribution across the quarters for the current year Calculate % difference to consensus and if there are different gaps, make sure to go back and double check that this is **DELIBERATE** for a specific and explainable reason versus a mechanical mistake (EX: above on revenue but well below margin; huge gap between EBIT and EPS beats)	
IS	When relevant, calculate and look at your YOY, 2YR CAGR, QOQ, $ sequential, BPS change historical trends. Better to overcalculate supporting formulas and be able to explain where there are big inflections or deviations (check that it is deliberate vs mechanical)	
CF (DCF)	Calculate CFO less capex and divide this by adjusted net income - make sure that the cash flow conversion in the projection period is explainable relative to historical trend and we do not accidentally explode cash Check the terminal year FCF conversion is reasonable relative to adjusted net income	
CF (DCF)	Check that the gap between D&A and capex closes by terminal year (more conservative if capex > D&A for a longer period during the projection period)	

BS	For EV/EBITDA calculations, make sure that if the company has a lot of marketable securities that are liquid/equivalent to cash, to include this in the cash calculation. For comparability, we do not include leases of any type into EV	
Model Clean-Up	When there are old segmentation or old guidance notes (no longer relevant), don't delete but move to the end of the model and tag it as legacy. Make sure that the active sections for updating each quarter are clean - this avoids cluttered or mistakes in linking	

MScience / Credit Card Data Preparation

We use MScience as our main alternative data provider, which includes data such as credit card, email receipt scanning, mobile phone provider data (SensorTower), etc. This is especially helpful for near term tracking for our existing positions, as well as for idea generation when there are big inflection points in data acceleration / deceleration.

Some help tips when working with alternative data:

- Very seldomly will the data be exactly the same as reported - there is often a sampling or selection bias that doesn't provide the full view compared to what the companies report, for example, any B2B business that won't be captured by a consumer credit card panel. However, the data is often directionally correct, as such, we calculate a "gap" to reported in backtesting, and use judgment in the gap used to help us arrive at the most accurate forward estimate based on the alternative data. The gap can be done in a variety of ways, a simple subtraction, or a regression, for example.
- We do want to capture as much of the frequency of the data as possible - for example, we do not wait until quarter end to input the quarterly data from MScience, but can instead input the monthly as it comes out. We can input directly into the model using a Month 1, Month 2, Month 3 format, as shown below:

In USD mm	Jul-21	Oct-21	Jan-22	Apr-22	Jul-22
WSM EQUITY	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22
Month 1	13.1%	23.2%	(4.4%)	9.7%	(8.6%)
Month 2	24.2%	(6.9%)	(1.9%)	(8.3%)	(5.9%)
Month 3	31.3%	11.7%	12.0%	(9.6%)	(18.5%)
Gap to Reported	16.5%	1.7%	(2.6%)	(15.5%)	(17.1%)

- For idea generation, we will monitor the MScience data for a weekly input of the latest data for names within our coverage sectors, and flag any positive or negative inflections, as well as trends.

Meeting Preparation / Question Writing

Question lists are incredibly important when we go to any meetings. This has already been emphasized throughout the Investment Process Document. An analyst who is well-prepared with a strong question list will extract significantly more information than an analyst with a mediocre question list. An analyst with great potential will have the most thoughtful question lists which explore all the key debates, clarify key model drivers, reflect areas of discrepancy, and explore essential business opportunities and risks. **The hope is that your question list will be so comprehensive that there is no need for the partners to add more questions since you have already thought through / considered all the key debates and drivers.** Ahead of company meetings, please send out your notes in advance to the group chats to receive feedback and any additional changes from the partners.

Some helpful tips for question lists:

- **<u>Err on the side of comprehensiveness rather than parsimony</u>** - Write down questions as you go along the reading and err on the side of having too many questions vs too few. We can always parse down the question list later and prioritize later (and certainly many questions get naturally answered in the process of your own reading). A question list should cover all of the key areas of the company across growth (including business strategy, industry dynamics, product cycles, etc), competition, margin, capital allocation, etc. Comprehensiveness is very important

- **Whenever there is cognitive dissonance in the reading** (IE: company says something, competitor says something else, evidence from different sources not aligning), **make sure to jot this down in question form for further exploration**

- **Use the model to help generate and prioritize questions** - For example, if the company has very detailed segment breakdown for revenue but none for margin, it's worthwhile to understand how the different revenue segments differ in margin such that if mix changes, you can reflect how this impacts the consolidated numbers. Also when there are any outlier changes in SG&A or expenses, it's worthwhile to understand how much is recurring or one-time in nature; or if a company is going through a big capex cycle, to understand the extent and the duration since it impacts the DCF very explicitly. The model helps inform you what are the important drivers - it's helpful to align your question list to the key drivers of the stock rather than details that are less impactful. For example, if the company has very limited interest expense (net cash position), not worth asking abou rate sensitivity - better to spend time on areas that are actually important to the DCF both quantitatively and qualitatively

- **Craft the wording very explicitly -** We want our wording for questions to be very precise - please do not 'wing it'. **We want our questions to be very neutrally worded to avoid 'leading' an answer** (particularly important in sell-side and expert network channel checks) **and also to be very precise to extract the information that we want**. For example, you can walk through a bridge with a company to cross-check if your assumptions make sense. The research folder driver has numerous question lists for you to peruse to see how we word questions - check out SKIN Notes as an example for how we fold in qualitative and quantitative questions, as well as open and closed questions

- **Organize questions ahead of meetings** - if it's a 1x1, organize your questions into related sections for flow (EX: put all your questions on margins into one section, business strategy in another). If it's a group meeting, select 3-5 most important questions and prioritize these first and then stick the other questions in a question bank if time permits. We want to strategically use our available time to cover topics that are not readily available via reading. For IR, expect to ask more closed questions for modeling. For the CEO, expect to ask more open questions to explore strategy and industry direction. From your master question list, tailor / prioritize based on who you are speaking to

Management / Conference Etiquette

Politeness matters a lot - we are very close to our management teams (both long and short), their respective peer companies, and want to preserve a good relationship that enables us to have access. **Having a great question list and being prepared is one of the best ways to be respectful of someone's time.** Some helpful tips:

- In a first time meeting in a smaller group or 1x1 setting, give an introduction to FACT and emphasize our multi-year horizon. This helps give the company context. It's particularly important to be nice to our short companies since corporate access can be even more essential (IE: we want to explore the upside case that is a risk to our shorts). It's easier to push our long companies more since they know our interest are aligned as shareholders
- **Be very polite and ask questions directly and succinctly** - do not pontificate like some other investors. This is also why we write out our questions **word for word in advance** of meetings for precision. If a company does not answer directly, follow-up politely with slightly shifted wording - the lack of willingness to answer directly gives an information signal in it of itself
- **When taking notes on the computer, still give some eye contact and other behavioral cues for listening** - We need to take notes on the computer since it's far more efficient, faster, and searchable than handwritten notes. That being said, it's still important to give eye contact (learn to type without watching your fingers) and to nod along / give behavioral cues for listening and relationship development
- **Better to over-dress vs under-dress in conferences, especially in the US** - Virtual meetings don't have the same level of standard, but make sure your outward appearance is very neat and professional

- **Write thank-you notes (or Wechat gratitude messages) and send out after the meeting** - Thank you notes are very important since it helps us preserve future corporate access. We do this for all of our corporate calls, as well as particularly helpful sell side calls. There is no need to do this for paid expert network calls

Format and Best Practices for Notes Taking

See the two example below as an example - **one of the key skills of the job is to take nearly ~100% accurate notes *during* the meeting and to spend *no time* after the meeting revising the raw notes** (since these should already be in in the correct format / level of detail)**, other than to write a very detailed summary at the top.** We note that this skill takes some time to develop (and comes with practice), so we don't require immediate performance. Nevertheless, it's a skill set that we do think is important to train and refine over time.

Note-taking is an essential skill - as a target, expect that in a 1-hour call to spend exactly 1-hr writing the notes (during the meeting) and then an additional ~10-15 minutes putting together the most salient summary (so 1 hour/15 minutes in total for a 1 hour call). Learning how to type accurately, quickly, and without looking at the keyboard (important for maintaining eye contact with management in in-person meetings despite typing) is a skill that can be practiced. There are plenty of free courses available on the internet and improvement comes over time with practice. That being said, being efficient with notes is one of the key aspects of the job, as well as **active listening** to detect tonal changes.

Note that even though we take meetings in Chinese, we type in English simultaneously because English typing is far faster and the notes are more easily searchable. This requires some level of mental translation but we still want the notes to be as reflective of actual phrasing as much as possible. If it's too hard to do this, type in Chinese first and then you can translate into English.

