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SMARTKARMA INSIGHTS

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Number

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Osbert Tang, CFA

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Europe
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CPI Trend
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Mercari's Game Changer

Focus areas

Achieved monthly GMV of 100 million USD

Awareness

Approx. 1.8 times increase in awareness due to strengthened brand marketing

Making Selling Easy

New shipping option
- Same-day delivery (Mercari Now)

284 million USD in Q4 (YOY +183%)

109 127 160 284

+183%

Q1 Q2 Q3 Q4

GMV YOY

Mio Kato

Impact of Hong Kong Connect in Investm

Energy
Materials
Industrials
Consumer Discretionary
Consumer Staples
Health Care
Financials
Information Technology
Communication Services
Utilities
Real Estate

Southbound Sector

s Increasing Impact the IPO Process

ESG Language Density in IPO Filings

Asia Pacific
Europe
North America

Kyle Rudden

Rising Demand for Better Governance in Jap

"Investors want better 'gov however, international inves more than improving the box-t prized by many Japanese co

al Central Bank Policy t its Lowest in 15 Years

nted average of central banks (nominal) policy rates (%)

Feb 07 Oct 08 Jun 10 Feb 12 Oct 13 Jun 15 Feb 17 Oct 18

Olivier Desbarres

Fundamental Analy Additional Tier 1 (AT1) P

Top 5 Banks: credit fundamentals beneficial to AT1 investors.

"... given the choice between a security issued by one of these institutions and that from another bank in this report... we would prefer one of our top picks."

Bottom 5 ban not beneficial to AT1 investors.

"... given the choice between a security issued by one of these institutions and that from another bank in this report... we would prefer the other bank."

Hank Calenti, CFA

Number

Osbert Tang, CFA

ccounting Red Flags in Asia

ur model to identify the most risky candidates across Developed Asia from an accounting standpoint. This yielded 41 companies with an absolute accounting risk score of 8 and above."

Ankit Agrawal, CFA

Sunpower: Shining Bright as China Recovers

Mar 2020 May 2020 Jul 2020 Sep 2020 Nov 2020

Nicolas Van Broekhoven

How Does Liquidity Relate to Rising Gold Prices?

CPI Trend
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Gold Price (US$)

Michael J. Howell

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Price Confidence

Authenticity
Price Suggestion

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+183%

Q1 Q2 Q3 Q4

GMV YOY

+ Changes in external environment

Mio Kato

Sectors to Watch on the Road to 5G

PCB & SMALL CELL TECHNOLOGY PROVIDERS

5G INFRASTRUCTURE VENDORS

SMART PHONES DEVICES

SELECT TELCOM OPERATORS

Mitchell Kim

Rising Demand for Better Corporate Governance in Japan

"Investors want better 'governance', however, international investors seek more than improving the box-ticking form prized by many Japanese companies."

David Blennerhassett

Impact of Hong Kong Stock Connect in Investment

Energy
Materials
Industrials
Consumer Discretionary
Consumer Staples
Health Care
Financials
Information Technology
Communication Services
Utilities
Real Estate

Southbound Sector Holding (Weekly, USD m)

Sumeet Singh

Research
Reinvented

Welcome to Editor's Picks 2020 Edition

Here we are, against all odds, at the end of 2020!

When we started out this year, we had a course laid out for the next 12 months - milestones we wanted to hit, goals we wanted to achieve. Like every business on the planet, pretty quickly we came to the realisation that things were not going to go as planned.

Despite the challenges, we found that, more than ever, our convictions hold true - we have always maintained that online networks thrive and unlock true value when they facilitate connection, collaboration, and distribution of knowledge. And never was this more evident than during 2020.

So the crisis turned into an opportunity - an opportunity for us to grow, adapt, and do good.

This year, we saw increased productivity by Insight Providers as well as heightened activity by clients. Focusing on improved technology, enhanced marketing efforts, and refined internal processes helped boost the visibility of Insight Providers' work.

In May, we held our first-ever online event, INSIGHT 2020 - a four-day digital conference featuring over 90 speakers and more than 1,700 attendees, with all proceeds going towards UNICEF's COVID-19 relief efforts in the East Asia and Pacific regions.

We also ramped up our webinars, with Insight Providers offering weekly insight into current topics, while our Corporate Solutions enabled many listed companies to hold critical meetings virtually, such as AGMs, investor roadshows, and so on, at a time when several firms faced challenges moving their Corporate Access online.

And you can rest assured we have plenty more exciting news to share in 2021!

In the meantime, we're excited to once more present our Editor's Picks compilation, 2020 Edition - a showcase of investment intelligence through the lens of the Smartkarma network. This collection of Insights is meant to be an illustration of the depth and breadth of insight found on our platform - a snapshot of what you can expect to see as a Smartkarma subscriber.

In the following pages, you will be able to see for yourself a sample of the efforts of Smartkarma and the Insight Providers publishing on our platform. If you want more such Insights delivered to you in real time on your desktop or mobile, visit smartkarma.com.

Smartkarma unites Independent Research Providers, Investors, and Investor Relations in one network.

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David Blennerhassett

Pan-Asia Catalysts/ Events | Quiddity Advisors

David Blennerhassett is a highly experienced sell-side analyst covering Asia Pacific equities. For the past 13 years he has been immersed in event strategies encompassing M&A risk arbitrage, directional long/ short, stub trades, and restructuring.

Areas of Expertise

- Primary Asset Class: Equities
- Geography: Asia Pacific
- Countries: Generalist
- Sectors: Generalist

Content Verticals

- Event-Driven

GMO Internet | Event-Driven

Corporate Governance In Japan

By David Blennerhassett | 21 Jan 2020

EXECUTIVE SUMMARY

If effectively implemented, the Japan Corporate Governance Code, the Japan Stewardship Code, the Engagement Guidelines and the CGS Guidelines would also represent a sea change in the role of Japanese boards in terms of management selection, management compensation, and capital deployment. *If*. This is largely a 'soft" law rather than a hard regulatory change, limiting the regulator's power to address minority rights.

There is a need to see improvement in governance, independence, board structure, and capital stewardship by a very large number of companies in Japan. Enhancement of diversity on the board will enable increased effectiveness and also strengthen companies' governance structure.

Investors are calling on companies to hire outside board members and tackle cross-holdings. The TSE-mandated Corporate Governance Code seeks at least two independent outside board members for listed companies and preferably a third, a majority, and provides an example of "at least one-third independent directors". But these examples, and other much-needed changes, remain inadequate.

One of the fundamental problems with the combination of the Japanese Corporate Governance Code and the Companies Act, and the lack of liability of directors for their own decisions, is that they can hang their hat on irrational economic arguments and there are no repercussions.

Investors want better "governance", however, international investors seek more than improving the box-ticking form prized by many Japanese companies. Analysing non-box-ticking ESG/governance is difficult. It is difficult to track and analyse. And even if box-ticking is evident, it is not necessarily true that doing so will raise long-term equity returns. It is possible it will raise costs, which would lower profit growth - this may be good for society, it may not be good for valuations.

International investors are more concerned with improving information access, management responsiveness to investors, and management efforts to make companies become better economic engines. International investors would like to see companies concentrate on their business rather than see them run long-short funds (i.e. hold cross-holdings) with investor capital, hold excess cash, or invest in real estate as an alternative source of income.

A Consultation Paper reviewing the TSE cash equity market - first mentioned in December 2018, followed by a Market Consultation, culminating in four documents posted on the FSA's website last November - make it clear to the TSE, governmental, and regulatory authorities that existing governance and stewardship levels don't cut it.

For now, there's a lot of technocratic navel-gazing.

DETAIL

In the midst of the TSE's exercise in trying to gain international credibility for its market structure, rules, listing criteria, and governance - having introduced new Corporate Governance Code amendments in 2019, launched a public display for TSE companies of how to unwind cross-holdings in 2018, seeing new METI guidelines on MBOs and Fair M&A in 2019, and over the past 12 months a TSE/FSA/semi-public discussion about changing the market structure of the TSE - the TSE will now amend its Listing Regulations to require only two years (instead of five) of auditor-approved financial reports to go from TSE2 to TSE1. Which ultimately looks like an utter gift to Toshiba Corp (6502 JP) .

The ongoing Ghosn/ Nissan Motor (7201 JP) fallout also spotlights the key governance issues. Sarah Parsons of consultant outfit Perspective opines that while corporate governance scandals are not the exclusive domain of Japan, unique cultural factors enable inadequate internal controls to propagate.

Parsons assigns blame to "insiders" or the impenetrable network of middle-aged men within the same company. Instead of raising their hands when issues unfold at the senior level, the choice is made to maintain harmony and not stir trouble.

> *Given the strict hierarchies in Japanese society, expecting individuals to blow the whistle on their peers – or, even worse, their seniors – is a cultural no-no.*
>
> *The consensus-driven and long-winded nature of Japanese decision making has in some cases led to a lack of willingness to be accountable and a tendency to avoid the consequences until forced.*
> *Parsons*

1. An Introduction To Corporate Governance In Japan

Companies in Japan are typically regulated by the Companies Act (Act No. 86 of 26 July 2005). In addition, listed companies in Japan are regulated by the *Financial Instruments and Exchange Law* (FIEL) and the *Securities Listing Regulations* (SLR) published by *each* securities exchange in Japan. Nevertheless, the securities exchanges in Japan generally follow regulations issued by the Tokyo Stock Exchange (TSE), Japan's largest bourse.

- Should a specific provision of the Companies Act be breached, shareholders or creditors can bring a lawsuit against the company. Japan's Financial Services Agency (FSA) enforces FIEL wherein certain indiscretions/violations may incur monetary fines or prison sentences, or both.
- The relevant securities exchange that issues the SLRs also enforces them. Sanctions for violations can range from issuing an improvement plan through to delisting in extreme situations.

2. Recent Developments

Since its introduction in 2006, the Companies Act has been quite amenable as to the board of directors' composition and the installation of a corporate auditor. SLR revisions in December 2009 then required at least one independent director and corporate auditor, provided such appointments were in conflict (i.e. an existing business relationship) with shareholders.

- On the 1 May 2015, a newly enacted Reform Act required large public companies to have an outside director, and be subject to explanation at the AGM if this was not in place. This was preceded by a TSE edict amending its SLR in February 2014, requiring listed companies to make best efforts to elect at least one independent director.
- The Corporate Governance Code (Code) was issued by the TSE on the June 1 2015 and was/is applicable to Japanese listed companies with an aim to facilitate and improve "*growth orientated governance*" such as a need for fair, timely and transparent decision-making. The Code also required that listed companies should appoint at least two independent directors.
    - Subsequently, Mitsubishi UFJ Trust and Banking (a major passive asset manager and trustee) said it would oppose the appointment of all board members if companies do not have at least two outside directors; Sumitomo Mitsui Trust Bank said it would oppose board appointments at companies with parent entities unless at least one-third of the board was made up of outside directors.
    - Asset Management One (a major domestic asset manager with nearly US$500bn in AUM) called for outside members to attend at least 85% of board meetings instead of 75% previously. Tokio Marine Asset Management also considered opposing appointments of outside members who had been in office for more than 10 years.
    - JPMorgan Asset Management reportedly decided to oppose appointments of presidents and other representative directors if outside members do not comprise at least one-third of boards. JPM previously opposed appointments only if companies did not have two or more outside board members.
    - According to U.S. consulting firm Spencer Stuart, the average percentage of independent outside board members in the US is 85% and 61% in the U.K, which compares to 33% for the top 100 Japanese companies.
- On June 1, 2018, the TSE announced revisions to the Corporate Governance Code regarding the following issues:
    - Cross holdings: does the company clearly explain the purpose (& appropriateness) of each cross-shareholding and the status of its cross-shareholdings, including any changes in its cross-shareholdings?

    - Does the company make clear its policy regarding the reduction of cross-shareholdings, and take appropriate actions in accordance with the policy?
    - Sony Corp (6758 JP) had not been a company prone to cross-holdings. Its holding in Olympus Corp (7733 JP) genuinely *originally* had a purpose but SONY decided that cross-holding had now served its purpose, and Sony announced last August it was selling its 5.05% stake in Olympus. This is Sony taking the JPX/TSE's guidelines and example (when the TSE announced the sale of its stake in the SGX) - without specifically mentioning the Corporate Governance Code - from March 2018 to heart.
    - Bank Of Kyoto (8369 JP) sold shares in Nintendo Co Ltd (7974 JP) last February, but it was not clear the sale was because of a new focus on policy cross-holdings, or just BoK topping up profit before the end of the fiscal year. BoK later said it has no intention of selling any of their other 'designated shareholdings' in Nintendo, Omron, Kyocera, Murata or anyone else. *This should be considered a failure of corporate governance for the bank with regard to its own shareholders as the ROE on those holdings is lower than anyone's target for the bank.*
  - CEO Appointment/Dismissal and Responsibilities of the Board: Is there an established policy on CEO qualifications in order to appoint a CEO who can make decisions decisively to generate sustainable growth and increase corporate value over the mid- to long-term?
    - Is a qualified CEO appointed through objective, timely, and transparent procedures, deploying sufficient time and resource?
    - Is the board of directors constituted in a manner such that it is equipped with appropriate knowledge, experience, and skills as a whole and ensures diversity, including gender and international experience?
  - Stewardship for Asset owners: As a pension fund sponsor, does the company take measures to improve human resources and operational practices, such as recruitment or assignment of qualified persons, in order to increase the investment management expertise of corporate pension funds (including stewardship activities such as monitoring the asset managers of corporate pension funds), thus making sure that corporate pension funds perform their roles as asset owners?

3. Committee vs. Corporate Auditor

Prior to 2015's Reform Act, companies either had a corporate auditor or committee structure. In most cases, a corporate auditor was in place, which audits the execution of the director's duties. A committee oversees auditing (directors' duties and salaries, appointments/dismissals) and monitoring functions. A majority of the committee must comprise outside directors.

- The Reform Act introduced a third structure, an audit committee, comprising at least three directors, the majority of which must be outside directors.
- The '*comply-or-explain*' rule for the appointment of outside directors under the Reform Act introduced in May 2015 has helped improved corporate governance, together with clarifying the liabilities and rights of parent companies with and their subsidiaries.

4. Board Structure and Composition of the Board

- **Corporate auditor.** While a company may opt not to elect a board of directors, as is its right under the Companies Act, most companies do so, and this requires at least three or more directors. Except with a company with a committee, a company with a board of directors is required to have a corporate auditor. The board has authority over the company's management, while a company's management decisions are the responsibility of other executive directors. The corporate auditor audits the execution of duties by directors.
- **Committee.** The key difference with a company with a committee is the potential delegation to executive officers in deciding the acquisition of assets, drawing down debt and appointment/changes to staff. The audit committee not only audits the directors' duties but also the appropriateness of those duties.
- **Audit committee.** The board will still implement internal control systems and supervise the business execution by other directors. Material operational/business decisions rest with the board; although shareholders are entitled (via the company's articles) can enable the board to delegate decisions to certain representative and other directors.

5. Delegating

Corporate auditor. Certain and generally standard day to day operational matters are delegated to representatives and other directors; however such delegation is unlikely to extend to the buying/selling of significant assets, the taking on of material debt, issuing shares and signing off on audited financial statements.

Committee. The nominating, audit and compensation committee all fall under the remit of the Companies Act and cannot be further delegated. Separate to the responsibility of the committees, the board has overarching decision-making authority with respect to management policy and the execution of the audit committee's duties; amongst other matters.

Audit committee. Similar in respect to a committee.

In Japan, the board normally appoints the CEO (or its equivalent) from among its representative directors (for companies with a corporate auditor *and* a board of directors, or a company with an audit committee) or representative executive officers. That CEO will chair the board meeting.

6. Remuneration of Directors

- **Corporate auditor/audit committee:** the aggregate amount of the directors' remuneration is decided at a shareholders' meeting, and the board determines each director's salary within the parameters of this aggregate amount.
- **Committee. No shareholder approval is required.** The compensation committee decides each director's remuneration.

In addition, a listed company must disclose in its securities report a breakdown of the payment (salary, bonus, stock options etc) for each director/corporate auditor/executive officer if the remuneration for the fiscal year is ¥100mn or more. How this remuneration is determined must also be disclosed.

7. Precaution-type Anti-takeover Measures

(with assistance from Travis Lundy)

Typically in a takeover process, a bidder must furnish adequate information to the target's board as to the background of the bidder and the deal terms of the bid. The bidder must desist from acquiring shares in the target until such time as the target's board has reached a conclusion on the deal terms, which is required to be completed within 60 days.

- If the bidder does not comply (i.e. it *does* buy shares) and/or the board concludes the takeover will damage the company, or that the takeover will limit the value of the company, anti-takeover measure may be implemented. This may take the form of using warrants (free of charge or perhaps ¥1/share) to shareholders, which the bidder cannot exercise. (Such measures cannot, however, cannot be taken with the goal of entrenching the management or the board.)
- In Japan, the *Bull-Dog Sauce* case in 2007 was not the first instance where warrants were issued to shareholders to thwart a takeover, but it was the most famous. The Supreme Court decided that if the shareholders (who actually hold the company's corporate value) deemed the takeover to be damaging or likely to harm the value of the company and recommended the issuance of warrants, the issuance would be deemed valid. The warrants in that case were approved by 83% of shareholders.
    - Subsequent to this case, there have been fewer hostile acquisition attempts. PGM Holdings launched a hostile takeover bid against Accordia Golf in November 2012, however, the tender offer failed. Similarly, in March 2013, Cerberus Capital Management's hostile bid for Seibu Holdings Inc only resulted in Cerberus increasing its stake to 35.48% from 32.22%. Prospect Co's hostile tilt for Yutaka Shoji in December 2014 failed to acquire 51% of shares out.
    - Furthermore, FIEL's tender offer regulations were amended around the time of the Bulldog case, such that the Offeror was required to provide more detailed information on its offer. In turn, the target had the right to submit a questionnaire to the bidder. The effect of these amendments was a reduction in companies issuing or adopting anti-takeover measures subsequent to that, and poison pill measures have declined in popularity since then.
- The *Takeover Defense Measures in Light of Recent Environmental Changes* report by METI's Corporate Value Study Group, published in summer 2008, included the phrasing:
  "corporate value and the shareholders' common interests" is referred to as "shareholder interests"... and this report will follow this usage of the term. In relation to this, "corporate value" appearing in the "Guidelines" and in this report is conceptually assumed to be "the discounted present value of future cash flow of the company". This concept should not be arbitrarily stretched in the interpretation of the "Guidelines" or this report.

- That tells you that if "corporate value" is deemed to be the DCF value of the company, it is up to the company to explain how the DCF of the company would be impaired to the detriment of shareholders through such a takeover event. It should be noted that if there IS a takeover event, the shareholders hurt by such a takeover would be the shareholders doing the takeover.
  This *should* make the entire process a very tricky one legally, but this being Japan, it is clear the arguments will get muddied.
  - If you, as an institutional investor, would sell to the Tender Offer at that cash price if it were friendly, but would not sell at the same cash price if it is *not* friendly, you are not doing the right thing by your *own* investors.
  - If you sell when it is friendly, you only sell if the price is above what you think it is worth. And then you let go because you no longer own it. You have chosen cash over the potential future of that company for the right reason. It is now someone else's problem. And management and the board works for the new owner.
  - If you would sell at that price, but would not do so if hostile because management asks you not to sell, *you are choosing company management over your own investors*. You are making a different economic decision. Of course, if you would not sell even if it were friendly, that is a different story, but be honest with yourself (far too many tender offers go through at too-low prices in Japan because the tender offers have 'management support' or 'board recommendation').
  - If there were a friendly takeover with exactly the same terms except for the fact that the cash price were 5% lower than the hostile takeover attempt, would you accept the lower bid? In either case, you are out, and no longer own shares, and management and the directors and employees owe you nothing in either case.
    - *If it is a cash offer against scrip, or scrip vs scrip, the calculus changes, and that is OK. But if it is cash deal vs cash deal or cash deal vs no deal, you as investment manager have a fiduciary duty to do the right thing by your own investors - a duty unaffected by the opinion of management's opinion of the would-be buyer of your shares.*

- While the 2008 METI Guidelines are a strong document in support of shareholder rights and the importance of directors doing the right thing by shareholders, there is one element that is short-sighted. The requirement for adequate information and time for shareholders to make a decision does not ONLY come in the case of a hostile large scale acquirer. If it is appropriate for investors to have the extensive information to make a decision to sell based on a Price and an Offer, if the only difference is information about the post-sale disposition of the company, then that should be required of all deals - not just hostile deals.

- Furthermore, investor decisions to sell are made with information about the company's prospects and financials, and price. Information about the company's financials, and prospects are provided by the Company itself - that is part of the Board's Governance Code obligations. This should take care of all information about the company and its future that would be required by selling shareholders. Every investor can make a decision about whether to sell in the market every day, based on that information provided by the company which is adequately fulfilling its governance obligations. If someone bids for the whole company, they can make that decision as well.
- While it may sound insensitive, if I am being asked to sell my shares, I do not need to know what the buyer is going to do with them. The effect of the Cash Buyer's purchase on corporate value is not my problem. Suggesting an investor should accept a lower consideration so that the board is happier with the outcome is tantamount to a request by the board for board and management entrenchment.
- A Tender Offer is, if for more than 50% of the shares outstanding, functionally equivalent to a Shareholder Meeting agenda item to approve the purchase of 50+% of the shares and transfer control over major board decisions to that Buyer. If 51% of shareholders do not agree, the Tender Offer will not succeed.
- If a Buyer who buys a number of shares which is lower than all of the shares but does so at a premium has plans which include actions which may lower the Corporate Value of the target, the first to be injured will be the Tender Offeror. Other shareholders can make their decision. The Company can attempt to provide a more attractive alternative. It will be very easy for the Company to provide such an alternative in this case.
- If a friendly buyer were to purchase the shares with board recommendation, based on future synergies and whatnot, the new owner would absolutely have the right to decide the disposition of the company's cash and high-value assets. That is one of the points of taking over a company. For a board to decide that it is against such is a sign of an effort to entrench itself.
    - A good example of this fallacy showed up in the case of Alpine and Alps. Alpine said it needed a large amount of cash - materially all of it - in order to conduct its business when it did not differentiate the source of that cash (equity or debt) and the joining of Alpine and Alps was going to be implemented, and followed immediately thereafter with the distribution of materially all of Alpine's cash to shareholders of the combined group through a buyback of post-merger shares. This cash was somehow not available pre-merger to the owners of that cash.

The Bull-Dog Sauce Situation

In the early-mid-Noughties, US-based activist fund purchased shares in Bull Dog Sauce (2804 JP) with their ownership becoming known among professionals when the share price passed about ¥1000-1200/share in 2004. In May of 2007, Steel Partners went over a 10% holding, and later in the month announced a Tender Offer to take over the company for ¥1584/share.

In the first week of June, the company announced that the takeover would harm corporate interests and proposed a 3:1 warrant issuance, which would not allow Steel Partners to convert their warrants. This would have the effect of lowering Steel Partners' stake from 10.25% to ~2.6%. The decision was put to the Shareholder's Meeting scheduled for June 24th, which was just four days before the end of the Tender Offer.

Steel Partners sought an injunction on the warrant issuance, and raised the Tender Offer Price to ¥1700/share. At the AGM, shareholders voted 83% in favour of the change in the Articles of Incorporation, and warrant issuance (i.e. more than 90% of non-Steel Partners shareholders voted against Steel Partners).

Steel Partners sought an injunction and extended the Tender Offer close date to 10 August. The Tokyo District Court rejected the injunction, as did the Tokyo High Court two weeks later in early July, with the High Court saying that discrimination against certain shareholders was allowed if the shareholder discriminated against had "abusive motive" (which it determined Steel Partners had).

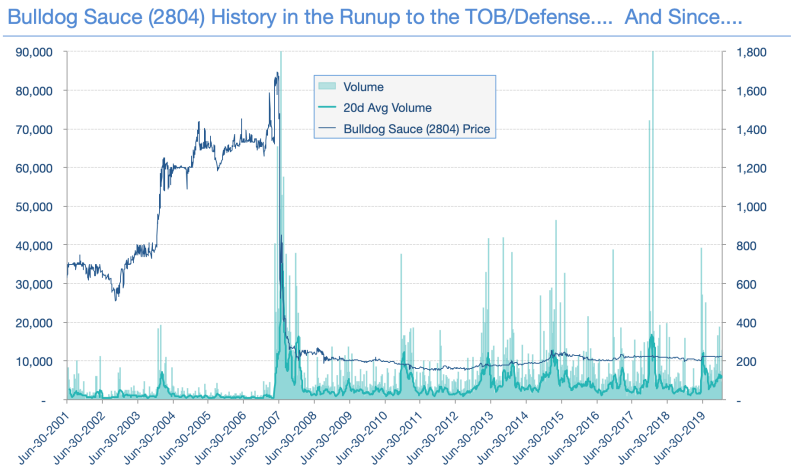
Four weeks later (and on 7 August, just a few days before the end of the Tender Offer on 10 Aug), the Supreme Court upheld the rejection of the injunction and the principle of board discrimination of certain shareholders, calling Steel Partners an "abusive acquirer" (濫用的買収者). The warrants were issued on 9 August and Steel Partners was paid ¥396/share for every share they did not get as a result of warrant issuance (that ¥396/share was one-quarter of their original Tender Offer Price).

The important parts of the Supreme Court Decision were:

- Article 109 Para 1 of the Companies Act guarantees equal rights for all shareholders, but the so-called "Unocal Test" enshrined in precedent since Unocal vs Mesa Petroleum in the US in 1985 indicated that discriminatory treatment was allowable as long as the resulting discrimination was not unreasonable to the economic rights of the shareholder.
- A takeover defense does not need to exist in advance of a takeover attempt in order for it to be valid.
- The decision of whether or not control by the purchasing shareholder should be decided by shareholders themselves, not the board or management.

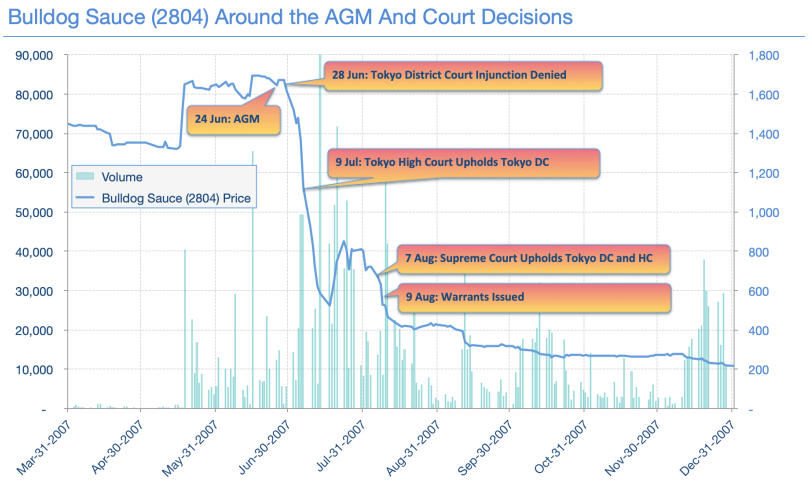
- Discriminatory warrant issuance is unfair if the effort is designed to entrench management or the board, but it was not the case in Steel Partners and Bulldog. Steel Partners was able to defend itself both in public and at the AGM.
- Receiving compensation in the form of cash was fair recompense for Steel Partners.

While the Unocal decision is famous as the underlying precedent for poison pill cases subsequent, the Delaware Courts would likely never have decided the way the Supreme Court did in Japan.
The key point for Steel Partners is that they were able to receive ~¥396/warrant of the shares for the warrants they were not allowed to exercise. That meant that the day the warrants were executed, every other shareholder got three more shares for ¥1 each and Steel Partners got ¥1,188 yen of cash and kept their 1 share.
In the chart below, the price adjusted for the price at the time of the Tender Offer. Since then, there has been a 1:10 reverse stock split, and a 2:1 stock split, making for a 1:5 net reverse stock split.



source: capital IQ, company filings,

After the AGM when the shareholders overwhelmingly agreed to reject the Tender Offer and enable the warrants, the shares still traded much too high. There was not a lot of stock borrow. It was also a small-cap. The entire market cap was on the order of $250mm at the Steel Partners Tender Offer.



The shares fell sharply, then rebounded to the ¥800 level - which was on a post-rights issuance basis effectively twice the Steel Partners TOB price - then it fell to about ¥500 around the Supreme Court decision date, then fell to the mid-low ¥400s. From there, it dribbled to ¥400 by later in August, then below ¥400 in September and below ¥300 in October, before heading to near ¥200 by year-end before rebounding in mid-year when the Company renewed its poison pill defense. Steel Partners sold out in Q2 2008 having cashed out three-quarters of its position at ¥1188 on a pre-tender basis or ¥396/share on a post-rights issuance basis.
Everyone else ended up owning something which halved from the tender offer price within several months - and never came back.

8. Directors - Appointments, Nominations, Dismissals

- The board typically nominates directors for a two-year period.
- For a company with committees, a nominating committee nominates directors with a maximum one-year term of office.
- For a company with an audit committee, a director of the audit committee must be separately nominated from other directors. The maximum term of office for a director who is a member of an audit committee is two years, and one year for other directors.
- Directors can be dismissed by a resolution at a shareholders' meeting.

9. Directors' Liability

Directors are required to perform their duties with a duty of care and adhere to all laws and regulations, and the company's articles and resolutions.

- **The business judgement rule (BJR)**. Provided a decision was undertaken without careless mistakes, via reasonable and proper due process, even if that decision resulted in damage to the company, Japan's BJR would conclude the director acted with adequate duty of care. Such a rule would not be used in a court of law if a conflict of interest was in place.
    - In June 2006, Apamanshop Holdings acquired the remaining shares of a partially-owned subsidiary at Y50,000/share after Apamanshop had previously set the value of the shares at Y10,000/share for the share-for-share exchange. The Supreme Court upheld the BJR as it ensured a "*smooth process of the share acquisition*", the maintenance of "cordial relations" and the value of the subsidiary may increase as a result of business restructuring.

10. The Role and Involvement of Outside Directors

Outside directors excludes directors who have previously been appointed as executive directors, executive officers or employees of the company, its subsidiaries, its parent companies or related companies.

- For a company with committees, a majority of each committee must be outside directors, while each committee should consist of at least three members.
    - For a company with an audit committee, the audit committee must have more than three directors as members, the majority of which must be outside directors.
    - There are no such outside director rules concerning the board composition of a company with a corporate auditor.
- Following the submission of the Company Act reform bill, the TSE revised its SLRs such that listed companies endeavour to elect at least two independent directors.
- The Code enunciates that if a company with a corporate auditor and a board of directors OR a company with an audit committee, and independent directors do not comprise a majority of the board, an optional advisory committees under the board, to which "*independent directors make significant contributions*" is to be established to strengthen the "*independence, objectivity and accountability of board functions*".

11. Legal Duties for Directors

Typically the legal duties for outside directors mirror that of other directors or executive officers, although a company's articles limit a company's liability to its outside directors.

- Outside directors should evaluate/appraise management's performance, issues arising from conflicts of interest, and management's decision process - all with a view towards improving and progressing a company's culture. Indeed, all directors should take on a similar role, just that outside directors are expected or perceived to do so impartially.
- In recent times, when a significant event takes places, such an offer, anti-takeover measures or an internal investigation, a third-party committee is formed to oversee any possible conflict of interest issues. These committees generally include an outside director.
- If a director seeks to carry out a transaction involving a conflict of interest, board approval must first be sought. Although the director in question is not entitled to participate at such a board meeting, he/she must still furnish all necessary information inveigled in the transaction.

12. Auditors

The corporate auditor audits the directors' duties, including the preparation of a company's financial statements.

- To uphold a corporate auditor's independence, its term of office must continue at least until the conclusion of the annual shareholders' meeting for the prior fiscal year.
    - For a company with committees that does not have a corporate auditor, the audit committee comprises directors (with a maximum one year term) that audits the directors' duties, including the preparation of a company's finances.
    - For a company with an audit committee, the audit committee comprises directors (with a maximum two-year term) which audits the directors' duties, including the preparation of a company's finances.

- Furthermore, a 'large company' (i.e. with balance sheet capital of [in its most recent fiscal year] of ¥500mn or more; or total liabilities [in its most recent fiscal year] of ¥20bn or more) and a company with committees are required to have either a certified public accountant or an audit firm. An accounting auditor's terms of office will continue until the annual shareholders' meeting (for the last fiscal year), and ends within one year after their election.
- Whether a company has a corporate auditor, an audit committee or is a company with committees, proposals regarding the election and dismissal of accounting auditors are submitted at a shareholders' meeting.

13. Financial Reporting and Accountability

FIEL requires all listed companies to prepare a securities report, within three months of the end of each business year, which includes consolidated financial statements; as well quarterly reports. Furthermore, a representative director or representative executive officer of a listed company must confirm the securities report or other reports conform with the FIEL.

14. Communications with Shareholders

If an enquiry is asked by a shareholder, directors, corporate auditors and executive officers are required by the Companies Act to adequately explain the agenda of the shareholders' meeting.

- The code states that the listed company should proactively promote constructive dialogue with shareholders to support sustainable growth and increase corporate value. Q&A sessions during shareholders' meetings are now *actively encouraged* in Japan.

15. Internal Control

Boards of large companies must develop internal control systems that ensure that directors comply with laws and the articles, and that company operations are appropriate.

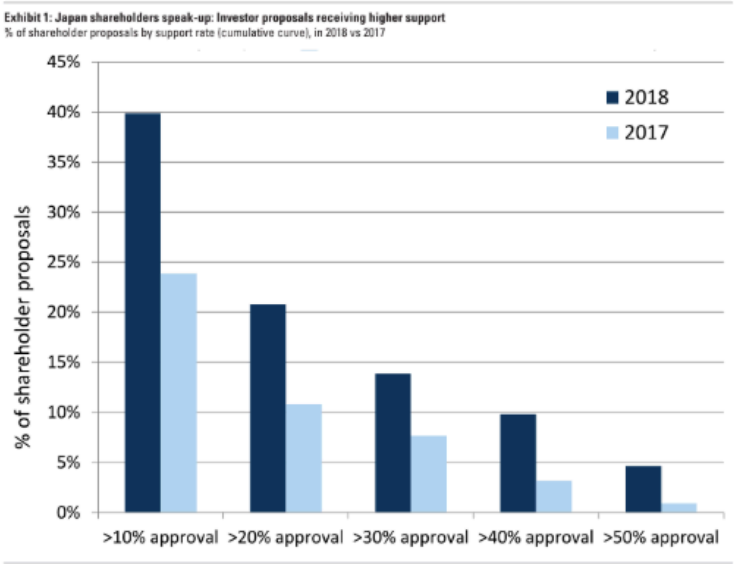
- A listed company must develop internal control systems - such that directors comply with the relevant laws and articles - and submit internal control reports that describe such systems are in place to certify the financial reports of the company are made in compliance with the necessary laws.
    - The composition of the internal control systems and the compliance programmes may be decided at the company's discretion.
    - The **Whistle-blower Protection Act**. An employer of a whistle-blower is prohibited from treating said whistle-blower in a disadvantageous manner. Furthermore, a point of contact that is independent of management should be established for whistle-blowers.

16. Shareholder Rights and Powers

Voting rights

Each voting share has the same voting right, therefore a company must treat its shareholders equally with respect to the class and number of shares owned.

- Minority shareholders' rights *may* extend to proposing a resolution/ agenda at a shareholders' meeting, to inspecting accounting books through to applying to a court for the dissolution of a company.
- Under the Companies Act, shareholders' approval is required for the following:
  - amending the company's articles;
  - mergers, corporate demergers, share exchanges and transfers, share capital changes;
  - appointment/election or dismissal of directors and corporate auditors; and
  - decisions regarding dividends.
- This would *generally* suggest shareholders have an influence on the board. Shareholders who *do* speak up, may be viewed as activists - and activism often comes with a negative tilt. A Goldman survey found 40% of proposals received 10% of shareholder support in 2017, a large step up from 24% in 2017.



Source: The Diplomat

17. Rights of Dissenting Shareholders

Shareholders may demand a company purchase their shares at a "fair price" if they object to a proposed agenda (specifically listed under the Companies Act), such as amendments to the articles or a specific merger/acquisitions.

- This price is determined via negotiation between the company and the dissenting shareholder, or failing that, a court. If an agreement is reached, the dissenting shareholder will receive payment within 60 days from the effective date in the initial proposal that the shareholder dissented on.
    - If the two parties are not able to reach an agreement within 30 days of the effective date, either the dissenting shareholder or the company file a court petition to determine a fair price.
- In the Supreme Court's decision in the Tecmo case, an appraisal case involving a share transfer between unrelated independent parties, it found that:
    - where there is no synergy or other increase in the enterprise value of corporation arising from the transfer, the fair price should be the value the shares had on the date on which the shareholder made a demand to the company for the repurchase of its share, on the assumption the share transfer ratio in the share transfer plan *is* fair; and
    - if the share transfer comes into effect through a due process that is itself deemed to be fair, the share transfer ratio should be seen as fair - unless special circumstances prevail inhibit a shareholder from making rational decisions at a shareholders' meeting.
        - *This is quite obviously unsuitable in the real world because there is no third party verification required, and "Business Judgment Rule" can override any and all third party input and as long as the boxes are ticked, there are no repercussions on directors.*
- Appraisal rights in Japan are not straightforward. The takeaway is... best to get your own legal advice, and even then it is not easy.

18. Major Shareholders’ Duties and Practice

Under the Companies Act, shareholders do not owe a duty of care to a company, other than paying for the shares in which they have subscribed.

- The exception under the SLRs is when a listed company undertakes specific transactions with its controlling/substantial shareholder. In this instance, am opinion from an independent third party must be sought to determine whether the transaction is in the minority shareholders' best interests.
- As an aside, controlling shareholders have no legal duty of care to the company or minority shareholders except in exceptional cases, such as a squeeze-out at low price. Such an act may be pursued under the Civil Code or other laws and pursuing such a case is straightforward.

19. Shareholder Activism

Under the Companies Act, provided a shareholder has held shares for at least six consecutive months, it can demand a company file an action to pursue a director or corporate auditor's liability to a company. If a company does not respond to such a filing within 60 days, the shareholder can proceed to file such action on behalf of the company.

- A shareholder may also sue a director or corporate auditor of a company should that shareholder own at last 1% in the parent of the company in which the senior personal are being pursued; AND, the holding in the company equates to at last 20% of the total assets of the ultimate parent company.