Some of the key best practices:

- **Notes should capture key phrasing exactly as said, as close to a transcript of key phrasing as possible -** Memory is imperfect - the reason why we have such detailed notes is that we can revisit months later and still have a very accurate representation of what has transpired. Nuances in key phrasing can reflect shifts in management stance and being able to capture this is helpful as you evaluate potential inflection points

Note that this is extremely important for management calls where language can reflect confidence, but capturing exact phrasing is less important for expert network checks (since the signal value is lower). In the beginning, try and take detailed notes in the below format for all calls, but over time, you will learn what is important (high signal value) vs calls where just the key takeaways are sufficient (usually expert network checks and supply chain checks). However, better to err on the side of over-delivery of information vs under-delivery - too much detail is better than having too little detail. And for management calls, there is no such thing as too much detail

- **Despite capturing key phrasing EXACTLY as said, skip filler words, don't write in full sentences, and use acronyms to go faster** - even though we want the notes to be as close to a transcript of critical phrases as much as possible, it's not necessary to put in filler phrases that don't add to the content ("Like I said", "As mentioned before") and there is NO need to use complete sentences. The examples below should give you a flavor of capturing phrasing exactly as said but without full sentences and also with shortcuts whenever reasonable (EX: HF for Hydrafacial; VA for Video Account as examples below)

- **Make sure that the summary is very detailed and captures all the key quantitative metrics** - Err on the side of comprehensiveness in writing the summary - capture all the quantitative metrics that the call has mentioned, as well as the tone of the call / key takeaways. Write the takeaways from the perspective of an investor, focusing on the most salient takeaways that have impact to the thesis whether corroborative or dissident. The only time when you do not have to write a detailed summary is if the call is not very helpful / not very good such that not much information was extracted. In such a case, it's fine to mention this in the summary and explain why it was not helpful. The summary is very important since you want to be able to read it later on and get a full understanding of what transpired - memory is imperfect and months later if you are revisiting this company, you want to be able to read this summary and get the full snapshot quickly versus digging back into the detailed notes with re-reading. This saves the team a lot of time, especially as the summaries go into the due diligence tracker, which is a helpful snapshot of company / industry / competitor / customer commentary over time. In the same way that reading summaries of your team's calls is far easier than reading all their detailed notes, treat others the way that you would like to be treated - a detailed summary is very helpful to everyone who is NOT the primary analyst

- **Summaries should reflect the key takeaways for the stock - either if it is positive, negative, or neutral / mixed for the position and the key reasons why**. We know there is no categorically positive or negative outcome, but the summary should take a balanced approach and try to synthesize what the conclusion and / or action for the stock should be. **Translating 'mixed' to a call is part of the job** - we know that the macro/operating environment means that many channel checks will come as 'mixed'. But we have only 3 decisions to make - sell, hold, buy. Work to translate a 'mixed' check into either a decision ("less great news but not thesis changing") or a work plan ("this was a worrying call that means I have to investigate issue X that could be a potential sell inflection"). When writing call summaries, try and incorporate the explicit outcome (how it impacts our view of the stock)

- For Chinese calls where there might be more specific industry vocabulary, keep a table of important phrases up at top to make it easier to follow along. This industry vocabulary can be taken from corporate filings, presentations, or prospectus. Likewise, having this 'cheat sheet' helps for American companies where acronyms can be used for the various segments

One key aspect of writing a detailed summary is to do it immediately after the call when the information is fresh. An exception to this rule is if you have back-to-back meetings or if it's a late night call with no immediate deadline (more exploratory work), but writing the summary immediately after helps you with speed in the summary

Some of the keyboard shortcuts that help you as go along

- **CTRL+B to bold** - you can bold the questions asked and also any key takeaways / important messages made by the company as you go along
- **CTRL+SHIFT+8 -** Starts a new bullet point
- **CTRL+ALT+1** - Formats text automatically into the heading 1 - since our notes can get very long, having an organized outline (as well as accurate date) helps us search more effectively. CTRL+ALT+0 reverts back to 'normal' text and CTRL+ALT+2 changes to "Heading 2"

Being efficient in note taking is a critical skill of the job - it's essential to get into the practice of getting to near ~100% capture real-time with the speaker with full active listening and cognitive processing of the content. Again, the target is to get to a situation where you have a full transcript of key phrasing in our base Q&A format without spending any additional time after the call modifying the raw notes

When you are done with notes and summary, please send out to research@factcm.com - in general, send all emails to this address

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Tencent at JPM Small group NDR Call (Example 2)

August 18, 2022

Summary: Tone on the call was better than last quarter

- **In 1H'2022 Tencent returned 4% in dividends/JD distribution in 2H'2022, the capital return allocation will be "significantly higher" and Tencent can sustain this level of capital return for many years**. Argument of going faster since the stock is so cheap but at the same time, don't know how long low valuation lasts given uncertain macro (hence an argument for going slower). When asked about the LT says "can't think about the LT have to deal with the ST"
- **Headcount will grow in Q3 but the $ expense will moderate slightly but the real impact on cost reductions does not happen until Q4**. New graduates and contractor conversions happen in Q3 but these are cheaper than older FTEs so the $ level does not change that much

- Did not share VA account metrics but did say that Kuaishou is less resourced than Tencent and it's common in other markets to have multiple big players in short video, AI content growing 400% and now working well - monetization is no cannibalization right now
- **Advertising was "less bad" than analysts feared because it sounds like BABA started to advertise on Tencent late in June**. BABA's advertising budget is bigger than all of Tencent advertising but historically did not advertise on Tencent due to walled gardens, but then they changed the stance to drive their own performance
- **Argues that Tencent is a reopening play since payments can rebound**: right now take rate is 30bps, Unionpay is at 60bps - Government owns unionpay and wants Ali/Tenpay to increase take rate so Unionpay has an easier time. Considering miniprogram take rates to go up to 60bps
- **Don't think monetization is antithetical to regulation:** Tencent Meetings and DingTalk are now all experimenting with monetization - no culture of paying for SAAS but the internet giants are now monetizing in a rational way gradually (argument to the regulator is free is the biggest barrier to innovation since then few want to get in), SAAS is harder to compete w/ the scale of Tencent/BABA. Thinks that the negativity of cloud is too strong and that even if IAAS market is too competitive due to telco/Huawei, the PAAS/SAAS market (50% for Tencent) is worthwhile to pursue
- Diablo Immortal was doomed to not do great internationally since not tailored to the market (Chinese style MMORPG does not do well vs the top games in the US with persistency), but the big learning was that domestically in China, managed to revive this property via a dormant license that they were able to retool creatively. Seems like in a constrained # of games environment, Tencent will concentrate resources on big blockbusters but also try and use latent banhao to drive retooling for launch
    - A key indicator is to see whether Undawn is allowed to launch - it already has banhao, if it does not launch then it is a sign regulator is more negative on big companies vs the interpretation of helping SMID cap companies. Said that the current banhao regulator is the same as the movies regulator and will allow the Disney big movies not just the artsy movies

Q: Paradigm shift and efficiency improvement initiatives, which resulted in strong beat of earnings relative to consensus. What is the next? Should we see revenue/earnings acceleration in 2023? But w/ this new paradigm and once has a leaner cost structure, how to think about normalized revenue growth outlook in 2024 and afterwards?
- Some extent that's the analyst role
- Tencent role is working through the situation that in, delivering capital back to shareholders and then return back to growth rather than speculate what 5/10 year growth
- Nevertheless, have some LT growth rates supported by the miniprogram, enterprise software, international game business - these 3 LT drivers continue to incubate for this year but the immediate focus

Q: Medium / LT growth opportunities - which is most excited?
- Not that focused on the LT right now
- Focused on the ST
- All the LT things are interesting but right now focused more on international games since can focus more on acquisition, new game developments, things that can do right now

- Miniprogram is interesting since small numerator from payment take rate - very small % take rate for transactions, not providing any ecosystem yet or tools that do for miniprograms so examples like Shopify for companies that charge for 100-300bps take rate for the SAAS and Tencent hasn't been doing that
- Path for this is visible for the next 1-2 years
- Enterprise software - what is interesting is that investor sentiment around cloud in China has overshot in both directions - euphoria initially but now more negative
- Increasing recognition that for certain use cases especially with gov data, intensely competitive with telecom / Huawei with a negative revaluation of cloud prospects
- People are now throwing baby out of the bath water - bath water is the IAAS while baby is PAAS/SAAS - about 50% of the revenue for Tencent Cloud
- For Tencent meeting, not competing with Huawei or the 3 telecom companies, or even BIDU don't have the technology and the network effects
- Also not really competing with start-ups since difficult to persuade a Sequoia or Coatue to fund a start-up to create a Zoom of China and competing with Tencent/BABA, which is really hard to do
- Don't know when Ding Talk will monetize so hard to enter
- In internet, lots of people who are willing to sacrifice margin but in SAAS, Tencent/BABA are rational competitors have gigantic user lead in meeting software and are rational in monetizing - there is no alternative that will sweep in and capture an untapped market since no one has built out the reach
- W/ education sector that is a huge user with substantial province/city coverage, only Tencent/BABA provides, retail/manufacturing provides
- As rapidly grow video accounts for what they can be and then emerge - when talk to investors, want to keep things simple

Simple proposition is deliver on the VA growth and also on capital return and cost control

Q: In gaming, there is a lot of handwringing about banhao - talked about end-to-end, DNF? What needs to happen?