Proxy battles

Under the FIEL, a shareholder (or the company) that solicits a proxy must provide the other shareholders with a certain set of documents (such as a proxy and reference materials that table the agenda).

- It is difficult for a shareholder to be successful in proxy fights, as the shareholder won't know the shareholders’ meeting agenda until the notice is sent by the company. Moreover, the company may refrain from providing the information of other shareholders to a shareholder who wishes to solicit the proxy, however, most shareholders who wish to undertake a proxy effort usually prepare a position (large enough and for a long enough period of time) to have the right to inspect "the books and records of the company" and can thereby obtain a shareholder's list.

20. The Stewardship Code

(with assistance from Travis Lundy)

To further improve corporate governance, a group affiliated with the FSA published the "*Principles for Responsible Institutional Investors - Japan's Stewardship Code*" in February 2014 as a prelude to the introduction of the Japan Corporate Governance Code, which had been in the works for years.

- The aim of this code is to push institutional investors to fulfill their own fiduciary responsibilities by upholding higher standards for the management of companies in which they own stock via promoting "sustainable growth of companies through investment and dialogue".
    - Basically, get investors more immersed/involved in companies invested by increased dialogue, with a view to increased transparency, and in turn better-run companies.
    - The TSE had, on its own, done a bit to promote better corporate governance. It created its own Governance Code in 2004 called The Principles of Corporate Governance for Listed Companies, and the TSE institutionalised Corporate Governance Reports two years later, and in 2009 introduced the independent directors/kansayaku system (albeit this came far behind the rest of the world, and with extremely weak follow-through).
    - However, the TSE-built Corporate Governance Code was something of an afterthought and few companies even paid lip service to it. It was entirely voluntary and the TSE as much as admitted it had no teeth.
    - After the GFC, there were more political efforts to create a Governance Code with some teeth - an effort which had to be led by the government - in order to make sure Japan did not get left behind because of perceptions by international investors that Japan was not a good place to invest after a series of hostile activist attempts in the five years prior to the GFC laid bare the relatively naked efforts at entrenchment by Japanese management.
    - Because any Governance Code was going to be somewhat alien to the way most Japanese companies had traditionally treated shareholders, the introduction of the Stewardship Code was designed to create expectations about how investors were to behave in order to be 'Good Investors' (which the hostile activists clearly were not).
    - If the government defined what the goal of good stewardship was in its interaction with companies, it could define what the goal of good governance was. That became the mantra of the idea to "promote sustainable growth of companies and improve corporate value over the medium to long term."

- Seen in a slightly cynical way, the Corporate Governance Code would effectively give Japanese companies a guidebook on what they had to say in order to tick the boxes. The Stewardship Code would give investors the boxes they needed to tick to be "Good Investors."
- Seen more opportunistically, it gave investors a stick to use on recalcitrant companies, and all they had to do was say "I'm doing my part!" because they had signed up to the Stewardship Code.
- However, back to 2014 with the introduction of the Stewardship Code, in its formulation, much was made of the fact that Japan needed one to be like other markets. Its clear basis was the UK Stewardship Code, and it is also quite clear that the Japanese Council working to create a Japanese version borrowed quite liberally from the UK Code.
  But the Japanese version was different. In unsubtle ways.

Comparison Between The Seven Basic Principles of UK vs Japanese Stewardship Code

UK 2010 Version	Japan 2014 Version
Institutional investors should:	So as to promote sustainable growth of the investee company and enhance the medium- and long-term investment return of clients and beneficiaries, institutional investors should...
1. publicly disclose their policy on how they will discharge their stewardship responsibilities.	1. have a clear policy on how they fulfill their stewardship responsibilities, and publicly disclose it
2. have a robust policy on managing conflicts of interest in relation to stewardship and this policy should be publicly disclosed.	2. have a clear policy on how they manage conflicts of interest in fulfilling their stewardship responsibilities and publicly disclose it.
3. monitor their investee companies	3. monitor investee companies so that they can appropriately fulfill their stewardship responsibilities with an orientation towards the sustainable growth of the companies.
4. establish clear guidelines on when and how they will escalate their activities as a method of protecting and enhancing shareholder value	no direct analog.instead, a much watered-down version below seeking consensus rather than assertion of steward's obligation to fight for shareholder rights.
	4. seek to arrive at an understanding in common with investee companies and work to solve problems through constructive engagement with investee companies.
5. be willing to act collectively with other investors where appropriate	no analog
6. have a clear policy on voting and disclosure of voting activity	5. have a clear policy on voting and disclosure of voting activity. The policy on voting should not be comprised only of a mechanical checklist; it should be designed to contribute to the sustainable growth of investee companies.
7. report periodically on their stewardship and voting activities	6. report periodically on how they fulfill their stewardship responsibilities, including their voting responsibilities, to their clients and beneficiaries.
	7. To contribute positively to the sustainable growth of investee companies, institutional investors should have in-depth knowledge of the investee companies and their business environment and skills and resources needed to appropriately engage with the companies and make proper judgments in fulfilling their stewardship activities.

The Codes of each have been amended since then, with the Japanese Stewardship Code amended in 2017 ahead of an amendment to the Corporate Governance Code in 2019.

- **Effectiveness?** Fostering good stewardship is a good thing. Nevertheless, the Code is not legally binding. Institutional investors can opt-in or opt-out. And even if they opt in, they are not bound to strictly adhere to the provisions of the Code. All they have to do is explain why they are not abiding by the provisions.

- A key concern was the Code may flounder without a critical mass of support from institutional investors, especially conservative corporate pension funds.
- As at 30 April last year, 246 institutions have signed up, including six trust banks, 23 insurance companies, 33 pension funds and 177 investment managers.
    - This includes Panasonic's employee pension fund, leaving the employee pension fund of Japan's largest company, Toyota, as a key holdout towards signing the code.
- GPIF. the Government Pension Investment Fund, or GPIF, is the largest fund - pension or otherwise - in the world. Last December, the GPIF announced a revised "*Policy to Fulfill Stewardship Responsibilities*".
    - An ever-increasing emphasis on strong stewardship policy at the GPIF is a good thing for both the GPIF and its beneficiaries and for the role of stewardship at Japanese investors.
    - Still, the GPIF does not actually execute the stewardship of the management of its portfolio. It has a stewardship policy with regard to the investment managers to which it allocates, and those investors - such as Blackrock, State Street etc. - have their own stewardship policy, which is probably somewhat affected by the interaction they have with the GPIF, but is distinctly their own.

21. Recent Consultation Papers Towards a New Market Structure

Four documents were posted on the FSA website last November, divided into the issues, the basic concept of the New Market Structure; and towards a new TOPIX Index. The aim of the New Market Structure is to get rid of the current five or more venues and establish a three-part market structure:

- A "Prime" market, comprising large-cap, liquid blue chips, which would adopt a high standard of governance, etc.
- A "Growth Market" to replace MOTHERS and JASDAQ Growth; the designation of being on this market would indicate that a) the companies were in the capital-raising phase rather than the money-earning phase, and b) that these companies might be riskier than other listed companies.
- And a market tranche for everyone else - companies neither growthy enough to be given a pass on lower-quality disclosure or profits nor blue-chip enough to be deemed suitable for Prime.

The basic outline appears to be a watered-down version of the least stringent possibility mooted after the first meeting of the TSE-sponsored in 2018. And changes won't take place for years. For the vast majority of investors there will be nothing to do.

22. Toshiba's Gift

Last November, the Nikkei had an article (Japanese, English) saying that the TSE will amend its Listing Regulations to require only two years of auditor-approved financial reports to go from TSE2 to TSE1. It would do this, apparently and bizarrely, to correct disparities between the requirements for the several boards of the TSE.

- The FSA and TSE have just spent a full year in the process of "*review[ing] the market structure in order to further incentivize listed companies to proactively improve their overall value as corporation, in addition to further attracting diverse global and domestic investors by providing attractive investment opportunities*."
- A featured proposed measure is to create a "step-up market" - a "TSE Prime" - which would highlight higher governance and standards for the bluest of the blue chips, separating them from the multiple thousands of less well-regarded companies which make up the lower half of TSE1, almost all of TSE2, and JASDAQ Standard. The goal is to gain further credibility for the exchange and its major listings by differentiating the new rules from the old rules and old standards.
- This audit change to unify the standards to the lowest common denominator is an odd way of asserting that credibility. It also provides a gift to Toshiba and its investors, and a return to TOPIX.

Smartkarma insights referenced in this insight:

[Nikkei] TSE Rule Change to Allow Toshiba An Early Return to TOPIXGPIF World's Largest Fund To Suspend Global Stock LendingTSE & FSA Think "Prime" - The World Yawns. Murakami Vs Toshiba Machine: A Question of Shareholder Rights or Rights for Shareholders

— David Blennerhassett (06 Feb 2019)

Sumeet Singh

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Areas of Expertise

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- Geography: Asia Pacific
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- Sectors: Generalist

Content Verticals

- Equity Capital Markets

Alibaba Group | Equity Capital Markets

China ADRs Secondary Listing Deep-Dive: Yin and Yang

By Sumeet Singh | 25 Feb 2020

EXECUTIVE SUMMARY

Ever since Alibaba successfully completed its secondary listing in Hong Kong in Nov 2019, markets have been abuzz with news of other companies that are planning to follow in Baba's footsteps.

However, not all US listed China ADRs are eligible for undertaking a secondary listing and not all are likely to make as big a splash.

In this insight, we'll aim to shortlist the ones that are most likely to undertake a secondary listing by highlighting:

1. The recent factors that have been creating a pull effect, as well as the factors creating a push effect in the US
2. The additional incentives provided for a Hong Kong listing via the South-connect trading
3. Eligibility as per HKSE rules for a secondary listing
4. Short-list of ADRs that meet the requirements and a ranking based on our quantitative criteria
5. A look at how Alibaba and Beigene traded and lessons from the same

DETAIL

A brief history of recent events

China's historically stringent listing requirements, along with the long regulatory-approval based IPO process and lack of access for foreign investors (till a few years ago) has driven many of its tech giants and other high growth companies to list overseas, mainly in the US. However, that trend now seems to be reversing with many factors driving these overseas companies to come back home. In this section, we'll cover some of the recent events which are likely to be the drivers for more companies to list closer to home.

The pull factor - failed CDR experiment

It's not really a secret that Beijing has been urging its tech giants to come back home in order to allow domestic investors more access to these rapidly growing companies representing the new economy in China.

A big step in this regard was taken in Mar 2018, when the State Council released a high-level blueprint to kickstart the process of allowing red-chip (companies with operations predominantly in China) to issue Chinese Depository Receipts (CDRs).

The main aim of doing so was to allow the tech firms/unicorns which were listed overseas to list on local exchanges in China. The regulator announced a short-list of targeted industries as well.

> *The seven high-tech and strategic emerging industries include internet, big data, cloud computing, artificial intelligence, software and integrated circuit, high-end equipment manufacturing, and biological medicine.*

There were also other restrictions put in place that listed firms must have a market cap of no less than US$30bn. There were planned exceptions for unlisted but innovative firms with a previous valuation of at least US$3bn, see here.

Brokers and news outlets jumped on the opportunity to come up with a shortlist and very soon, there were reports of US listed firms dutifully queuing up to issue CDRs, as well as possible unicorn avalanche in the waiting.

> *Six of China's largest tech companies - Alibaba, Tencent, Xiaomi, JD.com, NetEase, Baidu - could raise US$60 billion between them through the issuance of CDRs, Goldman Sachs said, assuming each company would raise the equivalent of 5 percent of its market value.*
>
> *Add the fundraising plans of China's 164 unicorns - tech companies valued at more than US$1 billion, including Didi Chuxing - as much as US$700 billion could be drained from the markets, the report said.*

There were even mutual funds established to facilitate these listings with minimum disruption to the market.

> *To absorb the impending listings, China's regulator approved in record time the establishment of six mutual funds, dubbed the unicorn funds, and authorised them to invest in these depositary receipts for at least three years to stabilise the market. With a total 300 billion yuan (US$15 billion), their combined financial war chest is larger than the funds raised in the entire A-share market last year.*

Out of the listed names, Baidu (BIDU US), NetEase Inc (NTES US), JD.com Inc (ADR) (JD US) and Alibaba Group (BABA US) were said to have even hired sponsor banks for issuing CDRs, as per media reports.

In the end, the first in queue was Xiaomi Corp (1810 HK) which planned to issue CDRs along with its Hong Kong Listing. However, fungibility along with voting rights and other issues appeared to have been a sore point, with the falling Shanghai index being the final nail in the coffin. Thus, in Jun 2018, Xiaomi cancelled its plan to issue CDRs

As per this FT article:

> *Beijing-based Xiaomi did not give a reason for the move but people close to the CDR programme pointed to listing rules that appeared onerous and restrictive to the tech companies — all with strong entrepreneurial founders and DNA — they are designed to attract. The regulator, reluctant to see domestic investors lose money, had also wrangled with Xiaomi on the valuation, according to one person familiar.*

This ended the CDR frenzy. **However, that didn't kill the Chinese government's desire to have its national champions list at/closer to home.** China continued its market reforms with the launch of Shanghai Stock Exchange's STAR Market for innovative companies which had a quicker listing process and has had a few successful listings since mid-2019.

Then came the push factor

While the tech giants and other high growth companies headed to the US to make their market debut, they were followed by a host of dubious firms which took a much easier and regulatory-lax route of reverse mergers to list on the US exchanges.

These companies then either disappeared or were called out by short-sellers as being frauds. As per this media report and this McKinsey paper, more than 50 US listed Chinese companies were either delisted or halted from trading in 2011 and 2012.

One of the main reasons that Chinese companies could get away with this was that as per Chinese laws business books and records related to transactions and events occurring within China can't be transferred overseas. Thus, an auditor for the US listed entity can't do much more than rubber stamp the audited reports for the Chinese subsidiaries which are presented to them after being audited by local firms. SEC and Public Company Accounting Oversight Board (PCAOB) have no control on the audit of the actual business.

This has been a sore point for US regulators for a long time who have been insisting that China should allow US audit firms and regulators access to the records of the China based companies. In Dec 2018, SEC and PCAOB issued a joint warning regarding their lack of oversight over audit work done for China and Hong Kong based but US listed companies, see here.

PCAOB has been publishing a list annually of U.S. listed firms where PCAOB has been denied access to conduct inspections. Its most recent list, published in Sep 2019, included 241 entries, of which 230 were from China and Hong Kong. Everyone from Alibaba and Baidu to Bilibili and Yum!China figures in the list. Belgium is the only other jurisdiction on the list. In PCAOB's own words:

> *The position taken by authorities in mainland China may in some circumstances cause a registered firm located in another jurisdiction to attempt to resist PCAOB inspection of public company audit work that the firm has performed relating to the company's operations in mainland China. Only in mainland China and Hong Kong, however, is the position of the Chinese authorities effectively an obstacle to inspection of all, or nearly all, registered firms in the jurisdiction.*

The election of Trump and his subsequent declaration of a trade war with China provided the US an opportunity to exert pressure on China on this front.

In Mar 2019, Senator Van Hollen introduced a bill, which was co-sponsored by Senator John Kennedy, called Holding Foreign Companies Accountable Act. Its summary is below.

> *This bill requires certain issuers of securities to disclose specified information to the Securities and Exchange Commission (SEC) if the issuer has used, for its required audit report to the SEC, a foreign public accounting firm that is not subject to inspection by Public Company Accounting Oversight Board. If an issuer retains such a firm for three consecutive years, the SEC shall prohibit the issuer from trading on a national securities exchange.*

Then in Jun 2019, Senators Marco Rubio, Bob Menendez, Tom Cotton and Kirsten Gillibrand introduced the Ensuring Quality Information and Transparency for Abroad-Based Listings on our Exchanges (EQUITABLE) Act. You can find the press release for the act here. The main point being:

> *EQUITABLE Act would increase oversight of Chinese and other foreign companies listed on American exchanges and delist firms that are out of compliance with U.S. regulators for a period of three years.*

While neither of the two bills have been passed, they did their bit in making their point clear that things couldn't continue as they were. Either the Chinese regulators had to change their ways or the U.S. listed China-based firms would have to take things in their own hands. **Given that Beijing had already been cajoling its stars to come back home, it's easy to guess as to which one is more likely to happen.**

Hong Kong steps in to provide an alternative

In between all the pushing and pulling, Hong Kong, after having missed the Alibaba listing in 2014 due to its rigid stance on Weighted Voting Rights (WVR), conducted a public consultation and changed its stance on WVR in Apr 2018 to allow companies where individuals held WVR to list (see summary of change here). The safeguard put in place with individuals was that when they stop being directors of the firm or transfer their shares, their WVR would end. **This opened the doors for dual listing for the U.S. listed firms.**

Xiaomi was again at the head of the queue here and managed to list this time around (as opposed to its CDR plans).

Apart from allowing stocks with WVR to list in Hong Kong, another main attraction of listing in Hong Kong is the Stock Connect, which allows certain mainland investors to trade Hong Kong listed stocks. Thus, when China ADRs undertake a secondary listing in Hong Kong they in effect satisfy some of Beijing's desire to have its champions listed at home.

Evolution of Stock Connect Scheme to include WVR

Hong Kong Stock Connect allows investors from mainland China to invest in Stocks listed in the Stock Exchange of Hong Kong with little restrictions on the capital control.

China places strict restrictions on its residents' outbound investment. Foreign exchange by individuals is capped at US$50,000 a year and the quota will be reset every year. Therefore, the hurdles are high for individual investors to invest overseas.

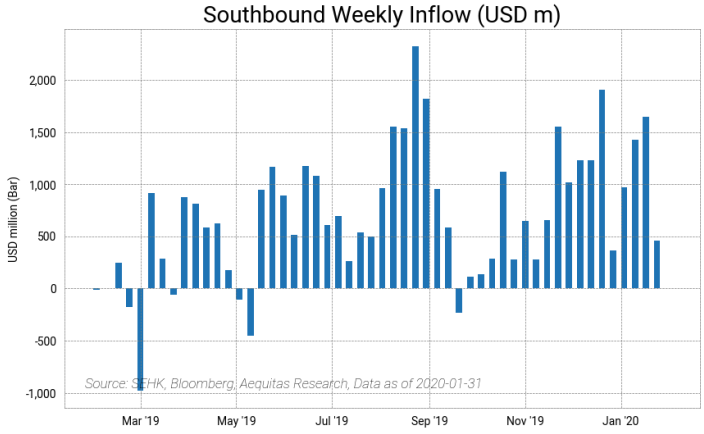
Institutional investors, on the other hand, are allowed to invest in overseas assets under the qualified domestic institutional investor (QDII) scheme. Institutional investors will need to apply for the quota for its own and invest within the quota. There were 156 managers with approved QDII quota as of end of Jan 2020. In total, US$104bn of QDII quota has been approved so far. Top ten institutional investors by approved quotas only received a combined US$35bn of quota as of Jan 2020. Of these QDII investments, we estimate that nearly half of the quota was used to invest in Hong Kong and the China ADRs.

Therefore, the Hong Kong Stock Connect lowers the hurdle for investment in Chinese companies listed overseas significantly. For an individual to open a Hong Kong Stock Connect account with a mainland China-based broker, one just needs to prove a net liquid asset of RMB 500,000 (US$71,261).

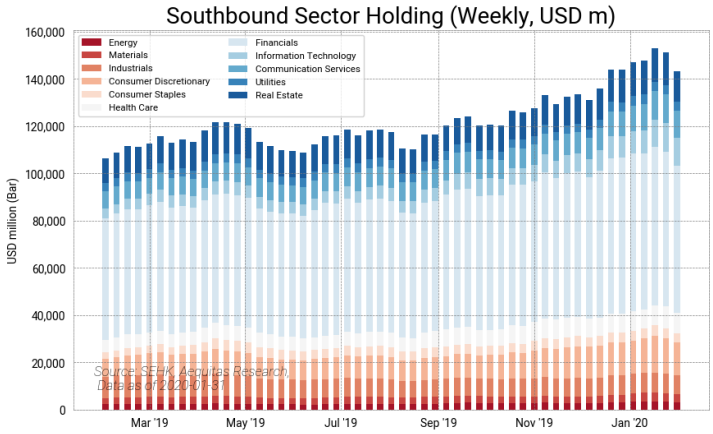
There are still restrictions, however, for trading on H-share stocks via the stock connect. One of the main restrictions is the daily net purchases and cumulative net purchases, which was initially set at RMB10.5bn (US$1.5bn) and RMB250bn (US$36bn). The daily net purchases were later increased to RMB42bn for both Shanghai-Hong Kong and Shenzhen-Hong Kong Connects hence RMB84bn (US$12bn) in total. The limit on cumulative net purchases was lifted on August 17th in 2016.

The stock connect scheme has made a profound impact on the investment landscape in Hong Kong. According to a Hong Kong exchange report released in July 2019, the exchange highlighted that flows from mainland China accounted for 12% of the total trading volume in the market and is ahead of the US investors' 10% and UK investors' 7% share respectively. By the end of January, southbound investors held a total of US$143bn worth of H-share stocks.

We estimate that in the past one year, on average the weekly inflows of US$692m in the past one year (chart below).



As of the end of January, southbound investors held a total of US$143bn worth of H-share stocks. By holdings, we estimate that the largest sector held by mainland investors is Consumer Discretionary (US$14.0bn of holding by the southbound investors), followed by the Real Estate (US$12.8bn), and Communication Services (US$11.7bn.)



The rule amendment for dual-class shares

The original implementation rule states that the shares of Chinese companies shall be included in the Hong Kong Connect once it is included in HSCI, subject to the market value and liquidity test. However, it has not provided rules for the dual-class shares such as Meituan and Xiaomi to be included in the stock connect scheme, hence WVRs like Meituan and Xiaomi were excluded from the Stock Connect even though they were included in the HSCI.

Although the discussion on the amendment for dual-class shares to be included in the Hong Kong Connect scheme were initiated by the SEHK as early as December 2018, the proposed draft for changes were only released by the two stock exchanges in China in August 2019 which were then finalized in October 2019.

On Friday, October 17th after market close, both Shanghai Stock Exchange and Shenzhen Stock Exchange announced the official changes to the Implementation Rule that allows the dual class shares to be eligible for the stock connect scheme. The changes became effective on October 28th, Monday.

Here are the changes that allows the dual-class shares to be included under the Hong Kong Connect Scheme:

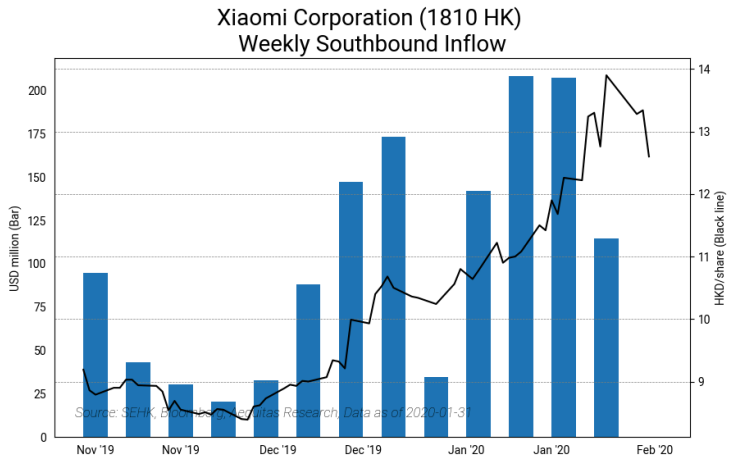
- Article 56: for dual-class shares to be included in the Hong Kong Connect for the first time, the stock needs to satisfy the following condition:
    - Constituent stock of Hang Seng Composite LargeCap Index, Hang Seng Composite MidCap Index, Hang Seng Composite SmallCap Index (and average market value is no less than HKD 5bn for the twelve months before the Regular Review Cutoff Date, which is defined below in Article 110, or the period between listing and the Regular Review Cutoff Date), or H shares with its corresponding domestic shares listed in the A-share market.
    - Listed on Hong Kong Stock Exchange for six months and 20 trading days.
    - Average daily market value for the 183 days prior to the Review Date (inclusive of the Review Date, which is defined below in Article 110) shall be no less than HKD 20bn.
    - The total transaction value for the 183 days prior to the Review Date (inclusive of the Review Date) shall be no less than HKD 6bn.
    - Termination of dual-class voting has not been triggered by the exchange due to corporate governance matters.
- Article 109 defines the Regular Review Cutoff Date and Review Date:
    - Regular Review Cutoff Date (定期调整考察截止日) refers to cutoff date used by Hang Seng for the regular composite review.

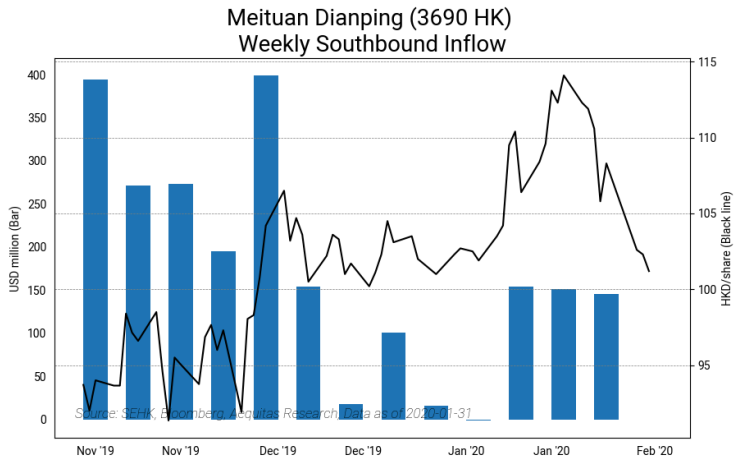
- Review Date (考察日) refers to 6 months and 19th trading day after listing for dual-class shares. If the stock does not qualify for inclusion on the 6 months and 20th trading day after listing, the Review Date refers to the second Hong Kong trading day prior to the effectiveness of the regular review of the benchmark Hang Seng Composite Index.

Since the amendment of the implementation rule, there have been two dual-class companies included in the Hong Kong Connect scheme, namely Xiaomi (1810 HK) and Meituan (3690 HK). Xiaomi and Meituan were listed on July 9th and September 20th in 2018, respectively.

Shortly after listing of respective companies, Xiaomi and Meituan were included into the Hang Seng Composite Index on July 23th, 2018 and October 8th, 2018.

Since their inclusion on October 28th 2019, we estimate that inflows into Xiaomi and Meituan were US$1,337m and US$2,272m, respectively. These inflows were equivalent to 5.6% and 3.5% of the company's H share float, respectively.





Thus, in a short period of time, the inclusion in the stock connect has had a large impact on the liquidity and shareholding of the two stocks.

Rules for WVR's Secondary Listing

Coming back to the China ADRs, one can narrow down the list of China ADR companies (ADRs) eligible for secondary listing in Hong Kong based on the qualification requirements (19C) set out by the Stock Exchange of Hong Kong (HKEX). The requirements are as follows:

- Qualifying Issuer, refers to a company listed on NYSE, NASDAQ, or LSE (Premium Listing segment), must have a track record of good regulatory compliance of at least two financial years on either of the three exchanges (Listing rule 19C.04).
- To first be considered as a Greater China Issuer, the company's business must have its centre of gravity in Greater China which includes:
  - Whether issuer has a listing in Greater China
  - Where the issuer is incorporated
  - The issuer's history
  - The issuer's headquarter
  - Place of central management and control
  - Location of main business and assets
  - Location of corporate tax and registration
  - Nationality or country of residence of the issuer's management and controlling shareholder
- **They should also be at least HK$40bn (US$5.2bn) market capitalisation at the time of listing or have HK$10bn (US$1.3bn) market capitalisation and a revenue of at least HK$1bn (US$130m) for the most recent audited financial year** (Listing rule 19C.05).

Qualifications for Listing

19C.04 A Qualifying Issuer must have a track record of good regulatory compliance of at least two full financial years on a Qualifying Exchange.

19C.05 A Non-Greater China Issuer without a WVR structure must have an expected market capitalisation at the time of its secondary listing of at least HK$10,000,000,000. All other Qualifying Issuers must satisfy one of the following:

(1) a market capitalisation of at least HK$40,000,000,000 at the time of listing; or

(2) a market capitalisation of at least HK$10,000,000,000 at the time of listing and revenue of at least HK$1,000,000,000 for the most recent audited financial year.

- **ADRs that meet the above requirements and have been listed before 15 December 2017 (referred to as Grandfathered Greater China Issuer) on either of the three exchanges (NYSE, NASDAQ, or LSE) will be exempt from the WVR rules set out by HKEX.** An example of such is Alibaba's non-share based WVR structure board control mechanism (19C.12). For ADRs listed after 15 December 2017, WVR rules for individual beneficiary (next section) also apply.

Additional Exceptions to the Rules for Certain Qualifying Issuers with a WVR structure

19C.12 Rules 8A.07 to 8A.36, 8A.43 and 8A.44 do not apply to a Non-Greater China Issuer or a Grandfathered Greater China Issuer that has, or is seeking, a secondary listing on the Exchange.

Existing rules for individually held WVR

ADRs that are listed after 15 December 2017 will need to comply with the individually held WVR rules. The rules can be summarised into:

- **WVR structure:** Share-based and the rights attached to WVR shares in all other respects must be the same as ordinary shares, except for enhanced voting power
- **Beneficiary:** must be an individual who has been materially responsible for the growth of the business; and has an active executive role within the business and is a director at the time of listing
- **Economic interest of beneficiary**: Collectively minimum of at least 10% and a maximum of not more than 50%
- **WVR voting power:** $\leq$ 10 times of ordinary shares
- **Lapse of rights:** If beneficiary dies, ceases to be a director, or deemed incapacitated or no longer meet directors' requirements or upon transfer of WVR shares

Note that even if the beneficiary is a corporate entity which is in turn held by an individual or a group of individuals, it can still be considered as having an individual WVR structure as long as WVR will cease when the beneficiary transfers his or her ownership or economic interest to another person (Rule 8A.18). However, the existing rule does not give a provision for corporate WVR whereby lapse of rights do not apply, such as the case of Tencent Music (TME) whereby Tencent holds a 50.2% economic interest with 15 voting rights per class B shares. Therefore HKSE is proposing changes to the current rules to allow companies with corporate WVR to list, which we will discuss in the next section.

Restriction on Transfer of Shares with Weighted Voting Rights

8A.18 (1) The weighted voting rights attached to a beneficiary's shares must cease upon transfer to another person of the beneficial ownership of, or economic interest in, those shares or the control over the voting rights attached to them (through voting proxies or otherwise).

(2) A limited partnership, trust, private company or other vehicle may hold shares carrying weighted voting rights on behalf of a beneficiary of weighted voting rights provided that such an arrangement does not result in a circumvention of rule 8A.18(1).

Proposed rules for corporate beneficiary

HKEX published a consultation paper as of 31 January 2020 on their website which will end on 1 May 2020. The main criteria set out for corporate WVR were as follows:

Category	Individual WVR	Proposed Corporate WVR
WVR voting power	≤ 10 times of ordinary shares	≤ Five times of ordinary shares (a maximum of 68% voting power at a general meeting for a holder of 30% economic interest (below))
Economic interest in total issued share capital	Collectively a minimum of at least 10% and a maximum of not more than 50%	10 percent or more for at least two financial years prior to listing; and at least 30 percent at time of listing of the WVR applicant (and thereafter on an on-going basis)
Contribution to listing applicant	Has been materially responsible for the business growth and has an active role within the business	Leader of a recognisable ecosystem which has materially contributed to and shaped the business growth of the WVR applicant
Qualification/ ongoing requirement	A director at the time of listing and remains so thereafter	Primary listing on HKSE or a Qualifying Exchange with a minimum market capitalisation of HK$200bn at time of listing of the WVR applicant; Corporate representative sits on the board of directors of the WVR issuer; Complies with 30% minimum economic interest requirement; and WVR issuer remains in the ecosystem with access to information and technologies shared within the system
Lapse of WVR	If beneficiary dies, ceases to be a director, or deemed incapacitated or no longer meet directors' requirements (e.g., convicted of an offence involving fraud, disqualified, etc.); Upon transfer of WVR shares	No longer remains listed on the HKSE or a Qualifying Exchange; No longer has a corporate representative on the board of directors of the WVR issuer for more than 30 days; or its representative is deemed incapacitated or no longer meet directors' requirements; or that itself or its representative has been convicted of an offence involving fraud or dishonesty; Its economic interest falls below 30%; If, based on the review(s) by the Corporate Governance Committee of the WVR issuer, the corporate's contribution to the issuer is substantially terminated or materially disrupted or suspended for a period exceeding 12 months
Sunset provision	None	Must have a time-defined "sunset" period of not more than ten years for the WVR of a corporate WVR beneficiary, which may then be renewed for successive periods of not more than five years with the approval of independent shareholders

We note that the 2018 WVR consultation paper started in February 2018 and ended on 23 March 2018. The actual amendment was implemented on 31 April 2018. Hence, based on the WVR consultation period, we estimate that the Corporate WVR changes will likely be implemented in June 2020 based on the WVR consultation close date of 1 May 2020.

Confidential filings

HKEX also put in place measures that will protect these issuers because the application process will not be publicly disclosed, unlike IPO applicants. **The process will be kept confidential to protect issuers from potential speculation and volatility.** Alibaba's secondary listing was a good example. The application process had been underway for some time but the time between the confirmation of the secondary listing to the filing of the documents and launch of deal was much shorter than a typical IPO. A typical Hong Kong IPO tend to take about 3 to 4 months between filing to launch of the deal whereas in the case of Alibaba, it took less than 30 days.

Confidential Filings

18. A new applicant which has been listed on a recognised overseas exchange for not less than 5 years and has a significantly large market capitalisation (as determined by the Exchange from time to time) or a new applicant applying for secondary listing under Chapter 19C at the time of filing its listing application is entitled to make a confidential filing of its Application Proof. The new applicant is not subject to the publication requirements for its Application Proof unless requested to comply with them by the Exchange or the Commission (as the case may be). All other requirements under the Exchange Listing Rules apply unless a waiver is granted.

From secondary to dual listing. Another point to note is that according to rule 19C.13, once a secondary-listed company's number of annually traded shares in Hong Kong exceeds 55 per cent of the company's total shares turnover, the secondary listing is upgraded to become a dual listing and exceptions (specified under rules 19C.11) will no longer apply and the issuer will have a grace period of 12 months to comply with applicable Exchange Listing Rules which will be tighter than a secondary listing.

Migration of the Bulk of Trading to the Exchange's Markets

19C.13 If the majority of trading in a Greater China Issuer's listed shares migrates to the Exchange's markets on a permanent basis, the Exchange will regard the issuer as having a dual-primary listing and consequently the exceptions set out in rules 19C.11 will no longer apply to the issuer.

Note 1: The Exchange will regard the majority of trading in a Greater China Issuer's listed shares to have moved to the Exchange's markets on a permanent basis if 55% or more of the total worldwide trading volume, by dollar value, of those shares (including the volume of trading in depositary receipts issued on those shares) over the issuer's most recent financial year, takes place on the Exchange's markets.

In terms of eligibility for indices inclusion, secondary listings and companies with WVRs are currently not included in Hang Seng Index (HSI) and Hang Seng China Enterprises Index (HSCEI) but are components of Hang Seng Composite Index which has a bigger universe. For the HSI and HSCEI, Hang Seng Indexes kicked off a consultation process on the 13th of January to consider the inclusion of these companies.

5) Matters Related to the HSCEI

Eligibility of WVRs and Secondary-listed Companies for the HSCEI

5.1 Similar to the HSI, the HSCEI index universe does not currently include WVRs and secondary-listed companies.

In the consultation paper, Consultation on the Eligibility of Weighted Voting Right Companies and Secondary-listed Companies for Inclusion in the Hang Seng Index, Hang Seng Indexes, there were no mentions of the specifics of the inclusion. Rather, it consisted of a series of questions to gather the market feedback on the inclusion of these companies.

2) Eligibility of WVRs for the HSI

2.1 The first WVR listed in Hong Kong in July 2018. As at the end of 2019, there were three WVRs listed in Hong Kong.

Exhibit 6: WVRs Listed on the SEHK

Stock Code	Company Name	Listing Date	Industry	Market Cap (HK$ bn)	Market Cap Rank*
1810	Xiaomi	9 Jul 2018	Telecommunications Equipment	259.0	27
3690	Meituan	20 Sep 2018	E-Commerce & Internet Services	591.8	8
9988	Alibaba	26 Nov 2019	E-Commerce & Internet Services	4,446.9^	1

* Rank among all stocks listed on the SEHK
^ In the HSCI, market capitalisation is measured by the proportion of shares registered in Hong Kong

2.2 There is a diverse range of market views over the index eligibility of WVRs. As these entities are usually large technology-related Mainland companies with global business interests, advocates see them as an excellent investment opportunity that is too good to ignore. Further, from the perspective of market representation, it seems inappropriate to exclude these large-cap companies from key benchmark indexes.

2.3 On the other hand, opponents have raised concerns about the unequal voting right structure of WVRs, which might disadvantage general shareholders given the superior voting rights of certain 'minority' shareholders.

Your views:

Question 4:

Do you think WVRs should be eligible for inclusion in the HSI? (Select one answer only)

☐	Yes, WVRs should be eligible
☐	No, WVRs should not be eligible unless they meet additional criteria, e.g.

3) Eligibility of Secondary-listed Companies for the HSI

3.1 Primary-listed companies are fully subject to the listing rules of the SEHK. In contrast, secondary-listed companies are principally regulated by the jurisdiction where they are primary listed. Certain SEHK listing rules are waived for secondary listings based on an understanding that shareholder protection standards that are in place in the overseas primary market are at least as stringent as those in Hong Kong. Historically, trading in these secondary-listed foreign companies has been fairly weak in Hong Kong.

3.2 In 2018, the SEHK introduced a new concessionary secondary listing route, Chapter 19C, for Greater China companies that would like to consider Hong Kong for a secondary listing. Before the introduction of Chapter 19C, Greater China companies were not allowed to seek a secondary listing in Hong Kong to prevent potential regulatory arbitrage.

3.3 Alibaba is the first overseas issuer to secondary list in Hong Kong based on Chapter 19C, and it is expected that more Greater China companies with a primary listing overseas will come to Hong Kong for secondary listing.

3.4 Many of the Greater China companies that seek a secondary listing in Hong Kong would be more familiar to Hong Kong investors, and this is expected to drive an upturn in interest in trading these stocks.