- Think that the fact that NTES and Tencent didn't receive banhao in the first few batches is a repetition of the situation in 2018/2019 and therefore not disturbing
- There are some investors naturally wondering if that is a sign of the regulators trying to rescue SMID participants that would otherwise suffer but Tencent/NTES has CF - benign scenario or a sign of the regulators hostile for the big companies and forcibly shrink them
- Launch of Diablo Immortal and Undawn by Tencent will test that thesis since Diablo will add bigger revenue opportunities and Undawn have bigger $ revenue impact
- If regulators block Undawn and Diablo then speculate on whether hostile then in nature
- If then go ahead then regulator is just naturally helping mid size companies first and not really being active

DNF - revive the 2017 license?

- Exactly same position as Undawn
- Both of them have licenses from a few years ago
- One has the option of having the ISTN license and publish but because created a few years ago and the code has evolved so sometimes to derisk things then will confirm the regulator that while the code evolved, will go ahead and publish or not

Q: Capital return - spoke generating billions of FCF and appreciate that open window in HK is not that long of a time but when have the window open then was not significant $ amount - are saying that will be a lot bigger?

- Logical inference
- Believe that will see given where the share price is
- One thing used to amuse James in the past is that there are many companies like the US money center banks that buy back stocks during good times but then in bad times stop buybacks since want capital buffers, Tencent should do the opposite - should increase buyback when times are bad
- Then thought easy to say that when times are good but in reality, when times are bad, don't have cash on the BS to do this
- But Tencent in a strange position since easy decision since day by day CF picking up from payments, video accounts, and have the $90bn listed companies and $50bn private companies that working down so can / will / increase the buybacks and not painful to do this
- In HKD $ terms, used to 50/100/200/300mm per day but then will see shortly what will do - right to observe that HK the windows are short, which is frustrating
- The HKEX has recently allowed HSBC to conduct buybacks during blackout periods - strange entity in that tends to allow companies listed elsewhere to do things vs primary listing but Tencent is working with them and there is a solution to this problem
- Buyback is one part, regular dividend - increasing, now distribution in-kind mechanism which is extremely powerful and people haven't thought through the full consequences of distributions in-kind can mean for some broader relationships and some of the shareholders selling the shares

Q: Undawn - how to think about international? Top chart in the US are all casual games that are old like Candy Crush, Pokemon Go, etc - heard a lot about international games for NTES/Tencent and it is a struggle…can you comment on immortal and what learned from international mobile game market in the last 5 years and what to expect…does not expect that the hardcore/midcore games have staying power

- If look back at the last 3 years, international game market grow at a 12% CAGR including COVID boom and slowdown
- Tencent organic game business has grown 49% and reported basis 60%
- Anything at a 49% CAGR has some satisfaction - organic growth rate, games released by pre-existing China studios and studios like Riot and SuperCell
- Have had a # of titles including PUBG mobile, CoD mobile, Brawl Stars, Valorant that have broken through and a # of big titles that expect to break through
- That said, raise a fair point that over the years, despite the games appearing light/casual and free to exit, the big incumbent game franchises like Clash of Clans, PokemonGo, CandyCrush has demonstrated resilience and stability
- One takeaway is whether there are other mobile games that demonstrate stability but haven't embraced the monetization model - Activision when acquired Candy Crush did that, did not monetize well but then Activision did a good job in driving the service monetization within candy crush so while King's other games underwhelming, has been a great investment - generated more revenue/profit than Activision
- Conclusion is that a handful of other mobile games that are analogous position today for what candy crush - EA Code Masters acquisition, for code masters, there are 20 formula 1 tracks and Code Masters have built up the tracks in the system and then churn them

out and again and sell Formula 1 2023/2024 vs new entrant trying to digitize the tracks from scratch which is lengthy/time consuming
- With Sybo, created subway systems in 100 cities globally then can provide it to the 30mm game and also in subsequent games as games as a service but think that despite the increasingly static nature for top game ranking have broken through with PUBG and CoD mobile and other titles, also have some investment/acquisition activities that will benefit

Q: Diablo Immortal was controversial in western markets - debate whether successful but don't think it was. Do you think that the Asian/Chinese style MMO action art RPG monetization - do you think that it is basically broken in western markets and has to be a different type of game or one bad example?
- Model does not resonate in western markets but other models that do
- Fortnite does not have a gotcha / lucky draw, 50% from monthly subscription and generates several billion of dollars of revenue per year despite move away from some of the gotcha practices that did Diablo Immortal
- Embrace that different path with past games and future games
- Did not learn anything from Diablo Immortal - knew what way was go with monetization and certain MetaCritic score and what revenue curve would look like - NTES in China did have a moderately successful, banhao becomes a scarce resource and went to the game, reinvent it within that existing license
- Knew what Diablo IMmortal for what it is and how it morphed in China was more inspirational

Q: Commercial / payments business and how the competitive landscape has evolved and the opportunity for Tencent to play in this recover?
- Competitive landscape is benign
- Previously in a position where AliPay was losing share in commercial payment volume and then harvest and then recycle into subsidies for commercial payment - sometimes competing with Tencent
- As regulation changed, Alipay no longer has that ability to recycle profits into lending from subsidies into payments and assumption is that the payment business is enjoying a nice improvement in profitability
- Don't want to kill them for market share - market share is substantially higher, Tencent has different problems from different direction
- Incumbent union pay does what it does but the business model is built around a 60bps take rate vs Alipay / Tencent survives at 30bps so a lot of room to content w/ market shares to let the effective take rate net of discounts/subsidies drift up
- Market share position is a happy/healthy position with union pay much higher and TenPay/Alipay lower take rate
- Read commentary from if invest in proxies for Chinese cities open up then do food delivery rather than virtual world experience like Tencent - nothing can be further from the truth, single biggest product and revenue driver is the payment business
- Behaving exactly as V/MA behaves as London/NY closed down
- See 1500bps reaccelleration in a quarter, single city then see some cities where there are some cities that go up 6,000bps in a quarter
- This turnaround is happening and to the extent that China can reopen for business and go for overseas travel then can't think of a cleaner/simpler way than the payment business

- People in China have forgotten the message

Q: WeChat core social advertising - were able to grow through additional impressions on WeChat and long runway but this year first year where unable to offset the broader macro headwinds with additional impressions or inventory - how to think about the runway there and the path to outgrow the economy for secular gains?

- If look at the advertising revenue decline, if bucket the advertising into the 3 big buckets, Weixin has been healthy
- Declines from ad network since impacted from flash screen ads and also significant decline in platform/content inventory which can point to Bytedance - reality is that growth of TikTok/Douyin/Kuaishou has taken advertising spend from long form video including IQ and Tencent Video and Tencent Video is part of the platform content
- Weixin advertising has been healthy - this year, know that a big opportunity would come in the middle of the year w/ VA monetization
- Would also say that sometimes people over-extrapolate moments that with moments that do err on caution for ad load
- This is not the case w/ Tencent video where ad load is effectively the same as IQ/Youku - not that moments in Weixin and territorial but difference is that Tencent original business is communication and social business - allow to induce users to keep coming back to check friend's posts from family and colleagues for social graph
- Every big internet company in one point or another to break into the social graph and none of them have succeeded including Bytedance - that is a source of enduring permanent competitive differentiation - if super loaded moments w/ advertising where a competing social network product from BIDU, Bytedance, BABA got into the market and differentiate through a cleaner interface then see a big degradation in Tencent
- This is why so precious w/ the core chat and social network experiences since uniquely not just within Tencent and China, the two experiences that allow to aggregate and sustain social graph - not true for video accounts
- VA is not social graph, primarily about artificial intelligence recommended contract and then around follows a small portion of the traffic for social recommendations
- This is why not over-extrapolate actions taken into video accounts - for moments, took over 12 months from fixed price inventory to bidding inventory
- For VA, have done that in less than 1 month so have bidding inventory

Q: Headcount reduction - 5500, where to think about marginally the big chunk out or there is still a lot more to go?