Exhibit 7: Secondary-listed Companies in Hong Kong

Stock Code	Company Name	Listing Date	Primary Exchange	Greater China or Foreign Companies	Market Cap (HK$ bn)	Average Daily Traded Value* (HK$ mn)
945	Manulife	27 Sep 1999	Toronto	Foreign	303.0	2.65
1878	SouthGobi	29 Jan 2010	Toronto	Foreign	0.2	0.04
6288	Fast Retail	5 Mar 2014	Tokyo	Foreign	23.0	0.21
9988	Alibaba	26 Nov 2019	New York	Greater China	4,446.9^	2,496.64

* Average daily traded value in December 2019
^ In the HSCI, market capitalisation is measured by the proportion of shares registered in Hong Kong

Your views:

Question 6:

Do you think secondary-listed Greater China companies should be eligible for inclusion in the HSI? (Select one answer only)

☐	Yes, secondary-listed Greater China companies should be eligible
☐	No, secondary-listed companies should not be eligible unless they meet additional criteria, e.g.

Based on our read-through of the consultation paper, our understanding is that Hang Seng Indexes will likely allow WVR companies and secondary listings to be eligible for inclusion. While the conclusion will be dependent on the feedback, we do not see a reason for there to be a major pushback from the public since the inclusion will likely benefit current WVR and secondary listings and continue to incentivise more ADRs to come back to Hong Kong.

We note that Hang Seng Composite Index (HSCI) underwent a similar process as HSI and HSCEI in 2018. On 17 January 2018, there was a consultation paper published to receive market feedback on the eligibility of foreign companies, stapled securities and weighted voting right companies for inclusion in HSCI.

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The consultation ended on the 28 February 2018 and conclusions were published on 7 May 2018 and implementation started in Q3. The ongoing consultation for HSI and HSCEI ends on 13 March 2020. Hence, using HSCI as the basis of our estimation, we expect the consultation conclusion to be published in May/June of 2020 and could be implemented by Q3/Q4 of 2020.

China ADRs shortlist for dual listing in Hong Kong

To shortlist the potential secondary listing candidates, we started with a list of 152 Chinese companies listed in the US. We removed Alibaba since it is already listed in Hong Kong, as well as biotech companies such as BeiGene, Zai Lab, and I-Mab which will not be qualified for dual listing (however, they could still do an IPO, like BeiGene).

We then applied a market capitalization cut off of US$1.5bn and shortlisted 43 Chinese companies that have a market capitalization of above US$1.5bn which is slightly above the [dual listing rules' second requirement on the market cap of US$1.3bn and annual revenue of above US$130m]. Some of the prominent names removed under this filter are Bitauto Holdings Ltd Adr (BITA US) (US$1.07bn of market cap), Cheetah Mobile Inc Adr (CMCM US) (US$487m) and Sohu.com Inc (SOHU US) (US$421m).

Further, **based on the rule of two years of financial filings**, we use the number of years listed as a proxy. Thus, we took out all companies that have been listed for less than two years, this includes Pinduoduo (PDD US), Tencent Music (TME US), iQIYI Inc (IQ US), GSX Techedu (GSX US), Luckin Coffee (LK US), Bilibili Inc (BILI US), NIO Inc (NIO US), OneConnect Financial Technology (OCFT US), HUYA Inc (HUYA US), Douyu International

Holdings (DOYU US), AMTD International (HKIB US), Youdao (DAO US), 9F Inc (JFG US), Studio City International Holdings Limited (MSC US), Qutoutiao Inc (QTT US), So-Young (SY US), and 360 Finance, Inc. (QFIN US). However, we note that among those with a market cap of above US$10bn, PDD has half a year left to qualify for this rule, and TME has 10 months to wait to qualify for this rule (though it will still have to wait for the Corporate WVR rules to be implemented), and IQ just needs to wait for one month to qualify.

Table: Listing dates of companies with less than two years of listing

Ticker	Company	MtkCap (USD m)	Listing Date	Cut-off-date
PDD US	PINDUODUO INC-ADR	41.5	2018-07-26	2020-07-25
TME US	TENCENT MUSIC ENTERTAINM-ADR	22.0	2018-12-12	2020-12-11
IQ US	IQIYI INC-ADR	17.3	2018-03-29	2020-03-28
GSX US	GSX TECHEDU INC- ADR	9.4	2019-06-06	2021-06-05
LK US	LUCKIN COFFEE INC - ADR	9.1	2019-05-17	2021-05-16
BILI US	BILIBILI INC-SPONSORED ADR	7.6	2018-03-28	2020-03-27
NIO US	NIO INC - ADR	4.6	2018-09-12	2020-09-11
OCFT US	ONECONNECT FINANCIAL TECHNO	4.6	2019-12-13	2021-12-12
HUYA US	HUYA INC-ADR	4.1	2018-05-11	2020-05-10
DOYU US	DOUYU INTERNATIONAL HOLD-ADR	2.6	2019-07-17	2021-07-16
HKIB US	AMTD INTERNATIONAL INC -ADR	2.0	2019-08-05	2021-08-04
DAO US	YOUDAO INC	1.8	2019-10-25	2021-10-24
JFU US	9F INC - ADR	1.8	2019-08-15	2021-08-14
MSC US	STUDIO CITY INTERNATIONA-ADR	1.5	2018-10-18	2020-10-17
QTT US	QUTOUTIAO INC-ADR	1.5	2018-09-14	2020-09-13
SY US	SO-YOUNG INTERNATIONAL-ADR	1.3	2019-05-02	2021-05-01
QFIN US	360 FINANCE INC -ADR	1.3	2018-12-14	2020-12-13

Hence, we have 23 companies left in our short list for the potential dual listing in Hong Kong. For these 23 companies, we score them based on a quantitative framework that helps to rank these companies on their probable attractiveness to investors:

- **Stock performance:** we compare the company's stock six month, one year, and three year performance against HSCEI, and give a score between 0 and 3. If the company outperformed the benchmark for the trailing six months, we will give one point. If the company outperformed the benchmark for the trailing one year, we will give one more point. If the company outperformed the benchmark for the trailing three years, we will give one extra point.
- **Net gearing:** depending on how the company improved its net gearing in the past three years, we give a score between 0 and 2. If the company is net cash, we would give 2 points. If the company is net debt and the net gearing improved in the past three years by comparing the net gearing of the immediate past financial year and three years back, we will give 1 point. Otherwise, we give 0 points.
- **Operating margins:** depending on how the company improved its operating margins (as defined by Bloomberg) in the past three years, we give a score between 0 and 3. If the operating margin of past year improved vs two years ago, we give one point. If the operating margin

two years ago improved vs three years ago, we give one more point. If the operating margin in the past year improved vs three years ago, we give one more point. Otherwise we will give 0 points.

Therefore the max score based on this framework is 8. Yum China Holdings, Inc (YUMC US) and TAL Education (TAL US) are the top 2 companies with a score of 7 points. Following YUMC and TAL, JD.com Inc (ADR) (JD US) and Noah Holdings Ltd Spon Ads (NOAH US) recorded 6 points. Six companies recorded 5 points. They are Baidu (BIDU US), ZTO Express (ZTO US), Weibo Corp (Adr) (WB US), 58.Com Inc Adr (WUBA US), 51 Job Inc Adr (JOBS US), and BEST Inc (BEST US).

Table: Scores for dual-listing candidates

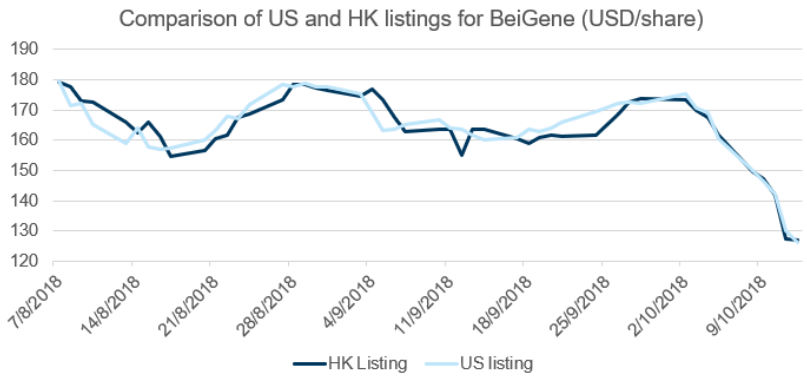
Ticker	Company	MktCap (USD bn)	Score			
			Performance	Net Gearing	Margins	Total
TAL US	TAL EDUCATION GROUP- ADR	32.0	3	2	2	**7**
YUMC US	Yum China	16.4	3	2	2	**7**
JD US	JD.COM INC-ADR	58.3	3	2	1	**6**
NOAH US	NOAH HOLDINGS LTD-SPON ADS	2.3	1	2	3	**6**
BIDU US	BAIDU INC - SPON ADR	45.3	1	2	2	**5**
ZTO US	ZTO EXPRESS CAYMAN INC-ADR	17.8	2	2	1	**5**
WB US	WEIBO CORP-SPON ADR	10.0	0	2	3	**5**
WUBA US	58.COM INC-ADR	8.9	0	2	3	**5**
JOBS US	51JOB INC-ADR	5.4	0	2	3	**5**
BEST US	BEST INC - ADR	2.1	0	2	3	**5**
ATHM US	AUTOHOME INC-ADR	9.6	0	2	2	**4**
VIPS US	VIPSHOP HOLDINGS LTD - ADR	9.0	2	2	0	**4**
SINA US	SINA CORP	2.8	0	2	2	**4**
NTES US	NETEASE INC-ADR	43.2	1	2	0	**3**
EDU US	NEW ORIENTAL EDUCATIO-SP ADR	20.8	1	2	0	**3**
TCOM US	TRIP.COM GROUP LTD-ADR	20.0	0	1	2	**3**
GDS US	GDS HOLDINGS LTD - ADR	8.3	0	0	3	**3**
MOMO US	MOMO INC-SPON ADR	6.6	0	2	1	**3**
YY US	JOYY INC	5.2	0	2	1	**3**
CBPO US	CHINA BIOLOGIC P	4.5	1	2	0	**3**
BZUN US	BAOZUN INC-SPN ADR	2.1	0	0	3	**3**
HTHT US	HUAZHU GROUP LTD-ADR	9.8	0	0	2	**2**
SOGO US	SOGOU INC-ADR	1.7	0	2	0	**2**

What's the trade?

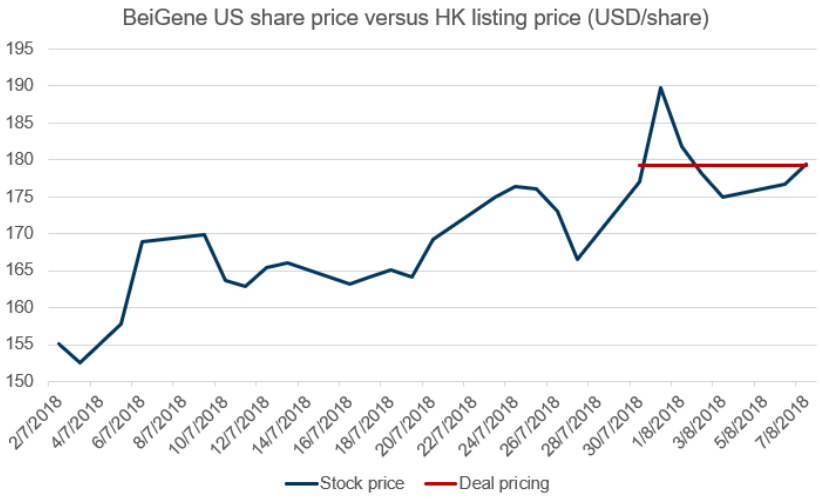
Lessons from BeiGene IPO

In July/Aug 2018, the US-listed BeiGene raised US$1bn through a secondary listing in Hong Kong. The deal was covered by my colleague, Ke Yan, in his two notes: BeiGene (百济神州) IPO: Dual-Listing with Upside Capped in the Near Term and BeiGene (百济神州) Post-IPO: An ADR Tracker with Limited Near-Term Upside.

The deal was offered at a -4 to 12% discount at the time of launch and had reputable cornerstone investors for its Hong Kong listing. It was eventually priced towards the upper-half of its range at a 1.2% premium to the price at the time of launch. By the end of the first day of trading the US and HK listings had pretty much converged.



What is more interesting is what happened to Beigene share price before the HK listing. In the month running up to the listing, the shares had a good run gaining 15.7% versus a 4.8% gain for S&P and a flat HSCEI. **Keep in mind that US$1bn for BeiGene was worth around 10% of its market cap at that time and hence, it was a big raise for the company**. However, post the actual deal being launched, the share price quickly converged towards the middle of the deal range, after having peaked on the day of the deal launch.



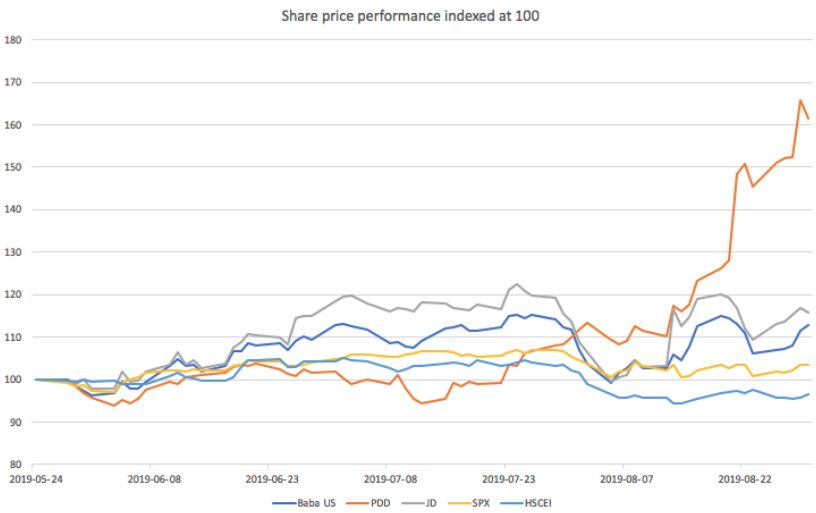
Lessons from Alibaba Secondary offering

The first inkling of Alibaba's plan to undertake a secondary listing in Hong Kong came towards the end of May 2019 (28th May, to be exact) when various news outlets reported that Alibaba was in talks with banks to raise up to US$20bn in Hong Kong, see here.

Without confirming its listing plans, it was reported in mid-Jun 2019 that Alibaba had filed confidentially (13th Jun) and the company also announced (17th Jun, to be exact) that it plans to split its shares in one is to eight ratio for potential future capital raising.

The company then went into radio silence even though earlier reports had indicated that the company planned to list by Sep 2019. One of the possible reasons for the long wait was the delay in finalising the stock connect rules for weighted average voting rights companies. Shenzhen and Shanghai stock exchanges put in a cooling off period of 6 months and 20 trading days post listing before WVR companies could be included in the stock exchange. Furthermore, the protest in Hong Kong didn't help either. Thus, it was reported in Aug 2019 (21st Aug) that plans had been delayed, see here.

The chart below shows the share price performance during this period. As can be seen, the shares didn't do much versus peers and the index despite the ongoing news flow about the secondary listing.



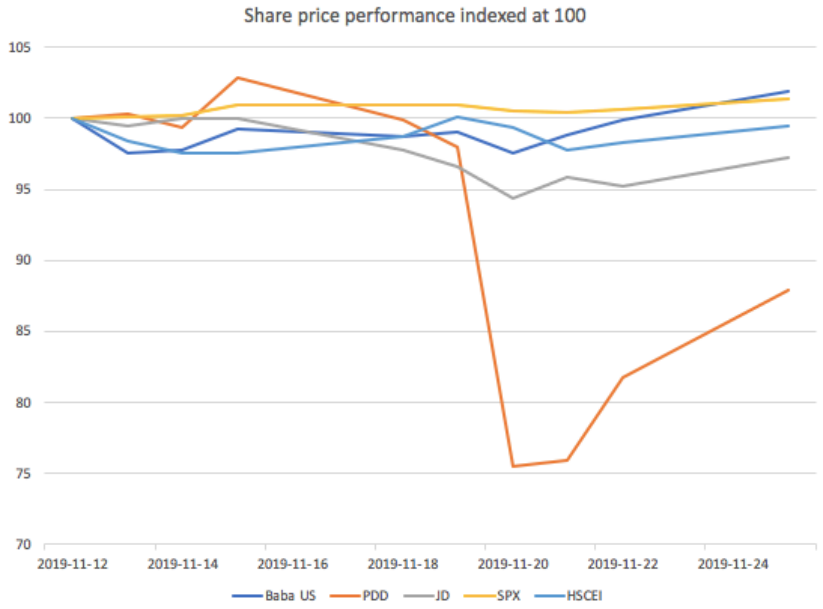
Then finally when most people had given up on the hope of seeing a BABA secondary offering in 2019, on 13th Nov, the company filed its PHIP.

On 13th Nov the IPO was launched without a price range, however, it had to announce a maximum offer price for the retail tranche, which it did on the 15th of Nov at a premium to its last close.

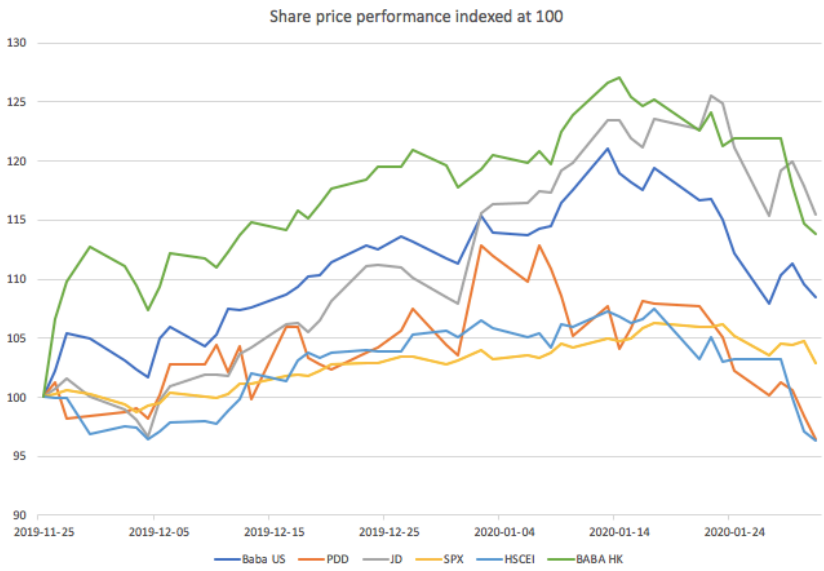
> *The company has set the maximum HKPO (retail) offer price at HK$188/share or US$192/ADR which is about 5% higher than its last close, and just shy of the highest level that its traded at over the past year.*

The deal was finally priced at a discount of 2.8% discount to last close and a 3.7% discount to the undisturbed price and it began trading on the 26th of Nov.

As the chart below shows, even during the bookbuild period, the ADRs didn't do much and the first reaction upon confirmation of the deal was a share price correction.



It was only once the HK listed shares started trading, did BABA outperform in peers, at least for a short while, see chart below. That too, most of the performance was owing to the narrowing of the discount offered for the deal and the subsequent index inclusion actions.