- Absolute headcount # and then the 2nd around P&L and then philosophy
- On the headcount #, dropped by 5k QoQ but will there will be an upwards pressure in Q3 since onboard graduates from universities every year in Q3 into headcount and also there is a continual upward bias in that have tens of thousands of contractors who are converting to full time employees and don't show up
- No change to the underlying P&L and were paying for them as contractor vs now direct
- As the # of traditional incumbent FTE diminish but then onboard graduates and also contractors who have become full time employees, has a downward bias to the cost head since contractors / graduates are still cheaper than the average FTE
- **For headcount changes into the P&L, Q2 didn't see the benefit since when let people go incur significant costs on terminating their employment and expense those costs and then have some smaller costs around that headcount reduction in Q3 and then from Q4 onwards then will see the benefit in the G&A expense for headcount reductions**

- Finally for philosophy, are structurally moved to performance management where bottom X% will be managed out each year, which is new
- In the years gone by, would often invest in companies participating in the opportunity and also allow teams internally to spin off and participate - now come to a view that parameter, don't have to participate in every area as an owner/operator so pruning back some of the more further flying expansionary teams that are subscale and unsuccessful since headcount
- Gives people opportunities to seek jobs outside of Tencent but that successful in that endeavor

Q: Investment portfolio - for capital allocation, one of the most significant ways to return capital is through the large investment portfolio that own - is there anything on limitation how quickly can monetize or distribute that portfolio? JD distribution…is there anything prevent from doing similar distributions more than one time per year? Right pacing?

- Between JD buybacks and regular dividend, returned 4% of market cap in 1H
- **In 2H will return more than this**
- Haven't been in this situation meaning stock price trading at a very low PE and executing investments before so still trying to figure out where go all-in when stock price is low and return a lot in a short period of time or in a situation where don't know if the macro will keep the share price low and then return capital at a rate that can sustain for 3/5/10 years to come
- **Would say that if look at the rate of capital return in 1H - 4% in 6 months is a rate that can sustain for many many years if the stock stays low where it is now**
- If view that this is anomalous and assume mean reversion and then will move faster and move quickly - welcome views on it, but uncharted waters for Tencent
- But can say that the rate of capital in 1H can sustain and will sustain for as long as share price valuation is where it is

Q: Advertising - for video account aside, reported advertising soft - why?

- People are not bearish but China economy under pressure and naturally when under pressure then naturally for this
- Education advertising was a teens proportion for last year and then with regulations last year then education dropped to LSD of the proportion of the revenue and faced very tough comps against that in Q4/Q1 as move through Q2 then the comp ease and then in Q3/Q4 then will ease further - that is one misapprehension
- Second misapprehension is that there is a change in the walled garden for Chinese companies next to each other and companies which have no log-in relationship with users and then run around in other people's environments and be a beneficiary
- As move into June, one of the big walled gardens where historically challenging relationship substantially stepped up spending at Tencent vs other properties - delivered good traffic and revenue upside for them
- Feel peculiar calling out a single customer but that customer sales and marketing budget is bigger than the full advertising budget for Tencent so moving a few pp of ad spent from other platforms to others translates to several pp of upside to advertising which others may not understand
- One of the shoots of the new growth is there, I know it's EV - Nio/XPeng - when persuade people to spend 300k on SUV on a label that did not exist 2 years ago then don't do that by buying search keywords, do it through branding and then consequently for the drivers

of growth, recognize the importance of branding and brand investing and reaching 1bn of users in a branded environment which delivered through Weixin Moments

This is why advertising revenue trend was a little bit better than what people expected

Have been ramping VA real time in the last few days and no cannibalization, completely accretive
- This advertising is accretive and comes from short form video budget coming from this
- Think that figured out - answer is that if imagine a situation where Fox News app has moments advertising and then layered in short video advertising then probably some cannibalization since P&G would say elderly Republican voters - true for 99% of companies and apps but Weixin is the other 0.1% where majority of Chinese population is a moments DAU every day and when have most of the population being a DAU for you everyday then there is no cannibalization since the advertisers feel like reach through moments and there is no need to overindex to Weixin since then miss out on the consumers that don't use and Weibo since no such people in China
- Everyone is a Weixin chat DAU so as Weixin makes more inventory available then more opportunities to hit up the billion people who have mobile phones and in Weixin every day but no other market with other people that are missing out on by increasing the spend on Weixin

Q: Banhao change?
2018 - regulator changed from previously in some ways 'lite touch' to another regulator who is higher role is supervising
- When that regulator took over, then if 30-40 foreign movies is the right # then why not 30-40 foreign games and then 120 domestic games per year using the movie industry as a template
- Game industry wanted to go through how it was different
- Regulator has been trying to staff up to meet the much heavier volume of game applications vs movie applications and just hiring p people at the Beijing regulatory level that play games and speak Japanese to understand them better and some other part is adjusting the process, historically game company submits the game for approval by provincial regulator - goes through the game through the SEC for the first draft and come back with questions and changes and then iterations
- Third stage of regulator now going back to provincial to try and unclog so not expect this regulator to go back to the lite-touch approach but a desire to accelerate and streamline the process over time

Q: (Viking) Historically felt that Tencent undermonetize assets and then can monetize over time things like Tencent Meeting as a great tool, corporate Wechat - framework is still hard to understand - uncharted waters. Campaign type approach has normalized but also normalizing into a new norm of the regulatory framework - most of products have a strong market position - line between a fair monetization vs what might be considered as abusing the market power is hard to understand? How to approach monetization?
- Reason why have been cautious or progressive about monetization in the past has not been regulation - has been a view on the trade off between monetization vs market share that leads to monetization into the future
- For certain products / chat app / moments experience, particularly conservative since these products uniquely gift Tencent w/ a social graph that no one else has

- Gift that keeps on giving in the social graft
- Beyond that, have never not monetized for fear of regulatory response
- Feeding in the monetization over time
- Many instances see that it is not in the regulator interest to not monetize - EX: payment - earlier this year there was some publication by people's bank of China related to how Alipay and TenPay should migrate merchants using QR code solution to using POS solution and BBG / Reuters immediately hit auto publish on China regulator seek to prevent monetization
- Back to front / wrong - by move merchants from QR to POS to move from low take rate to higher take rate and then had to drop their stories
- Reason why reality is that people's bank of china has a supportive attitude towards union pay which is its investee company and union pay is built where needs 60bps take rate to operate and unionpay is unhappy that there are private competitors charge lower and want people to move to 60bps over time
- AliPay/TenPay better to forgot more market share and then focus more on profits and revenue -if provide enterprise SAAS free in perpetuity and then backlash that a big internet company use consumer to cross-subsidize enterprise in a way that makes enterprise a nuclear wasteland for private start-ups since enterprises trained not to pay for anything
- Tencent meeting / Ding talk - indeed monetization initiatives, better regulatory position since have monetization - do want to run these as businesses then if announce free forever and no entrepreneurship and buy capital
- Layer in contract pricing and then see ad load for video accounts

Q: Miniprogram? VA advertising is easier to underwrite case just because advertising a free business decision - miniprogram is more interesting since dominant position, Apple tax on their platform for building the ecosystem; Tencent just as strong ecosystem compared to that? In the past thought 15% take rate then can get to a certain value that is a huge amount of additional economics that no one models

- No regulatory risk to VA monetization
- Apple does 30% but Tencent does 30bps
- Reason desirable if payment MDRs were more harmonized
- SHOP excuse - EX: WMT - big miniprogram, may 20bps on WMT stores and then 20bps in miniprogram that does facilitation by Tencent SAAS tool
- With new SAAS tools then increase do a combined take rate for the miniprograms and for that and will ask another one for 60bps which is a fraction of what people pay SHOP in the west and no more what paying for union pay for in-store transactions
- Compelling argument that is fine from regulator since people's bank of China want unionpay to thrive and charge 60bps minimum take rate and this is reasonable and this sizing the impact
- **Miniprogram is trillions of RMB GMV and then if go to 30bps to 60bps then very incremental in profit every year**
- Feel progressively right size the monetization of miniprograms not objectionable and there are companies liek Weimob/Youzan that are charging much higher fees
- There are other companies that are intermediate for an unnecessary fee

Q: How do you think about the structural growth of the China domestic games business in an environment of constrained approvals? Especially if the government limits the annual number of licenses granted to the largest gaming companies and thereby force some level of

concentration of resources into blockbusters, how do you manage game prioritization and level of investment in gaming overall that you are willing to commit upfront if approval is uncertain? Also, how concerned are you that the licenses granted annually may or may not align with most monetizable/most addictive content and your willingness to be able to invest in big blockbusters?

- Not discriminate against the blockbuster
- Don't want to do Art Haus for Disney/Warner Brothers of the ~40 odd movies
- No adverse selection of favoring the lowest monetization games and just fewer games and within fewer games - Diablo, Undawn that do monetize well
- **How to address fewer games?** Concentrate resource on fewer bigger better bets but the other strategy is that don't learned anything from studying Diablo but learning LeGrange - big game companies have dozens/hundreds of banhao in dormant stage and then NTES can take the existing dormant game and reawaken it and make it bigger/better and that is fairly straightforward

Q: You mentioned that video accounts already have total time spent greater than 80% of moments but how much of a gap is there to Douyin / Kuaishou in absolute time spent per user per day - can you please share w/ us some metrics on user time spent? Also given the dominance of the incumbent platforms, how do you differentiate in terms of content and driving user behavior stickiness for sustainable growth in the long run in time spent vs just growth from a smaller base?

- Not that talking about growth from a smaller base for half a billion users, growth from a big base
- For the dominance of the incumbents, Bytedance is a great company, Douyin is commercially great product but Kuaishou thrives and there are social network which is a winner take all business
- This is a business where can see where Kuaishou thriving that there is room for two competitors and if loko at Brazil - TikTok strong, IG reels strong, Youtube shorts
- India - IG reels, Sharechat Mod is strong, YT is strong
- Basically in each of the big population companies, seeing that there are multiple competitors at scale and beginning to thrive
- Not that worried about the dominance of the incumbent since 1024 is less well resourced and then still thriving, IG reels thriving
- Content differentiation - have adopted the opposite path from FB/GOOGL, w/ FB and GOOGL, IG in particular - path was leverage IG pre-existing traffic into a tab that is increasingly reels-centric and grow the audience and then worry about content differentiation later - that is the stage for IG for India/Brazil
- This is not how Weixin approach - started w/ content differentiation and look that even before Douyin was a threat, need to have differentiated text and image content w/ official accounts then very clear that focus more on unique content then on popular ubiquitous content that is unique to official accounts or prioritize accounts that is there for world wide web and see official accounts to be differentiated content ecosystem unlike anything on China internet and then when launch VA many of the first users / content creators for VA are the official content creators who were doing text/images and then do video on top - first content that have on VA is inherently differentiated since came from the official accounts and financially incentivized to make this differentiated content and make it within Weixin
- Over time then layered on the social graphs so that people see content that follow from the official accounts but then of interest to their friends/colleagues that is unique to VA

vs the others b/c of the social/professional graph and then got to the IG stage of adding the PUGC that is there on Douyin/Kuaishou already
- Challenge was not aggregate differentiated content
- This is why on the earnings call, talked about the fact that views are up 200% YOY, AI driven video is up 400% YOY that in a situation where have the AI capabilities to take the ubiquitous content and target the user
- Gratifying that can do that but not surprising since Kuaishou has done it of much less scale and resources, IG did it in certain markets, YT shorts do it - while great that can target the PUGC it's not shocking that can do so but the key point is that layering the PUGC on top is the 3rd stage in the walk - not the first stage
- First stage was unique content, second was social graph/distribution, and third stage is the AI for distribution of ubiquitous content for the opposite of the IG

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SKIN @ Jefferies Fitness (Example 2)

September 14, 2021
CEO Clint Carnell
CFO Liyuan Woo

Summary: Very bullish call with the CEO and CFO - sounded very confident. Some of my key takeaways

- **TAM is "not one of the top 50 things the CEO worries about"** - AGN has 38k customers for Botox in the US and 120k internationally. Thinks that HF opportunity is way larger than the 110-120k placements since also have Sephora (500 doors before handheld device), Ulta, Clinique, Equinox / Lifetime (upper scale gyms), casinos, med spas, etc - 'entry level' means that can fit in a lot more locations. Maybe got a bit too bullish and comped this to Netflix before streaming was a big opportunity
- China is a big opportunity - Only went to China 2.5-3 years ago, fastest growing / high margin - despite ankle biter copycats everyone wants the original "made in the US" machine and consumers are sophisticated. **Overall, international expansion is all about execution** (not about TAM - already there with 3 month ROI paybacks - can payback faster if do a launch event and sell memberships)
- **M&A might be coming sooner than market expectations** - mentioned that building the platform does require M&A and converts were an opportunity to build $1bn of dry powder with less dilution
- **Effective customer targeting (only spend 6% on marketing but can punch above weight)** - EX: customer profile to bring to Global Evolution - 85% of the consumers never have a HF and then 85% say getting these on a regular basis. 10 consumers which get a HF - 2/3rds stick and 1/3rds are super with 6-8 times
- **NPS score of 80** - looking to continually raise since aesthetician excitement can drive a lot of returns

- **Not much revenue built in for the handheld device -** 18k+ providers can sell the product - go to the existing channel sales, will go moderate - not much baked in for Q4/2022
- **Product cycle** - made a mention that previous management did not really focus on upgrading the installed base and make equipment sales recurring, is a big opportunity especially with the upcoming launch
- **Newness is easy for HF since can always add new serums and products (**EX: closer to a Keurig machine with pods that can be variegated so easy to bring in new concepts and products, tailoring)

Q: Can you talk a little bit about M&A pipeline? Surprised to see the recent convertible raise considering your clean balance sheet - what are you considering with the funds?

- Building platform, M&A is part of the platform
- PIPE deals SPAC were oversubscribed so had been frequent dialogue for identifying deals or building a war chest, what's the take and the best way to tap into the market
- Everyone collectively reached conclusion on the convert market and construct itself to really protect against dilution so the convertible market was a winner

As go through the warrants then have ~1bn of dry powder, not money losing, looking at more string of pearls / category creation and build the organic platform and that has accelerated with global public - want high NPS score and see what curated and accretive to the P&L

- Buy the future
- Not financial engineer the company but want good gross profit margins and growth profile and something that can continue category creation
- Category creator has

Q: 3 month payback - ROI - HFists Facebook group and there seemed to be some complaints about price increases and ROI being not achievable since the serums and consumables are not measured - how do you think about variability of paybacks

- Put any consumer and provider group then say price is too high
- Car guy, suit guy, wine guy will all say that price is too high
- For the profitability model - gross profit is the highest
- As go into Q4 then go into price increase and then customer care for reprice the money and for the 10% price increase for $2.50 that increase the treatment that are $5-10 to make more money
- It's always a concern for training but that's always going to be an issue - bottom feeders do try and come in - make everything better, if have a Botox and then do HF - once Botox then fillers, and then asking for laser treatments and help providers make more money and consumers make more money but pricing is in the conversation

Q: How do we think about durability of facials technology? Cyclicality?

- Botox has a run and see this trying to build name recognition

- HF has been from 2005 - razor/razorblade, Bausch Health will take their IPO - took those brands and then still doing a lot of revenue 15 years later w/o innovation
- This is not a fly by the night
- New widget for new doctor - not a good business model
- Really about building new business and make the customers more health
- Secure about category leadership - management want to be #1 and customers have to be successful and happy with the results
- Fastest way to die is to look at someone next to you - focused on building great company

Critical point- guarantee newness, introduce new product

- If look at the consumables - almost like a Keurig machine - don't care about Starbucks or JDEP, can partner and deliver partners does the consu

Q: Handheld product?

- Not that much detail released for competitive
- 18k+ providers can sell the product - go to channel sales
- Good built in partners
- From tech will be approachable price point - roller ball, serum, baby gunker ⇒ it works
- Was an alpha subject, glow/skin feels good and feels like Sonicare toothbrush for weekly use - go to the dentist, better gums/teeth/whitening

Will be wifi connected and have RFID
When go to the provider and go to the app to download and hopefully after see the activity then see a coupon for a discounted HF for the providers - go into physical location and go to the office but place to interact w/ the consumer for the home

- Another step in good healthy skin care

Going slow - launch into Q4, being really measured
Haven't done any meaningful revenue in Q4 or 2022 - think that this is a longer term play to bring the community together

Q: Customer acquisition?

- Haven't disclosed this
- Really good at identifying consumers in the digital marketplace - know if PTON, Equinox, shop at Whole Foods, like red wine/travel - then have a HF then don't know
- Market to those on that - go to Global Evolution - 85% of the consumers never have a HF and then 85% say getting these on a regular basis
- 10 consumers get one - 2/3rds stick and 1/3rds are super with 6-8 times
- Good with deploying capital efficiently and getting more sophisticated on the geographies and consumers and drive to the physical location
- Historically can increase utilization and take price - rinse / repeat

- 40% learned from aesthetician and 40% learn from friends - just need more people to know - have to have aesthetician tell their friends but an execution related growth story

Q: Given your new equipment launch next year with digital display, does this fundamentally change the replacement cycle or speed up / accelerate purchases or is equipment replacement of the base fairly ratable?

- Just launched it to the sales force
- Everyone said raise the ASP
- For modeling purpose not sure how would change the pricing on it either - early and care about democratization and
- Delivery systems - handheld, partnerships with Sephora/Clinique with a smaller footprint device and meaningful upgrade path for current customers
- Would stick around thes ame ASP and then advise as get more information upon launch

Really excited about it - beautiful device, upgrade side - supply chain but this next gen technology - not change the model and will reset the denominator each year and know where things set up

Founders are amazing but then great first gen product

- Every 3-4 years want meaningful delivery system upgrades and then every quarters get some serum upgrades - even disrupting the way that interact and options
- Consumer want experiences, providers want to do relationship with great products and services / profitable and consumers benefit from it

Q: Looking at the US alone, how penetrated already is HF? Considering that you have 17k units and there are only 22k spas in the US and 8k dermatology practices - does that suggest that it's already fairly mature and equipment placements should be more challenging going forward? What's the real potential installed base potential for the US?