Thus, Beigene and BABA offer contradictory examples of share price performance before and post listing. In our view, the main distinction between the two was the size of the raising and how impactful it was for the company. Beigene's raising at 10% of the company was relatively sizable while Baba's at around 2-3% of MCap wasn't really a big deal, even though in absolute terms it was.

Conclusion

With HKEX allowing confidential filings, the timings of the secondary listing deals will remain highly uncertain and hence, one can't really trade around the deal till the filing is made public and the deal is announced. The question then becomes whether to go long/short at the time of the deal announcement or to wait for the deal to be priced and then go long/short?

In our view, the factor that would decide this would be the size of the deal relative to the company's existing market cap. As a rough guide to possible deal sizes, we put the deal size for 2%, 5% and 10% of the market cap of our shortlisted candidates in the table below.

Most of the companies in our shortlist are net cash and aren't capital heavy businesses, thus, they don't really need fresh capital. We would say any deal that is smaller than 5% of the current market cap and is just a few days of ADV of the ADR, wouldn't move the needle much for any of these names, unless it substantially increases its free-float. In such a case, one would be better off waiting for the deal to be launched and priced and look at the demand before deciding whether to go long/short the ADR.

For deals that are bigger and seem likely to get done, it would probably be better to go long when the deal is announced rather than waiting for the pricing, as the larger raise would have more of a fundamental impact on the company.

Table: China ADR candidates and potential deal size

Ticker	Company	MktCap ($bn)	Score	FreeFlt ($bn)	3M-ADV ($m)	Net Debt ($m)	Deal Size ($m) Based on % of MktCap		
							2%	5%	10%
TAL US	TAL EDUCATION GROUP- ADR	32.0	7	20.8	167	(1,300)	640	1,600	3,200
YUMC US	Yum China	16.4	7	15.6	118	(1,363)	328	820	1,640
JD US	JD.COM INC-ADR	58.3	6	43.4	420	(3,630)	1,166	2,916	5,832
NOAH US	NOAH HOLDINGS LTD-SPON ADS	2.3	6	1.4	8	(438)	45	114	227
ZTO US	ZTO EXPRESS CAYMAN INC-ADR	17.8	5	8.1	50	(2,649)	357	892	1,783
WB US	WEIBO CORP-SPON ADR	10.0	5	5.2	79	(942)	199	498	996
WUBA US	58.COM INC-ADR	8.9	5	7.2	49	(896)	179	447	893
JOBS US	51JOB INC-ADR	5.4	5	5.4	11	(1,034)	108	269	538
BEST US	BEST INC - ADR	2.1	5	0.6	10	(124)	43	107	213
BIDU US	BAIDU INC - SPON ADR	45.3	4	35.9	467	(10,810)	906	2,265	4,530
ATHM US	AUTOHOME INC-ADR	9.6	4	4.6	54	(1,463)	191	479	957
VIPS US	VIPSHOP HOLDINGS LTD - ADR	9.0	4	7.0	71	(900)	180	451	901
SINA US	SINA CORP	2.8	4	2.5	27	(1,383)	56	141	281
NTES US	NETEASE INC-ADR	43.2	3	25.8	239	(5,278)	865	2,162	4,323
EDU US	NEW ORIENTAL EDUCATIO-SP ADR	20.8	3	18.8	155	(2,986)	417	1,042	2,084
TCOM US	TRIP.COM GROUP LTD-ADR	20.0	3	15.8	182	272	399	999	1,997
GDS US	GDS HOLDINGS LTD - ADR	8.3	3	2.8	58	1,546	167	417	834
MOMO US	MOMO INC-SPON ADR	6.6	3	5.3	122	(933)	133	332	663
YY US	JOYY INC	5.2	3	4.0	57	(2,079)	104	259	518
CBPO US	CHINA BIOLOGIC P	4.5	3	1.7	10	(242)	90	225	450
BZUN US	BAOZUN INC-SPN ADR	2.1	3	1.5	50	3	41	103	206
HTHT US	HUAZHU GROUP LTD-ADR	9.8	2	4.8	62	786	196	491	981
SOGO US	SOGOU INC-ADR	1.7	2	0.5	5	(1,037)	34	86	172

Key Risks

Apart from the usual market related risks, one of the key factors driving companies to undertake a listing in Hong Kong has been the stock connect. As per existing WVR rules, Baba's Hong Kong listing should be included in the stock connect after six months and twenty trading days, or around the middle of 2020. However, recent news articles seem to suggest that as it is a secondary listing, it will not be included in the stock connect at all. Although, there is no official word on the same.

Were this to happen it would not take care of the pull factor that we mentioned earlier, i.e. mainland investors won't have easy access to the Hong Kong shares. Thus, it might lead to US listed China ADRs having to reconsider their plans for a HK listing versus some form of listing on the mainland exchanges.

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Areas of Expertise

- Primary Asset Class: Equities
- Geography: Asia Pacific
- Countries: India
- Sectors: Generalist

Content Verticals

- Equity Bottom-Up, Forensic Accounting

Toshiba Corp | Forensic Accounting

A Forensic Analysis Tool for Detecting Accounting Red Flags: Focus on Developed Asia

By Ankit Agrawal, CFA | 29 Feb 2020

EXECUTIVE SUMMARY

In this Smartkarma Original, we bring to you a forensic analysis tool that scores companies across Developed Asia on their accounting risk. We use 25+ accounting parameters in our framework to come up with an accounting risk score. Our tool is based in Excel and is linked dynamically to Capital IQ for fetching latest data.

Insight Flow

1. Forensic Analysis Framework
2. Excel Model
    1. How to Download and Use the Tool
    2. Steps to Run the Model
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4. Companies with Highest Accounting Risk
5. Summary Statistics from our Analysis
6. Key Model Limitations and Risks
7. Appendix
    1. List of Companies in our Target Universe with Accounting Risk Score >= 8
    2. Glossary
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    5. Refresh Worksheet Option in Capital IQ Plugin

What's Original?
Over time with experience and taking cues from past financial shenanigans, we have developed a proprietary quantitative framework for identifying accounting irregularities. This framework comprises of 25+ accounting parameters and takes into account 10 years of historical data to assess the quality of accounting.

DETAIL

Forensic Analysis Framework

Our forensic analysis framework comprises 25+ quantitative factors developed over time through personal experience, inspiration from popular short-seller reports and relevant books like Financial Shenanigans, as well as analysis of past fraudulent cases.

Philosophical Guide for Our Framework: Philosophically, some of the concepts guiding our framework include mis-classification and capitalization of expenses, aggressive revenue recognition, weak quality of earnings, cash flow leakages, earnings leakages (e.g. miscellaneous expenses), aggressive/fictitious capex (e.g. high quantum of CWIP relative to fixed assets, capex as % of sales vs peers), related party transactions (e.g. loans and advances), comparison of operating performance and balance sheet quality relative to peers to identify anomalies, comparison of operating performance and balance sheet quality relative to history to determine unusual volatility or lack of the same, auditor independence (e.g. growth in remuneration vs sales growth), use of acquisitions for accounting mishaps (e.g. quantum of goodwill), aggressive provisioning, volatility in non-operating income, cash yield, direct changes to equity bypassing income statement (e.g. change in reserves ex earnings and dividends), frequent accounting policy changes (e.g. volatility in depreciation rates), long-term FCF generation, off balance sheet items (e.g. contingent liabilities, pension obligations, operating leases), smoothing of earnings (e.g. actual earnings vs consensus), management compensation, trade data (e.g. unusual low volatility in volume), etc.

In our Excel model, we have tried to capture most of the above data points, except for a few cases where the data availability was limited in Capital IQ.

List of Parameters and Scoring Weights: In the below table, we discuss the list of parameters used in our framework and associated weight used in our scoring methodology. Please note that none of the parameters on a standalone basis suggest high probability of accounting risk, but together these parameters provide a substantive and comprehensive framework to measure accounting risk of a given company.

Parameter	Aggregation	Threshold	Weight	Rationale for Including the Parameter
Cumulative Pre-Tax OCF/ Cumulative EBITDA	Cumulative over last 10Y	<70%	2	Over the long run, companies' cash flows should largely match their accrual accounting based earnings. We look at cumulative Pre-Tax OCF and EBITDA over the last 10 years and flag companies where cash flow generation significantly underwhelms accounting earnings.
Change in Reserves i.e. Change in Equity (ex changes in share capital)/PAT net of dividends	Median over last 10Y	<70%	2	Over a long period, on average, a company's change in equity (ex of any changes in share capital) should largely mirror net profit after tax excluding any dividends.
CAGR of Cash Conversion Cycle (AND)	CAGR over last 10Y	>0%	1	Over the long run, typically companies' cash conversion cycle stays steady and range-bound. However, for companies with weak quality of earnings and/or weak accounting standards, cash conversion cycle could get elongated and/or witness significant variation. We flag companies that have seen positive CAGR (> 0%) and high variation (CV > 20%) in cash conversion cycle. We have assigned it a weight of "1" vs "2" as we capture this concept through another parameter "CAGR in Net Working Capital as % of Sales", discussed in detail later.
CV of Cash Conversion Cycle	CV (Ann Std Dev/Ann Mean) over last 10Y	>20%		
Avg Cash Yield/ Risk Free Rate	Median over last 10Y	<50%	1	Typically, companies should generate yields on their average cash balance equivalent to at least the risk-free rate prevalent for its operating geography. We flag companies that have a history of generating substantially (<50%) low cash yields consistently relative to the applicable risk free rate. Since the timing of these cash balances is unknown, we have provided a lower weight of "1" vs "2" to account for the lack of data availability. A low cash yield generation could be indicative of fake cash on the balance sheet.
Other Non-operating Income as % of Sales	Median over last 10Y	>5%	2	Over the long run, typically companies should have limited other non-operating income as % of sales. We flag companies that have high (>5%) proportion of income coming from other non-operating sources. We put an additional filter to flag only those companies where the variation in this is high, as this could possibly indicate that other non-operating income is being used as a plug to manipulate earnings.
CV of Other Non-operating Income as % of Sales	CV (Ann SD/ Ann Mean) - over last 10Y	>20%		
Other Operating Expenses as % of Sales	Median over last 10Y	>5%	2	Over the long run, typically companies should have limited other operating expenses (or miscellaneous expenses) as % of sales. We flag companies that have high (>5%) proportion of expenses coming from miscellaneous sources. We put an additional filter to flag only those companies where the variation in this is high, as this could possibly indicate that other operating expenses is being used as a plug to manipulate earnings.
CV of Other Operating Expenses as % of Sales	CV (Ann SD/ Ann Mean) - over last 10Y	>20%		
Goodwill/Equity	Median over last 10Y	>10%	1	We flag companies with consistently high (>10%) goodwill as % of equity. Goodwill assessments typically rely on synergy assumptions that tend to prove fragile in most cases. Accordingly, companies with high goodwill carry higher risk of future write-offs. Also, historically companies with propensity for acquisitions have tended to resort to aggressive accounting to justify expensive valuations paid for acquisitions or have resorted to acquisitions in the first place to hide their own accounting gimmicks. We have assigned a lower weight of "1" vs "2", as we capture another similar parameter "Intangibles (ex Goodwill) as % of Equity", discussed later in the report.
Auditor Change Count	Count	>2	2	Too many auditor changes could suggest intention to hide anomalies in accounting
Contingent Liability/Equity	Median over last 10Y	>20%	2	A high amount of contingent liability (off balance sheet) could increase susceptibility towards future equity write-offs.

Loans and Advances/Equity	Median over last 10Y	>10%	2	A high quantum and consistent use of loans and advances could signal related party transactions or non-core activities.
Earnings Surprise %	Median over last 10Y	<5%	2	Over the long run, given most businesses face uncertain environment and associated randomness, companies that report earnings within close range (<5%) of that forecasted by analysts, raise suspicion of earnings manipulation and a tendency to match/beat street expectations.
Effective Tax Rate/ Regulatory Corporate Tax Rate	Average over last 10Y	<60%	1	Companies with low effective tax rate (<60%) vs stipulated corporate tax rate over the long run could raise suspicion of earnings manipulation through offshore entities, accounting gimmicks like accelerated depreciation, etc. On the other hand, in many cases there could be legitimate reasons for low tax rate such as subsidies, past accumulated losses, etc. However, in the long run, in most cases, tax subsidies and losses are not permanent, and hence the effective tax rate should come close to the stipulated corporate tax rate. Nonetheless, we have assigned a low weight of "1" to this parameter to account for any legitimate tax saving efforts.
Deferred Tax Liabilities as % of Equity	Median over last 10Y	>10%	2	Deferred tax liabilities are frequently used to front load earnings. Companies with high level (>10%) of deferred tax liabilities across many years are flagged by our model.
Deferred Tax Assets as % of Equity	Median over last 10Y	>10%	1	Deferred tax assets face impairment risks or can be used for smoothing future earnings. Accordingly, companies with high level (>10%) of deferred tax assets across many years are flagged by our model.
Non-current Investments as % of Equity	Median over last 10Y	>10%	1	High levels of non-current investments could suggest presence of non-core investments or related party investments.
CAGR of Net Working Capital (ex Cash and Equivalents)/CAGR of Sales	Ratio of CAGR over last 5 Years	>1	1	This is supplementary to our cash conversion cycle CAGR metric. It helps in detecting any cash flow leakages happening through working capital but not captured by cash conversion cycle which is limited to accounts receivables, inventory and accounts payable.
CAGR in Per Employee Salary vs CAGR of 5Y Inflation	Ratio of CAGR over last 5 Years	>2	1	High growth (>2x) of employee salary relative to inflation could suggest leakage of earnings and cash flow. Some exceptions to this could be high growth companies and as such we have kept the weight of this parameter low at "1".
CV of D&A as % of Depreciable Assets (Net PP&E + Goodwill + Intangibles)	CV (Ann SD/ Ann Mean) - over last 10Y	>30%	2	Signification variation in Depreciation and Amortization could suggest earnings manipulation through changes in Depreciation and Amortization policies. While some of the variation could be legit led by the change in asset mix, a large variation demands further probe.
CV of Employee Expenses/Total Operating Expenses (ex COGS)	CV (Ann SD/ Ann Mean) - over last 10Y	>20%	1	Typically, employee expenses tend to be fixed and/ or are at least sticky in nature and unlikely to vary significantly relative to total operating expenses (ex COGS). However, we have assigned a low weight of "1" as the high variation in many cases could be justified due to reliance on contractual labor and other variable operating expenses.
Count of Income Statement Restatements	Count	>4	1	High frequency of accounting statement restatements suggests weak internal accounting controls. Note that some of the restatements could be legit as these could be due to discontinued operations, mergers, etc. However, we consider >4 restatements in a span of 10 years to be high.
Count of Balance Sheet Statement Restatements	Count	>4	1	High frequency of accounting statement restatements suggests weak internal accounting controls. Note that some of the restatements could be legit as these could be due to discontinued operations, mergers, etc. However, we consider >4 restatements in a span of 10 years to be high.

Pension and Other Retirement Liabilities as % of Equity	Median over last 10Y	>10%	2	High level of Pension and Other Retirement Liabilities on balance sheet could incentivize manipulation of assumptions or could lead to increase in future liabilities in case of any shifts in underlying assumptions.
Intangibles (ex Goodwill) as % of Equity	Median over last 10Y	>25%	1	High levels of intangibles (ex Goodwill) suggests high risks of future write-offs or could be indicative of acquisition accounting where assumptions used could be too favorable to justify high acquisition price. This along with Goodwill as % of Equity provides good indication of any acquisition led accounting manipulation. Note that high levels of intangibles could be justified for certain industries like IT, etc. To account for any such concerns as well as duplication issues with our Goodwill as % of Equity parameter, we have kept the weight low at "1".
Decline in Long-term Shareholding	Max over last 10Y minus Current	>20%	1	Significant decline in long-term shareholding as measured by decline in free float could indicate weakening alignment of interests.
Sum of Cumulative Operating Cash Flow + Cumulative Investing Cash Flow	Cumulative	<0	2	We flag companies that have failed to generate a single penny of positive cash flow over the last 10Y in aggregate including both operating cash flow and investing cash flow. In some cases, this maybe justified as the company could have significant reinvestment opportunities, however, our experience is that in many cases this is an indication of cash flow leakage.
Total Parameters: 28			**Total: 37**	

Scoring Approach: We use absolute score and relative score to identify high accounting risk candidates. To come up with absolute score, we run our model across the above parameters for each company in our universe. We flag parameters that breach our set threshold and add up these in accordance with their weights to come up with an absolute score. Higher the absolute score, more the accounting risk. Note that we have been quite conservative in using stringent thresholds to lend enough margin of safety to our framework from any noise in the data and the model parameters.

Next we calculate relative score. Given that certain parameters are more likely to be red flagged for certain sectors/geographies than the rest, it is important to score each of the companies in our universe relative to their peer group so as to remove any sector/geography specific biases. For example, certain sectors like Real Estate, Construction and Engineering, etc. may show up high on absolute score but when compared to peers, their score may not deviate much. We eliminate such candidates. Below commentary further highlights our relative scoring approach.

Accounting for Sector/Geography Level Noise: For some of the accounting parameters, it could have been great to run a peer group analysis. However, we refrained from doing so, as at the individual parameter level there is significant noise in the data for each of the peers given they are not always like for like and can have material differences in the business model and strategy despite being in the same sector/industry. Accordingly, to us a more robust approach to minimize any sector/geography biases in our evaluation, is to use relative scoring at the aggregate level. For each of the companies in our universe, we run their peers through our accounting risk model to come up with absolute score for each of the peers. For each company in our universe, we then determine the top-quartile score

(i.e. top-quartile here means top 25% peers that have the highest accounting risk score) based on its specific peer group. To account for margin of safety, we then apply a factor of 1.5x to this peer group score to get the relative score. Now, once this relative score is available per company in our universe, we flag only those companies as high risk candidates whose absolute score is equal to or higher than the relative score. Higher the difference by which the absolute score exceeds the relative score, higher the accounting risk. Note that our relative score calculations are based on >7.5 peers per company, on average, providing enough robustness and comprehensiveness to our calculations.

Margin of Safety: Given that there can be significant noise in our model from the underlying data, individual parameters, nuances between accounting standards and reporting standards across companies/sectors/geographies, at various steps, we have tried to keep significant margin of safety.

- Thresholds at individual parameter level have been kept stringent
- Relative scoring has been used alongside absolute scoring
- Within relative scoring, we have used top-quartile score (for scoring relative to peers) rather than median and are applying a factor of 1.5x over and above this to obtain the relative score.
- Additionally, we calculate relative score only for those companies that have at least 5 peers with absolute score. Furthermore, we use only those peers where at least 5Y historical data is available for a minimum of 15 parameters.

Signal vs Noise Dilemma: On one hand, we wanted to include as many parameters as possible, as the use of this model is not just to flag candidates with highest accounting risk but also spot areas that require further probe from an accounting standpoint for a given company. On the other hand, including too many parameters adds noise to the model and also brings duplication issues. As a result, we faced the dilemma of which way to go. We tried to balance this through weighted scoring mechanism and have assigned a low weight of "1" for a few parameters where there were duplication issues or where our conviction was low. For rest of the parameters, we have assigned a weight of "2".

Consistency Matters: In flagging potential accounting risk, we have flagged only those instances where we have consistently witnessed outlier data. Accordingly, in most cases, we have used median statistic on 10Y historical data to make sure that we have enough instances of outlier data above our threshold before flagging it as an accounting concern.