- AGN has 38k customers for Botox and 120k internationally
- Don't think that HF has just 110-120k doors - has more than that
- Sephora is next door and work on a handheld device - only 500 doors
- Ulta, Clinique
- Retail beauty partners - the two integration
- Day spa, experiential gym - Equinox / Life Time are large customers
- Meet the customer where live / work and pay
- Daughter/son are in 17-20 but not in a med spa for 15 years and never in plastic office so flipped upside down and moved the journey with them
- **TAM is not in the top 50 things that worry about**

Make sure that own the category, define the language and move faster with the first mover advantage but don't think anyone

- Ceasar's Palace largest account with 17 systems in 1 location

- Just need to raise placements and grow - more execution oriented but can do that

Q: Would you see yourself and shareholder structure as cosmetics or healthcare? Who is the shareholder base?

- Will say that 5 years ago PE firms were medtech investors
- CEO known as a consumer healthcare crossover guy - Lasik, Tomage Fractal brands, commercialized dialysis
- Closest is ALGN - Invisalign, goes through ortho/dentist but has a consumer facing brand
- Think have a bigger market and easier lift but closer lift
- Category creator - sit between nationaal area for beauty and health - healthy skin is beautiful skin
- AGN - Brent Saunders, doctors not great at consumer facing messaging
- L'Oreal great at store experiences and consumer but no clinical efficacy

Can do the most efficacious in beauty and most approachable in healthcare and that's where sitting uniquely in healthcare

- Have dual analyst coverage where have healthcare and consumer analyst and served well - also have some healthcare analysts that have followed CEO and bringing in consumer
- If look at the investors / DE-SPAC, blue chip and have both PMs in the space for healthcare and also category - a little about PTON, not the bike but the community that building and that's a lot of inspiration

Q: Brand awareness?

- High single digit awareness
- Most investors don't get it and then picked up a whole lot of new customers
- Going public is to double consumer awareness spend and get the new technology and build international structure
- 6% of marketing but punch above the weight
- PE was not marketing or private pay healthcare folks so when Brent approached it and had great platform and spend on international structure so straightforward - working on it but the relationship with Sephora

Fair point that spending is low
Set guidance at 181mm for 25mm on EBITDA that was conservative to historic EBITDA
Rephrased guidance to 200-230-240mm to preserve optionality for that reason

R&D is a fixed cost - one-time in nature, marketing is the variable expense
Sales and will be an execution vehicle for the company

Do CAC/LTV attractive

Land grab, global play but no one that lose money - profitable on the gross margins

Q: Commercial organization for delivery placements?

- Thought needed multiple sales teams but once realize that aesthetician then have hunter salesforce BDMs, training centers and then aestheticians can be trained with high ROI and then London experience center (go for free)
- Simple for salesforce - productivity per FTE
- 60-80 accounts being supported by the BDMs and then have back up support on inside sales and have HQ set up with treatment rooms for refresher
- Shanghai / Tokyo / Madrid / Long Beach / Orlando training localized centers - keep reps out for supporting the layer
- Aesthetician key to winning since if she is well trained then NPS goes up, consumer tells friend - really care about this
- Have to invest in HF Connect - largest university and deploy aestheticians - newbies and also masters (graduate through the 100 hours of HF support to be master trainings)

Q: Ramp to growth?

- **3 months to payoff system**
- Gross margins are 80%+
- Not the biggest $ amount vs surgical procedures like botox or lasers but from gross profit and inclusivity for all patients then it's the single best entry point and that's why named it beauty health
- Efficacious in beauty brands, most approachable price point, can do it easily
- Can sell 100 memberships on launch event and then pay off the system really quickly

Q: NPS system? How is it different before trained vs not?

- If go in and she's not in a great mood, doesn't walk through the treatment and then glowing but then did you like it - pretty good but my local spa always pamper me
- Then good NPS but not great
- When aesthetician is excited about this is the best thing that can do, do on the clean canvas - 3 steps and then gunk - see the gunk, where has been - NPS score goes up a lot
- NPS was 80 with aesthetician - have been training them and making more money and driving more consumers in, making money
- Best in medical aesthetics - low bar so want to be better in NPS

Q: How much runway do you see for HF growth internationally? If you looked at the # of potential spas, dermatologist offices, retail locations etc, what is the realistic TAM in Europe and APAC compared to the US? Additionally, how does international ROI differ from US ROI?

- Has been out there in 2005 so even in China/Japan/France/Italy/Spain are ankle biters - compete with the knock-offs for 12/13 years
- The lens that looked like it back then vs now and the
- Don't worry about TAM

Q: A lot of the TAM is outside of the US ($40bn Europe, $100bn APAC) - for APAC, where skincare/beauty products is already fairly ubiquitous and competitive (with many copycats), how do you think about the ability of HF to successfully penetrate? How do you think about the ability to replicate your success in consumer branding like in the US in international markets and how does the strategy differ?

Q: Since this is a Class 1 device, how competitive is this business and what's stopping others from replicating? Noticed that on Alibaba there were a lot of postings for 'HF machines' and in China there have been a lot 'HF' offerings even though it may not be serviced by your machine - is there significant private label competition where they can borrow the 'HF' brand and then sell machines?

- Only went to China 2.5-3 years ago, had one of the issues
- Trademark in Mandarin and fastest growing market and highest ASP
- Reason for it is specific for aesthetics - emerging middle class recognize a lot of their own domestic brands are inferior and look for US based for skin health so in the packaging - designed in CA and looks like a direct knock-off with Apple with different places to manufacture but the trademark/licensing / brand comes from same around the world and on the same on the systems, consumers, consumables
- Aesthetics is homogenous - whether Tokyo, Paris, Shanghai see the same thing regardless of the language but really militant on enforcing the IP and are successful there and do the trademark
- Can't put all the feet on the street for ankle biter but not a significant threat for that and const

Q: Company indicated 3.9mm treatments in 2019 ==> at $200, means a ~780mm spend and that's a huge % of the facial market (1.3bn supposedly). How do we reconcile the #s?

- Little goofy - don't think anyone knows what the facial market is and some of it is manual, cleansers at home
- Look at HF as a category
- Don't want to be evasive on it - spend a lot of money for BCG and don't give good counsel

TAM - before Netflix would say that TAM for a movie would say how many theaters, seats, how many butts into seats - after DVD then will have iPhone/Tablet/Hotel and then want eyeballs since want to have the concept and then their version of live/work/play for single digit stock and see not a direct analog so all want to get arms around TAM

- Just meaningful in that it is big since everything

News Monitoring

The primary analyst is responsible for all daily news monitoring, with the goal of catching inflections when they occur. It does take some experience to separate out noise (not important) from signal (important), so in the initial phases err on the side of over-communication vs under-communication. News can come out as official, easy-to-track down news news (EX: can see directly on BBG CN such as earnings, press releases, official company presentations and transcripts at conferences) or the more difficult, unofficial news (EX: company small group offline presentation with recent trends that got leaked, new government contract won but no official press release yet). The second news is much harder to find, but being able to separate out big stock moves driven by fundamental events (vs just normal market noise) is really important to help with tactical sizing and not missing potential important inflection points (however rare they may be).

We often get inundated with news and emails, so the best way to trigger a 'monitoring' search is when the following occurs:

- **Very large absolute positive or negative moves, especially relative to the market and the company's own beta** - For example, when a stock is a significant outperformer or underperformer to the market (EX: a low beta stock suddenly moving a lot). As a general rule of thumb, a stock that is -/+ 3% to the market or relevant sub-group (close sub-sector) is worth following up on, with your judgment on beta adjustment
- **Significant intraday price move that disconnects from the market** - For example, a stock that suddenly drops or increases intra-day while the market is quite stable
- **A sustained multi-day trend that disconnects from the market and yet no 'official news** - This one tends to be most concerning, especially in China where information disclosure is less 'fair' in nature. When this happens, it's our job to really dig and get to the bottom of what is happening. The multi-day re-rating trend (especially if it's disconnected from the market) is the highest cause of concern, especially since the probability of signal value is much higher (EX: activist involvement, M&A, etc)

Methods for digging (official):

- Look at Bloomberg CN (corporate news), AlphaSense for SEC filing / research / company presentation transcript aggregation. You can set up a NLRT too for a 'catch-all for portfolio news'
- Xueqiu, EastMoney for Chinese stocks

Methods for digging (unofficial):

- **China (especially)**: Ask the sell-side via email / Wechat (CICC, Huatai particularly good with news monitoring, MS / bulge bracket is OK but typically a little slower) or the company directly (especially for companies that release monthly sales statistics verbally). This is also why we want to keep very strong relations with our Chinese

portfolio companies. Sometimes responses can be delayed - use your judgment basis of how urgent the situation seems
- MS / GS / Jefferies / BoFA trader color

The majority of the time, especially for SMID-cap stocks, moves might just be a simple function of flows with no signal value, but we still have to do the monitoring activity to make sure we don't miss the *few* times when inflection / new information is available. News monitoring is particularly important in our China book since information is often more 'hidden' and requires more work to come out. I often find that jumping on a short ~5-15 minute call for a quick update on company news with sell-side can work well just to cover our base on data releases.