Focus on Forensic Accounting: We have intentionally not included some of the financial strength parameters like Leverage (Debt to EBITDA), Interest Coverage, etc. This is because we want our model to be focused on forensic accounting rather than mix it with other forms of accounting based analysis like credit analysis, financial strength, etc.

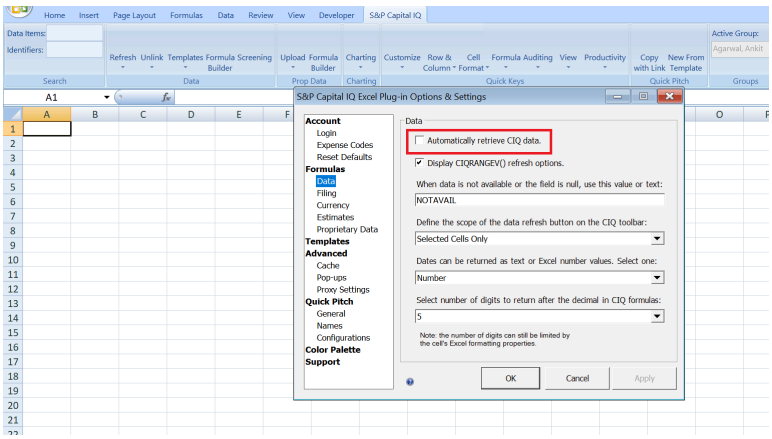
Excel Model

Our Excel model is dynamically linked to Capital IQ to fetch latest data for the companies in our target universe. We rely on last 10 years' data to fetch the accounting and financial parameters in our framework.

How to Download and Use the Tool
Please use this link https://www.smartkarma.com/home/red-flags-monitor/ to download the tool. The downloaded file will be a zip file which on decompression will yield a folder named "Forensic Analysis Tool" with five Excel files named - "Score Aggregator"; "Forensic Analysis - Target Universe"; "Forensic Analysis - Comps 1 Universe"; "Forensic Analysis - Comps 2 Universe"; "Final Universe Including Comps".

Steps to Run the Model: The model is computationally intensive as >40 accounting parameters with 10Y historical data are processed for over 1750 companies. To run the model successfully at your end, we strongly advise the users to follow the below steps sequentially:

1. Please install S&P Capital IQ Excel Plugin if not already installed. Given that our model fetches large quantum of data from Capital IQ, please un-check the automatic data retrieval feature in "S&P Capital IQ" Plugin, as shown below.



2. From the "Forensic Analysis Tool" folder, open all the five Excel files - "Score Aggregator"; "Forensic Analysis - Target Universe"; "Forensic Analysis - Comps 1 Universe"; "Forensic Analysis - Comps 2 Universe"; "Final Universe Including Comps" in a single Microsoft (MS) Excel shell. *Note that since all these files are linked to each other, for automatic updates it is important to open all these files in a single MS Excel shell.*

3. Go to each of the Excel files and go to "Excel Options". From the formulas tab in the left pane, change the workbook calculations option to "Manual" (un-check “recalculate workbook before saving” option as well if checked by default) from "Automatic" for all these Excel files. *Please refer to "Switch Formula Calculation Option in Excel" section in Appendix for more details on following this step.*
4. Go to “Raw Data” worksheet in the “Forensic Analysis - Target Universe” Excel workbook. Now go to “Refresh” button in the “Data” section of the "S&P Capital IQ" Plugin. From the "Refresh" drop-down, select the “Refresh Worksheet” option (*if needed, please refer to "Refresh Worksheet Option in Capital IQ Plugin" section in Appendix for more details on executing this step).* This will begin the process of fetching latest data from Capital IQ. Note that this may take a few minutes (about 3-5 minutes at my end) as there are over 250,000 data points being fetched per Excel sheet. Please let this process run without any interruption including any other operations outside of Excel on your computer. *Please make sure that automatic data updates in the Capital IQ Plugin settings has been disabled as guided in Step 1. The quantum of data fetched from Captial IQ is large and since the data involved pertains to last 10Y historical accounting data, it does not change unless restated or unless the fiscal year shifts with time. Accordingly, we advice users to use the “Refresh Worksheet” option only on a periodic basis and not use it every time you open or use the sheet.*
5. Repeat above step for "Forensic Analysis - Comps 1 Universe" and "Forensic Analysis - Comps 2 Universe" Excel files.
6. Once this is done, go to “Country Data” worksheet in the “Forensic Analysis - Target Universe” Excel workbook and use the “Refresh Worksheet” option from the "S&P Capital IQ" Plugin to download the country specific data. This step should be fairly quick.
7. Once all the data is fetched, go to Excel Options and reverse the formula calculation setting done in Step 2 back to “Automatic” for all the Excel files
8. Now open the Score Aggregator Excel workbook while keeping the rest of the Excel files open. Refer to the "Results" sheet in this file and click on "Update Results" custom button in the top rows to run the VBA macro to fetch the forensic accounting score and highlight the high risk accounting candidates. Please use the filter buttons in the header row to customize the universe as per your interested geography/sector. *Note that the "Score Aggregator" Excel workbook is linked to other Excel files and fetches accounting risk score for all the companies in our target universe and their peers.*

Target Universe

We have designed our Excel tool with Developed Asia as our target geography. Accordingly, we have focused on companies with primary presence in countries like Japan, Hong Kong, China (via Hong Kong), Singapore, South Korea and Australia. We have further filtered this universe to include only those companies that have a market cap > USD 2bn, an average daily traded value (average over last 3M) > USD 10mm and are listed on stock exchanges in Japan, Hong Kong, Singapore, South Korea and Australia. **This yields us with a target universe of 658 companies across Developed Asia.** *Note that these 658 companies in aggregate have >1700 peer companies. Together after removing duplicates, we end up with 1780 unique companies for which we calculate absolute accounting risk score. Of these, for the 658 companies in our target universe, we also calculate the relative score (based on peers' absolute score) to flag the highest accounting risk candidates.*

Note that we exclude Financials sector companies from our analysis, as these companies tend to have different accounting conventions and many of the accounting parameters used in our model are not applicable to the sector given the nature of their business. **Ex Financials sector, our target universe comprises of 572 companies.**

Companies with Highest Accounting Risk

We ran our Excel model to identify the most risky candidates across Developed Asia from an accounting standpoint. This yielded 41 companies (ex Financials sector) with absolute accounting risk score of 8 and above. *Please refer to the Appendix section to go through the full list of these 41 companies.*

We further filtered this to select only those companies that have a relative score of at least 1.5x that for the top-quartile peers with the highest accounting risk, leaving us with 12 high accounting risk candidates. Of these 12, we further eliminate two companies - (SEHK:267 - Citic Limited) and (TSE:9984 - SoftBank Group) - as while these companies are classified as non-financials, both these companies have significant profits coming from businesses in the financials sector. We enlist the remaining 10 most risky companies below.

Name	Comments
Toshiba Corp (6502 JP) Sector: Industrials Country: Japan	• High absolute score of 10 that also exceeds the relative score of 6, suggests significant accounting risks. • Translation of PAT (ex Dividends) into reserves has been low at 42%, on a median basis over the last 10 years, raising suspicion of changes to reserves directly at the balance sheet level while bypassing the income statement. Ideally, this ratio should be close to 100%. • Deterioration in working capital requirements suggests weak quality of sales (channel stuffing, etc.). Cash Conversion Cycle has grown at an annualized pace (CAGR) of 18% over the past 10 years. • Deferred Tax Assets are as high as 18% of equity, raising risks of any write-offs in the future. This compares with a median of <2% for our universe (ex Financials) and vs our absolute threshold of 10%. • Non-current investments are high at 38% vs a median of <16% for our universe ex Financials and <22% for Japanese Industrials suggesting that the level of non-core activities or related party transactions could be high. • Count of past income statement and balance sheet restatements have been as high as 6 times each, over the last 10 years, raising concerns around the robustness of internal accounting controls. • Pension and other retirement liabilities are as high as 52% of equity, suggesting susceptibility to assumptions and potential for rise in future liabilities. This compares with a median of 3% for our universe (ex Financials) and 5% for the Japanese Industrials segment. • Intangibles (ex Goodwill) are as high as 26% of equity, raising risks of future write-offs. This compares with a median of 4% for our universe (ex Financials) and <4% for the Japanese Industrials segment.
Zoomlion Heavy Industry S A (000157 CH) Sector: Industrials Country: China/HK	• High absolute score of 10 that also exceeds the relative score of 7.5, suggests high accounting risks. • Three auditor changes over the past 10 years vs 0.67 on average for Chinese companies in our universe, raises suspicion of accounting manipulation. • The company has failed to generate positive cash flows in aggregate from its operating and investing activities. While this could be because of re-investments into the business, negative cash flow generation over such long periods (10 years) raises suspicion of cash flow leakage. • Deteriorating cash conversion cycle (CAGR of 10% over the last 10 years) suggests potentially weak quality of sales (channel stuffing, etc.). • Weak translation of PAT ex Dividends to reserves, suggests that the company could be potentially knocking off some of the equity directly from the balance sheet through various accounting adjustments rather than passing the changes through the income statement. Median change in reserves vs PAT (ex Dividends) over the last 10 years has been low at 54%. This should ideally be close to 100%. • Income statement and balance sheet restatements have been as high as 7 times each over the last 10 years, raising concerns around the robustness of internal accounting controls. • Long-term shareholding has declined significantly by 37% as indicated by the increased free float during the past 10 years. This suggests potential weakening of alignment of interest.

Technopro Holdings (6028 JP) Sector: Industrials Country: Japan	• High absolute score of 9 that also exceeds the relative score of 7.5, suggests high accounting risks. • Cumulative pre-tax cash flow generation from operations has been weak at 56% of cumulative EBITDA over the last 10 years, raising suspicion of cash flow leakages. This is further concerning as there has been no significant deterioration in working capital, which is usually a legitimate reason behind weak conversion of earnings to cash flows. This should ideally be close to 100%. • Goodwill as % of equity is as high as 127%, raising risks of future write-offs. This compares with a median of 4% for our universe (ex Financials). • Deferred tax assets as % of equity is high at 13% vs a median of <2% for our universe (ex Financials), raising risks of future write-offs. • Very high variation in depreciation and amortization rate at 94% (CV) relative to depreciable assets indicates potential tendency to manage earnings through frequent shifts in depreciation and amortization policies. • Pension and other liabilities are high at 16% vs a median of 3% for our universe (ex Financials) and a median of 4% for Japan focused universe. • Long-term shareholding has declined by 30% points as indicated by change in free float over last 10 years, suggesting weakening of alignment of interest.
Mitsui Fudosan (8801 JP) Sector: Real Estate Country: Japan	• High absolute score of 9 that exceeds the relative score of 8.6, suggests high accounting risks. • Conversion of earnings to cash flow has been weak with cumulative pre-tax operating cash flows just 65% of cumulative EBITDA over the last 10 years. This should ideally be close to 100%. This has been partly driven by deterioration in working capital. Cash conversion cycle has grown at >6% annualized over the last 10 years. Annualized growth in net working capital (ex cash and equivalents) relative to growth in sales has also been more than twice. • Cumulatively over the last 10 years, the company has failed to generate positive cash flow in aggregate from operating and investing activities. While this could be because of re-investments into the business, negative cash flow generation over such long periods (10 years) raises suspicion of cash flow leakage. • Non-current investments as % of equity at 42% is high vs a median of 16% for our universe (ex Financials) and a median of <17% for the Real Estate sector focused universe. • Deferred Tax Liabilities as % of net worth at 17% is high vs a median of <3% for the whole universe (ex Financials) and a median of <4% for the Real Estate sector focused universe.
Hlb Inc (028300 KS) Sector: Consumer Discretionary Country: South Korea	• High absolute score of 9 that is equal to relative score of 9, suggests high accounting risks. • Three auditor changes vs 1.7 on average for South Korea focused universe, raises suspicion of accounting manipulation. • Working capital requirements have deteriorated over the last 10 years, indicating potentially weak quality of sales. Annualized growth in net working capital (ex cash and equivalents) has been 4x that of sales over the last 5 years. This is while the cash conversion cycle has improved during this period, suggesting that the stretched working capital is probably coming from other current assets and liabilities. • Very high variation in depreciation and amortization rate at 96% (CV) relative to depreciable assets indicates tendency to shift depreciation and amortization policies for earnings management. • Variation in employee expenses as a % of total operating expenses (ex COGS) is high at 38% (CV) vs a median of <9% for our universe (ex Financials), indicating potential earnings manipulation through shift in employee expenses. • Income statement restatements have been as high as 7 times over the last 10 years, raising concerns around the robustness of internal accounting controls. This compares with 4.9 on average for the South Korea focused universe. • Cumulatively over the last 10 years, the company has failed to generate positive cash flow in aggregate from operating and investing activities. While this could be because of re-investments into the business, negative cash flow generation over such long periods (10 years) raises suspicion of cash flow leakage.

Mineral Resources (MIN AU) Sector: Materials Country: Australia	• High absolute score of 9 that is equal to relative score of 9, suggests high accounting risks. • Three auditor changes vs an average of 0.5 for the Australia focused universe, suggests potential for accounting manipulation. • High (6% of sales vs a median of 0.4% for our universe) and varying level (CV of 31%) of operating expenses as % of sales suggests potential for earnings manipulation through miscellaneous and/or other operating expenses. • Deferred tax liabilities as % of equity is high at 15% vs a median of <3% for our universe (ex Financials) and 6% for the Australia focused universe. • High variation in depreciation and amortization rates (CV of 58% vs a median of 17% for our whole universe ex Financials) indicates tendency to shift depreciation and amortization policies for earnings management. • Long-term shareholding has declined by 33% points as indicated by change in free float over last 10 years, suggesting weakening of alignment of interest.
Olympus Corp (7733 JP) Sector: Healthcare Country: Japan	• High absolute score of 8 that exceeds the relative score of 4.5, suggests high accounting risks. • Conversion of earnings to cash flow has been weak with cumulative pre-tax operating cash flows just 65% of cumulative EBITDA over the last 10 years. This compares with our absolute threshold of 70% and a median of 96% for our universe (ex Financials). This has been partly driven by deterioration in working capital. Cash conversion cycle has grown at >17% annualized over the last 10 years, suggesting weak quality of sales (channel stuffing, etc.). • Goodwill as % of equity is high at 32%, raising risks of future write-offs. This compares with a median of 4% for our universe (ex Financials). • Deferred tax liabilities as % of equity is high at 11% vs a median of <3% for our universe (ex Financials). • Non-current investments as % of net worth at 43% is high vs a median of 16% for our universe (ex Financials). • Long-term shareholding has declined by 23% points as indicated by change in free float over last 10 years, suggesting weakening of alignment of interest.
Mitsubishi Materials (5711 JP) Sector: Materials Country: Japan	• High absolute score of 8 that exceeds the relative score of 6.75, suggests high accounting risks. • Deferred tax liabilities as % of equity is high at 10.5% vs a median of <3% for our universe (ex Financials) as well as for the Japan focused universe. • Non-current investments as % of equity at 49% is high vs a median of 16% for our universe (ex Financials). It is also high relative to a median of 21% for the Materials sector focused universe. • High variation in depreciation and amortization rate at 32% (CV) indicates tendency to shift depreciation and amortization policies for earnings management. It is also high relative to a median of 22% for the Materials sector focused universe. • Pension and Other Retirement Liabilities as % of equity is high at 10% vs a median of 3% for our universe (ex Financials). This is also high relative to a median of 3% for the Materials sector focused universe and a median of 4% for the Japan focused universe. • Long-term shareholding has declined by 20% points as indicated by change in free float over last 10 years, suggesting weakening of alignment of interest.

Fila Korea Ltd (081660 KS) Sector: Consumer Discretionary Country: South Korea	• High absolute score of 8 that exceeds the relative score of 6.75, suggests high accounting risks • Conversion of earnings to cash flow has been weak with cumulative pre-tax operating cash flows just 57% of cumulative EBITDA over the last 10 years. This compares with our absolute threshold of 70% and a median of 96% for our target universe (ex Financials). This has been partly driven by deterioration in working capital with annualized growth in net working capital (ex cash and equivalents) being 1.4x that of annualized growth in sales over the last 5 years. • Variation in employee expenses as a % of total operating expenses at 32% is high vs a median of 9% for our universe (ex Financials). • Income statement restatements have been as high as 5 times each over the last 10 years, raising concerns around the robustness of internal accounting controls. However, this is in line with a median of 5 for the South Korea focused universe. Nonetheless, further probing of the rationale driving these restatements is advisable. • Intangibles (ex Goodwill) as % of equity is very high at 82% vs a median of 4% for our universe (ex Financials), raising risks of future write-offs. • Cumulatively over the last 10 years, the company has failed to generate positive cash flow in aggregate from operating and investing activities. While this could be because of re-investments into the business, negative cash flow generation over such long periods (10 years) raises suspicion of cash flow leakage.
Hulic Co Ltd (3003 JP) Sector: Real Estate Country: Japan	• High absolute score of 8 that exceeds the relative score of 7.5, suggests high accounting risks • Three auditor changes vs an average of 1.5 for the Japan focused universe, suggests potential for accounting manipulation • Deferred tax liabilities as % of equity is high at 12% vs median of <3% for our universe (ex Financials). • Non-current investments as % of equity at 50% is high vs a median of 16% for our universe (ex Financials). • Long-term shareholding has declined by 22% points as indicated by change in free float over last 10 years, suggesting weakening of alignment of interest. • Cumulatively over the last 10 years, the company has failed to generate positive cash flow in aggregate from operating and investing activities. While this could be because of re-investments into the business, negative cash flow generation over such long periods (10 years) raises suspicion of cash flow leakage.

Note: Unless mentioned otherwise, the mention of "universe" in the above table implies "target universe ex Financials"

Summary Statistics from our Analysis

Notable Statistics from our Analysis: Based on the absolute accounting risk scoring of the 572 companies in our target universe (ex Financials), please see below some summary statistics. Maximum accounting risk score exhibited by companies in our universe is 11 and minimum score obtained is 0. Even for the bottom quintile, we obtained a score of 0 suggesting that at least 10% of our target universe (ex Financials) comprises of companies that have low risk from an accounting standpoint. Top quintile of our universe showed a score of 7, suggesting that our end users looking for short candidates will find their time well spent focusing on companies with absolute score of 7 and above.

Stats	Value
Max	11.0
Top 5%	8.0
Top Quintile	7.0
Top Quartile	5.0
Median	3.0
Average	3.3
Bottom Quartile	2.0
Bottom Quintile	0.0
Min	0.0

Sector/Geography Heat Map: South Korea Industrials and China Real Estate show most susceptibility to accounting risks per aggregate absolute scoring obtained for our target universe (ex Financials). However, note that as highlighted earlier, absolute score by itself is not sufficient to flag high risk candidates. Relative scoring should also be taken into account at individual company level before making any substantive conclusions.