Frequency: We don't want stock monitoring to take away from daily work, especially since staring at Bloomberg screens is not particularly productive . The best way for monitoring is to check for big moves at the start of the US and Asia open and then periodically check in for changes, maybe ~3x during the course of US trading availability (and right before going to bed in Asia).

Communication: For big moves that are taking place, the primary analyst *proactively* flags the appropriate group chat highlighting the move and any cases. It's perfectly fine to suggest - "X moved up ~5% because of a broader move in China reopening names; I can't seem to find anything that suggests there is anything company-specific and larger cap reopening names are up half of that" if you genuinely can't find anything. This signals to the team that the move doesn't contain stock-specific information and shows initiative in the analyst having already looked. Note that if there is a multi-day trend, then the urgency to do a little more digging does increase.

Beyond news monitoring, if there are big regulatory changes, policy updates, government stance shifts that could impact our portfolio and themes, please send these out to the chat. It's always better to err on the side of comprehensiveness, especially at the beginning.

Bloomberg Helpful Functions

It's best to get BBG training and get your launchpad set up in a useful manner. Contact Joyce to get the FACT worksheet for monitoring current longs, shorts, various relevant factor / index baskets, and pipeline library names. ** functions are particularly important for modeling and reading efficiency

BBG –Bloomberg News is opened on your browser for logged in access to articles

BI - Bloomberg Intelligence for industry data (click around the different industry dashboards for specific data) - has a wealth of information including industry and alternative data sets that otherwise would be very expensive to obtain, such as the Symphony Data set for drug sales. For all bloomberg data, you can click and "export"

CN - Company news - a good function to check if there is a big stock news

DSCO** - Document Search (**TA** for transcript search, **BRC** for research search), good way to skim a lot of company, sell side, and news materials for keywords

ECO - Economic calendar

EEG** - Stocks tend to follow earnings and revenue revisions - this is particularly important for shorts where variant perception on revenue/earnings are a critical part of the thesis. Graphing EEG and seeing how the forward revenue / EPS estimates have changed helps contextualize the underlying business momentum given the historical persistency of beats / misses

EEO - Summary of earnings estimates helpful for earrings previews (though MODL is more detailed)

EQRV - Relative valuation multiples to the comp group - you can compare current valuation multiples "to self" (more useful) and also to a BBG generated comp set (which you can modify). You can select the data source for the comp set - sometimes the BBG / algo-generated comp set is not that accurate and includes companies that should not be included

FLDS** - Good way to look up any specific information stored in Bloomberg associated with a ticker - EX: employee count, stock price performance, forward multiples, etc. You can then go into the specific field, adjust the time period or metric, and then click/drag into excel

GF** - You can graph all different types of fields - this is helpful particularly to get a sense of historical multiples (EX: Rolling 1BF P/E metrics over the last 5-10 years) for multiples-based valuation metrics

GPCA - Graph Price Corporate Action - We can see from this annotated chart any key earnings, insider selling / buying activity, M&A and other activities - good to get a quick historical snapshot of the company

HDS - Use this to check the holders list. If there is more hedge fund ownership, expect some volatility

MODL** - This is the best function to see decomposed estimates in consensus. To add one of the MODL fields to your own model (for easy comparison of your estimates vs consensus), just click and track the field into your excel model directly

SI - Short interest tracker - when short interest levels are >15% of float and days cover ratio is elevated above 7 days, we want to make sure sizing takes into account the risk of squeezes

SURP - Tracks stock price performance into earnings announcements - this is a helpful screen to identify transcripts to read since often times the big up/down moves are associated with company inflections or big changes

TOP - See top news

Key Core Resources

Below is a key listing of FACT resources

Alternative Data - You can see current version saved in the _Data folder in the shared driver

- **MScience data portal + credit card data via Sundial ** -** MScience is our primary data vendor - our account contact is Stephanie Von Der Luft <svonderluft@mscience.com>. The credit card data is very helpful for our consumer names (allows us to query and evaluate spending by company ticker), while the internet/consumer/technology/China tech data sets are useful for previews. MScience is a comprehensive platform and we have "all you can eat" access such that we have research reports across industries. The Sunday recap is particularly useful
- **Big One, Data Burning, Yipit** - We meet these vendors once every quarter for data downloads and trend identification
- **BoFA credit card spending data -** published bi-weekly , can be requested via BoFA
- **Questmobile** - can be requested Jefferies
- **SensorTower** - can be requested from MS
- **TaoSJ** - can be requested from CICC - note that this data is now somewhat less useful compared to BigOne/DataBuning given that Taobao/T-Mall has been losing share among brands and not capturing JD / livestreamers loses an important component of data

Expert network transcript databases and group calls - A big way to make sure that group calls are value-add to us is to submit questions in advance via email so the moderator can cover our specific concerns. Do not leave this up to chance! The moderator is NOT as knowledgeable as you are and we want to make sure that our main focal points can get covered.

- **BWG -** Very helpful for various themes associated with the portfolio - in your notes, given that many people participate in the panel, make sure to identify who the speaker is by downloading the expert list from the BWG website in advance (or searching through emails to reconstruct the speaker in notes). BWG notes are not as detailed as the actual call so sometimes it is worth it to attend or have one our RAs attend on our behalf. Submit questions in advance at rsvp@bwgstrategy.com

- **Pamirs -** Get added to the WeChat group for various group calls on key subjects
- **Tegus -** Database is particularly strong in tech, but reflects actual 1x1 buy side calls released on a time delay
- **Third Bridge - Particularly helpful for group calls in Asia with a full transcript released** (hence less important to attend real time unless an urgent takeaway needed). That being said, it's very helpful for the transcript to reflect exactly what we are looking for by submitting questions in advance of the panel at questions@thirdbridge.com

Bespoke expert networks - As per our investment process document, **it's often a big advantage to recruit your own experts for targeted outreach** (you will always know better than the service provider) and then use the expert networks primarily for compliance / onboarding purposes. The expert networks make the most money by recycling their database - many of these contacts may not be as relevant. Be specific in your requests in the type of role, experience, and background you are looking for, with screening questions a helpful way to evaluate the call. If a call is not going well / not helpful, then feel free to cut it short - your time is the most important

- **Stream / Mosaic** - request tickers to the portal or contact Carrie with a request Carrie Ellis <carrie@g.streamrg.com>. Stream is our cheapest expert network provider but they sometimes are not very timely so worth requests
- **Tegus** - request experts to Sara Jacobs <sara.jacobs@tegus.co> Tegus is a transcript database as well so worth searching through as that as well
- **BCC** - This is our cheapest China network, but sometimes they tend to recycle the same experts so make sure you request specifically what you want. Chris Hu <chris.hu@bcc.global> and David Baine <david.baine@bcc.global> are our main contacts
- **Capvision** - Probably the best quality China network but more expensive. For more simple consumer/distributor checks, we can request half rate for half hour, which is often very useful since then we can get 2x more perspectives for the same budget. Our Capvision contact is Vanessa Niu <vniu@capvision.com> and Harrison Greiff <hgreiff@capvision.com>, but we can copy in many of their supporting analysts as well (see below) - Kathy Cheng <kcheng@capvision.com>, Maria Peng <mpeng@capvision.com>,, Vivian Shao <vshao@capvision.com>, Carol Long <clong@capvision.com>, Maolin Liu <maoliu@capvision.com>

Model historicals

- **Canalyst** - very helpful for very clean historicals; can also use the program (recommend the lite version) for historical updates. Canalyst is helpful for screening and evaluating business models quickly, but we require our own models for core portfolio positions

Recordings: For internal use purposes and for compliance checks, recordings can be accessed in the following area:

- **Feishu (Lark)** - This is for Chinese transcripts / recordings - make sure to share with the FACT Capital group
- **Otter AI -** This is for English transcripts / recordings. A helpful way to record is to dial in to calls/Zoom (connect via phone audio) via Skype and to use the mp3 Skype recorder

Daily and Ideation Journals

You can see Joyce's ideation journal as an example but we keep ideation journals to keep track of the progress on our work and reading, as well as a record of library mining. A lot of the work we do requires **good time management** and being able to be efficient in going through tickers in a methodical way to drive actionable conversion. The journals are purely self-directed and meant to be a helpful tool for you to manage your own time in a commercial manner. In addition, the ideation journals are a way for you to help communicate with the team your progress on reading and the takeaways from the various calls and events that you attend.

Especially given travel / hybrid work, a daily update helps the team keep track of your progress. **Notably, the daily entries are NOT meant to be just a written recap of your calendar, but rather, actionable takeaways from your exploration of a stock, especially in the case of reading where there is less of a 'written trail'**. There are typically 3 sections to an update. Try and send these out daily at the end of the day - if you miss a day within a week, it's not a problem, but do your best to be consistent. These journals are a helpful tool when you revisit work into the future. An example is given below

As seen in this example below, there are typically 3 sections

- **Maintenance** - In this section, go through calls and your reading for insights and impressions. One sentence short summary is sufficient
- **New work** - Discuss progress on new ideas - this is a helpful place to raise a red flag in your reading or any helpful initial impressions (more detailed work can be found in separate emails and notes)
- **Areas of help** - You may not always fill in this section, but this is a helpful area for new analysts to flag where they are getting stuck and request help for us to follow-up with

A best practice tip is to treat the daily entry almost as a bullet journal for goal setting - to write out what you want to accomplish at the start of the day and then to fill in your progress at the end of the day. **Using your time strategically is one of the most important skills of an analyst** - markets move a lot and especially for shorts, if we don't get through our pipeline in a timely basis, we might end up missing the trade. The journal is an opportunity for you to express directly your views and to highlight in the investment reading and exploration if at any point there is a reason to drop the name or escalate faster.

Sample daily journal entry

August 10, 2022 (Wednesday)

Maintenance:
- **SKIN CFO Call** - Positive that there is likely no 2023 equipment cliff and the rationale for flowing only 50% of the beat through, but the risk to the model is that delaying international Syndeo to 2023 launch means the EBITDA % accretion could be more modest than assumed
- **TASK CFO Call** - Consistent with our analysis and guided 2023 to be at least higher than HSD growth (industry growth) - we will give them feedback on they guide
- **China consumer / internet calls** - So bearish across the board - Chinese just seems so difficult…
- **DAVA check (GLOB)** - Not helpful but she seemed positive on IT services being resilient overall but dependent on customer mix (odd that she said gaming is NOT recession resilient but otherwise consistent)
- **MTTR earnings review** - Squeeze aftermarket but subscription guide down and M&A benefit to total seems like there shouldn't be any significant improvement in sentiment on the name but the tone on the call seemed reasonably bullish still
- **BoFA travel call** - Economy hotels not doing well, urban/business is still recovering. Seemed most positive on MAR/franchisor hotels, airlines already seeing some peaking / normalization taking place

New work:
- **IIB vs IPRU reading** - Sent out thoughts and the recommendation in an email (see separate chain)- frankly IRPU despite being less upside than IIB is easier than some of our China names, but the recommendation is that IIB has more exciting upside and we should add some to the
- **AVTR reading** - Read through the prospectus/10-K to get more company background - seems quite cheap for the growth but company communication has been poor creating this big multiple gap

Areas of help:
- Let's discuss IIB vs IPRU at the next portfolio chat and how to trade a potential starter position

Library Mining / Ideation

The ideation journal is also where we keep our library mining when we undergo this exercise on a weekly/bi-weekly basis - below is an example. Ideation is the last stage of analyst development and requires the pattern recognition experience gained through living through multiple economic cycles and evaluating many different business models. However, we think that practicing ideation is like exercising a muscle for analyst development - it's good to periodically train your creative thinking about the big potential microthemes that can drive substantial stock price performance.

Nevertheless, from a practical perspective, it's easier to convert library names into the portfolio (from which there is pre-existing work and familiarity) compared to starting the work on a purely new name. It's a logical fallacy to assume that the time to invest is when you complete the work - oftentimes, we'll do a lot of work on a name, put it on active bench, and then strike when the valuation becomes attractive whether on broader market sell-off or some company specific event. Library mining means going through past tickers from which you've done work and identifying whether it's potentially interesting to **convert at this specific time**. We try to go through the library mining exercise every 1-2 weeks since then we can capitalize more efficiently on existing work, as well as periodically engaging in fresh new ideation to bring in new creativity and potential big new themes in our work.

FACT has a unique model where team compensation is dependent on contribution to overall book performance - this is why the team comes together to decide what are the most actionable potential ideas and then sets our work targets (both long and short) based on commerciality. Specific tickers are then assigned in our [Ideation Tracker], with target deadlines and full team visibility.

August 30, 2022 (Tuesday)
Short list of 'easy' European swaps
THO ⇒ Dometic / Thule / Fluidra (pool construction)

- Same outdoor normalization but more to Europe and these all have higher P/E multiples than THO right now. Thule is the highest quality but also the highest multiple and their products do last forever

JWN ⇒ To play the same theme, can also stick this into one of the European retail / apparel shorts (HMB has the most similar characteristics, but lot of other low quality apparel / retail discretionary names)

LOGI ⇒ This is semi Europe already but can switch into a Curry's (seems to be structurally losing share in electronics) or an Electrolux (appliances)

- Since LOGI is lower beta, can also consider one of the ad agency holding companies (note that neither WPP/PUB are seeing much slowdown but maybe this is yet to come…these are low beta), or one of the more idiosyncratic healthcare names (like hearing aids or Elekta on gamma knife competition) or this MIPS stock which is 30x PE for expected 30% growth (not sure if the growth #s are realistic) - https://www.cyclingnews.com/features/what-are-mips-helmets/

High growth Europe short hedges:

- **Ocado earnings genuinely reads like a disaster** - Ocado retail is negative right now and their big grocery capex investments seem less needed in a post COVID world
- **OPEN ⇒ This this is a good IR short but if we want to play in Europe, can choose one of the home retail names** - I am not familiar with many of these so I am doing reading from the start, down a similar level to OPEN
- **AMBU** ⇒ Large # of shorts in this name (a little scary when you look at SPOS) but it's 75x PE for literally ~10% revenue growth. BSX is also launching a lot of new products into its core end market and when we did channel checks on how BSX single use endoscopy compares, there is no specific reason why Ambu would be preferred

European Shorts

Themes that emerged from looking through the list that are addressable to us: *Note that there were also quite a few cyclical shorts that I did not include in this thematic summary since it's not part of our investable universe (fertilizer shorts, polysilicon shorts, seismic O&G exploration shorts)*

- **Apparel shorts -** HMB was a top short, along with Next, Zalando, B&M Retail, Boozt SS (a smaller online retailer), Asos, Boohoo, and lots of other consumer discretionary (EX: Pandora on jewelry reversion) and mall REITs like URW (SPG has also done poorly in the US)
- **Home improvement shorts** - Howden Joinery for kitchen renovation, Husqvarna for outdoor power equipment / mowers, Kingfisher for hardware/home decoration, WIX LN for home improvement products in the UK, TPK LN for building materials - makes sense on the broader housing slowdown
- **Electronics retailing and niche COVID beneficiary retailing**: Curry's PLC for electronics but also smaller companies like Clas Ohlson for camping / hobby equipment and this small company MIPS SS that manufactures helmets for sports (showed up a few times), Domestic for RV components, Thule for the big storage boxes for outdoor activities on top of cars (appeared twice), Technogym for gym equipment for the gym
- **Ad agency holding companies** - PUB/WPP are both shorts that got sized larger - granted, they haven't really worked and the earnings commentary has been generally robust thus far but the fear on advertising cyclicality is definitely there and could be a lower beta Europe "hedge" short
- **Food delivery business models -** Hello Fresh, Just Eat (I think that this one is a secular short given that they are losing a lot of market share in an execution business), Takeaway, Deliveroo, Delivery Hero, Ocado group for online grocery - maybe these shorts are happening on trade down or consumer softness but there are quite a lot of them
  - There are also supermarkets like Carrefour and Casino Guichard-Perrachon (hypermarket formats) and this UK pub JDW LN EQUITY appeared in both
- **Infrastructure as heavy shorts**: Ferrovial, Rentokil (expensive stock - same short as ROL in the US but more Europe-centric), along with various telecom equipment names and heavy PMI names like Alstom

- **Airlines / travel** - perhaps on peak travel demand and high fuel costs, but all the various European airlines were included (but this might be less good fit for us given the amount of work associated in monitoring) and also names like SAGA / TUI as traditional agency bookings businesses
- **Shipping and logistics/mail** - Shorts in the form of dry bulk, tankers listed in Europe but also in las tamil male like Royal Mail and PNL NA for parcels and postal delivery services

They also had BPO shorts in the form of Teleperformance (expensive for growth) and ATOS (massive restructuring, execution challenges) - while BPOs are recession resilient, seems like these have specific issues in mind

Names that seemed idiosyncratic / lower beta healthcare shorts:
- **GN Nord / hearing aids** - very big change happening in US reimbursement for hearing aids (more OTC reimbursement); softness in volumes across the board for a formerly high multiple sector - Sonova was not on the last (Europe listed), Demant (also Europe) have traded down significantly on this change
- **Eurofins Scientific** - testing stock that historically had really bad corporate governance but really benefited from the life sciences boom
- **Elekta** - Manufactures the gamma knife which as we know from Hygeia, have a lot of China domestic alternatives - also sensitive to broader hospital capex which we believe will be quite weak for the foreseeable future
- **Ambu** - showed up quite a few times, non-invasive surgical care