Heat Map	Communication Services	Consumer Discretionary	Consumer Staples	Energy	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities	Aggregate
Australia	5.50	5.33	4.25	5.17	3.50	5.17	5.25	4.13	4.00	6.00	4.66
China	2.33	2.21	1.20	4.40	2.56	4.13	3.20	5.00	7.17	3.33	3.66
Hong Kong	3.33	3.67	1.43	2.00	3.50	4.80	3.50	0.00	3.80	3.88	3.40
Japan	3.12	2.84	2.03	6.00	2.38	2.95	2.23	2.55	3.97	5.56	2.87
Singapore	6.00	0.00	4.00			4.33	4.00		3.20		3.47
South Korea	4.14	4.10	3.40	3.50	5.33	7.29	3.43	2.86		4.00	4.27
Aggregate	3.52	3.08	2.21	4.71	2.75	3.61	2.74	3.25	4.39	4.59	3.34

Key Model Limitations and Risks

High Absolute and Relative score do not automatically suggest accounting irregularities: Note that while we have tried to clean and refine data where possible and have used various filters to enhance robustness and comprehensiveness of our model, there still will remain significant noise in our model forecasts. One should not take for granted the high risk candidates flagged by our model as outright financial shenanigans or accounting frauds. The key purpose of the model is to highlight companies and areas where accounting risks could potentially be high and extra caution/due-diligence is needed from an accounting standpoint.

Excludes Financials Sector: Our target universe excludes Financials sector. This is because many of the accounting parameters measured in our framework are reported very differently from an accounting standpoint for Financials sector companies. For investors still looking for some accounting insights into Financials companies, we advise taking a deeper look into the individual flags flagged by our model while ignoring some of them that may be legitimate for the sector. For example, most Financials companies will score high on loans and advances or contingent liabilities as % of equity due to their nature of business, but such flags need to be assessed deeper as these could be legitimate given the lending component involved in many such businesses. Also, users can focus on relative scoring to isolate companies with higher accounting risk than peers in the sector.

Data Limitations: There are certain areas such as related party transactions, operating leases, auditing expenses, revaluation reserves, historical write-offs, R&D expenses, capitalized interest, capital work in progress, frequency of key management and director resignations, etc. where data availability is limited in the Capital IQ system (largely a function of lack of standardized reporting by companies). Related party transactions historically have played an important role in identifying high accounting risk companies. Ignoring such a key area handicaps our model to an extent. Until such data becomes available, investors will have to rely on their own research for these areas.

For certain accounting parameters, the data is not uniform across companies or is imperfect. For example, the interest income field is not available on a standalone basis and includes dividend income. For some companies, the interest expense is partially included in Cash Flow from Operations (OCF) while in many others it is included in Cash Flow from Financing, affecting our cumulative pre-tax OCF/EBITDA calculations. Note that to account for such noise in our data and lend some margin of safety to our model, we have set stringent thresholds at the individual parameter level. For example, in case of pre-tax OCF/EBITDA, we have used a threshold of 70% vs expected value of 100%. Similarly, for cash yield calculations that use interest income data, inclusion of dividend income further provides margin of safety to our already stringent threshold of 50% for cash yield/risk free rate parameter.

Despite margin of safety from our end, we advise users of our model to take a deeper look into some of these parameters and adjust for any deviations at the individual company level, before making any final conclusions.

Conclusion

Among the top 10 most risky candidates flagged by our model, two [Toshiba Corp (6502 JP), Olympus Corp (7733 JP)] of these have unfolded in the past as prominent accounting scandals and are still grappling with some of the related issues. Two others [Hlb Inc (028300 KS) , Hulic Co Ltd (3003 JP)] also have been flagged in the recent past by some short-sellers for their weak accounting quality. We think our methodology to use both absolute and relative scoring, use of stringent thresholds and filters to ensure enough data is available before making any substantive conclusions has lend our model significant robustness. While our tool is not perfect as there is always room for improvement, we are positive that it will be a useful addition to our clients' toolbox for forensic accounting analysis. We look forward to engaging with our users and making regular enhancements to our model to incorporate improvements and any feedback from our end users.

We also bring attention to some of the high risk accounting candidates flagged by our model that are yet to receive attention from the broader short-seller community. These names include Zoomlion Heavy Industry S A (000157 CH), Technopro Holdings (6028 JP), Mitsui Fudosan (8801 JP), Mineral Resources (MIN AU), Mitsubishi Materials (5711 JP) and Fila Korea Ltd (081660 KS).

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Appendix

List of Companies in our Target Universe with Accounting Risk Score >= 8

Below we list companies in our target universe with absolute accounting risk score of greater than or equal to 8. To refer to the full universe and associated accounting risk score, please refer to Excel file named "Score Aggregator". Companies with "Flag?" as "TRUE" are flagged by our model as companies with high accounting risk. Note that for companies where relative score is not available, due to lack of enough peers (we need at least five peers that have 5Y historical data for at least 15 accounting parameters), we flag them as "FALSE".

Ticker	Company Name	Sector	Country	Absolute Score	Relative Score	Flag?
SEHK:267	CITIC Limited	Industrials	Hong Kong	11	9.0	TRUE
KOSE:A006400	Samsung SDI Co., Ltd.	Information Technology	South Korea	11	11.3	FALSE
TSE:6502	Toshiba Corporation	Industrials	Japan	10	6.0	TRUE
SZSE:000157	Zoomlion Heavy Industry Science and Technology Co., Ltd.	Industrials	China	10	7.5	TRUE
ASX:TAH	Tabcorp Holdings Limited	Consumer Discretionary	Australia	10		FALSE
TSE:6028	TechnoPro Holdings, Inc.	Industrials	Japan	9	7.5	TRUE
TSE:8801	Mitsui Fudosan Co., Ltd.	Real Estate	Japan	9	8.6	TRUE
KOSDAQ:A028300	HLB Co., Ltd.	Consumer Discretionary	South Korea	9	9.0	TRUE
ASX:MIN	Mineral Resources Limited	Materials	Australia	9	9.0	TRUE
TSE:9504	The Chugoku Electric Power Co., Inc.	Utilities	Japan	9	10.9	FALSE
SEHK:3333	China Evergrande Group	Real Estate	China	9	11.6	FALSE
SEHK:813	Shimao Property Holdings Limited	Real Estate	Hong Kong	9	12.0	FALSE
SEHK:2777	Guangzhou R&F Properties Co., Ltd.	Real Estate	China	9	12.0	FALSE
SEHK:1030	Seazen Group Limited	Real Estate	China	9	12.0	FALSE
SHSE:600547	Shandong Gold Mining Co., Ltd.	Materials	China	9	12.4	FALSE
KOSE:A010140	Samsung Heavy Industries Co., Ltd.	Industrials	South Korea	9	15.0	FALSE
TSE:1605	Inpex Corporation	Energy	Japan	9		FALSE
TSE:8963	Invincible Investment Corporation	Real Estate	Japan	9		FALSE
TSE:7733	Olympus Corporation	Health Care	Japan	8	4.5	TRUE
TSE:9984	SoftBank Group Corp.	Communication Services	Japan	8	6.0	TRUE
TSE:5711	Mitsubishi Materials Corporation	Materials	Japan	8	6.8	TRUE
KOSE:A081660	FILA Holdings Corporation	Consumer Discretionary	South Korea	8	6.8	TRUE

TSE:3003	Hulic Co., Ltd.	Real Estate	Japan	8	7.5	TRUE
TSE:6753	Sharp Corporation	Consumer Discretionary	Japan	8	8.3	FALSE
SEHK:1233	Times China Holdings Limited	Real Estate	China	8	8.6	FALSE
NYSE:BABA	Alibaba Group Holding Limited	Consumer Discretionary	China	8	9.0	FALSE
TSE:6758	Sony Corporation	Consumer Discretionary	Japan	8	10.5	FALSE
SEHK:884	CIFI Holdings (Group) Co. Ltd.	Real Estate	China	8	10.5	FALSE
TSE:9508	Kyushu Electric Power Company, Incorporated	Utilities	Japan	8	10.9	FALSE
TSE:9506	Tohoku Electric Power Company, Incorporated	Utilities	Japan	8	10.9	FALSE
SEHK:1171	Yanzhou Coal Mining Company Limited	Energy	China	8	10.9	FALSE
SEHK:1918	Sunac China Holdings Limited	Real Estate	China	8	11.6	FALSE
ASX:CIM	CIMIC Group Limited	Industrials	Australia	8	12.8	FALSE
KOSE:A028260	Samsung C&T Corporation	Industrials	South Korea	8	13.1	FALSE
SEHK:960	Longfor Group Holdings Limited	Real Estate	China	8	13.1	FALSE
SEHK:817	China Jinmao Holdings Group Limited	Real Estate	Hong Kong	8	13.1	FALSE
SEHK:1813	KWG Group Holdings Limited	Real Estate	China	8	13.1	FALSE
KOSE:A003550	LG Corp.	Industrials	South Korea	8	13.9	FALSE
KOSE:A009540	Korea Shipbuilding & Offshore Engineering Co., Ltd.	Industrials	South Korea	8	14.6	FALSE
TSE:3283	Nippon Prologis REIT, Inc.	Real Estate	Japan	8		FALSE
SEHK:6	Power Assets Holdings Limited	Utilities	Hong Kong	8		FALSE

Glossary

Below is a list of abbreviations used across our model and this insight.

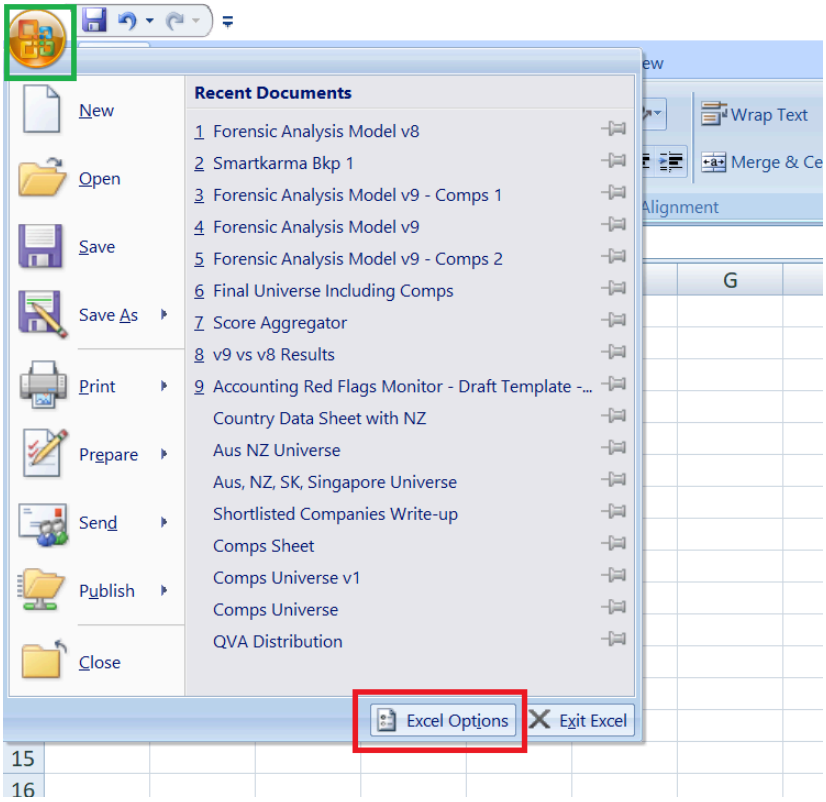
Abbreviation	Full Form
3M	3 Months
5Y	5 Years
10Y	10 Years
Adv	Advances
Ann Mean	Annualized Mean
Ann Std Dev	Annualized Standard Deviation
BS	Balance Sheet
CAGR	Compounded Annual Growth Rate
Capex	Capital Expenditure
CashST	Cash and Short-Term Investments
Chg	Change
COGS	Cost of Goods Sold
CV	Coefficient of Variation
CWIP	Capital Work in Progress
D&A	Depreciation & Amortization
DTA	Deferred Tax Assets
DTL	Deferred Tax Liabilities
EBITDA	Earnings Before Interest Tax Depreciation and Amortization
Eff	Effective
Emp	Employee
Exp	Expenses
FCF	Free Cash Flow
ICF	Investing Cash Flow
Inv	Investments
IS	Income Statement
Liab	Liability
LT	Long-term
Net Worth	Equity
Non-oper	Non-operating
NWC	Net Working Capital
OCF	Operating Cash Flow
Oper	Operating
PAT	Profit After Tax
PP&E	Property, Plant & Equipment
Ret	Retirement
RFR	Risk Free Rate

Snapshot of Capital IQ Screen Used for Filtering Universe

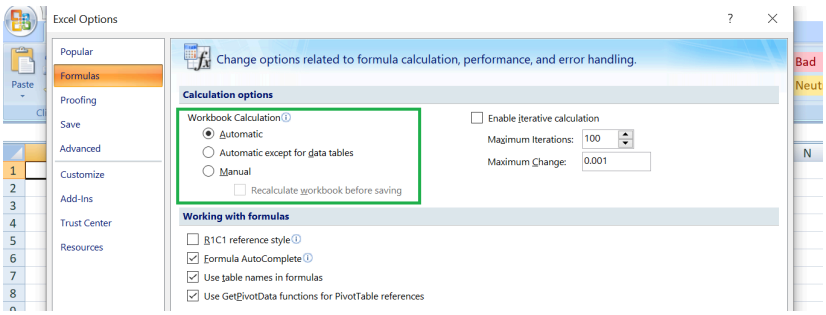
Note that the below screen yields 1029 companies. Of these we eliminate any ETFs and duplicate entries (multiple exchange listings) to get our target universe of 658 companies.

Switch Formula Calculation Option in Excel

Click on the Office button highlighted in the Green box and then click on "Excel Options" button as highlighted in the Red box below.

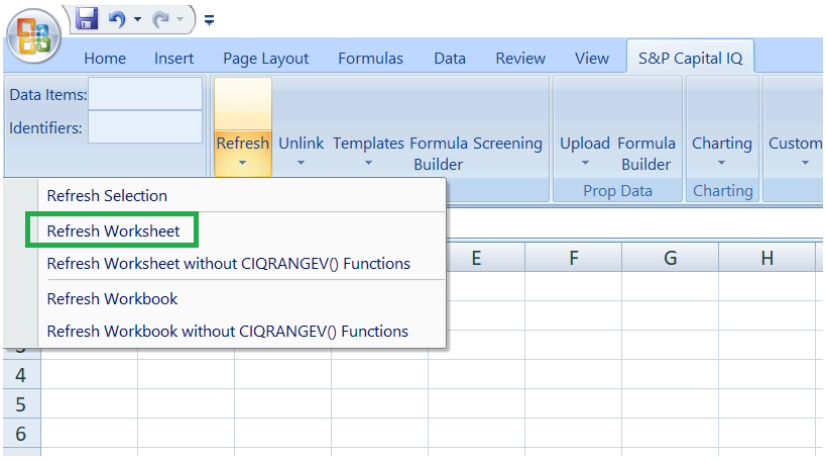


Within "Excel Options", click on the "Formulas" tab in the left pane as below and use the "Workbook Calculation" section to shift to "Manual" from "Automatic" and vice versa.



Refresh Worksheet Option in Capital IQ Plugin

As highlighted below in the Green box, use the "Refresh Worksheet" to fetch latest data from Capital IQ.



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— Ankit Agrawal, CFA (21 Feb 2020)

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- Sectors: Industrials, Utilities

Content Verticals

- Equity Bottom-Up, Thematic (Sector/ Industry)

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China Onshore Convertible Bond Market: A Wealth of Opportunities

By Osbert Tang, CFA | 12 Mar 2020

EXECUTIVE SUMMARY

This Smartkarma Original is a follow-up to our first Smartkarma Original on China's onshore bond market - Investing into China's Growing Onshore Bond Market - with special focus on the rapidly growing onshore convertible bond (CB) market. This Original covers the key areas of China's onshore CB market that are essential for global institutional investors interested in capturing the opportunity in this interesting bond market segment. We suggest readers to read this Original in conjunction with Investing into China's Growing Onshore Bond Market in order to get the full picture on China's onshore CB market.

What's Original?

This Original is the first comprehensive Insight dedicated purely to the onshore CB market in China. Although outstanding onshore CBs only amount to 0.4% of China's total onshore bond market, foreign investors are very keen to invest in this segment, as reflected by the heavy trading by the Qualified Foreign Institutional Investors (QFII).

In this Original, we explain the history of China's onshore CB market, the unique market structure and features, key development outlook and opportunities and the basic need-to-knows for the foreign investors. This Original comes with very detailed figures specifically focused on the onshore CB market and reveals the very important trends currently taking place.

We believe the CB market is one of the fastest growing segments in the onshore bond market in China. Despite the inherent high volatility characteristic of onshore CBs, the long-term trend is that it will gain further significance in China and among foreign investors' portfolio, in our view.

DETAIL

Background

Compared with the overall China onshore bond market, the CB market segment has a much shorter history. Although the history of China's bond market can be dated back to 1981, the first CB in China was only issued in 1992; some 11 years after China started to develop the onshore bond market. China's first CB was issued by China Baoan (000009 CH) with a total value of Rmb500m. Since then, the development of the CB market has experienced significant volatility - swinging between periods of extreme popularity and extreme calamity.

Market reception towards CBs is lukewarm after the first issue, primarily due to the lack of understanding in this relatively complicated product at that time. As a result, the take-up of CB as an investment instrument has been low in the initial years. On the back of positive policy supports from the government, there is a more visible pick-up between 2010 and 2014. During such period, the outstanding value of China's onshore CBs increased by an overwhelming 13x. However, due to the collapse of the A-share market in 2015, total value of CBs entered into a free fall, contracting by some 93% in just one year. As the A-share market rebounded from the trough since then, China's CB market has experienced a period of tremendous growth, with total outstanding value leapt again by 13x since the end of 2015.

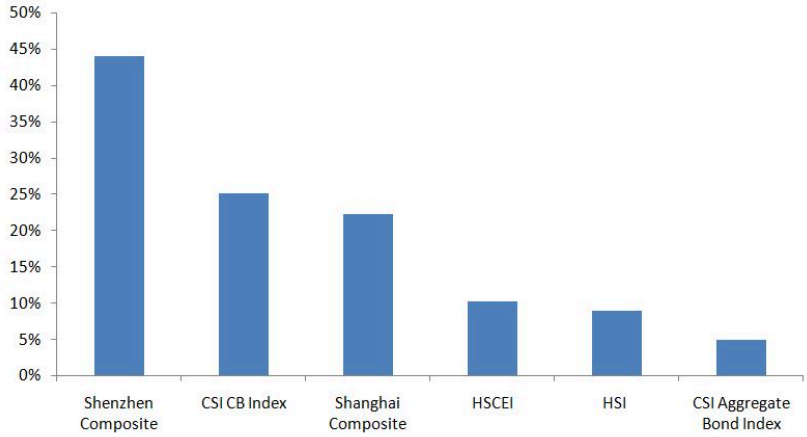
The notional value of all outstanding onshore CBs in China now amounts to Rmb393bn, but this is only a tiny portion of the overall onshore bond market. Over the last ten years, total CB value as a percentage of China's onshore bond market has never exceeded 0.55%, with such peak achieved in late 2013. This ratio came down to just 0.03% in 4Q2015 as the equity market collapsed, before entering a stage of rapid rebound to 0.4% currently as the A-share market recovered (Figure 1).

Figure 1: Outstanding onshore CBs as a percentage of onshore bond market in China

Source: Eastmoney Choice database

China's onshore CB represents an attractive investment option for both domestic and international investors. In 2019, with the exception of the Shenzhen Composite Index, the CSI Convertible Bond Index (CSI CB Index) outperformed most other comparable equity and bond indices by between 2.8ppt to 20ppt (Figure 2). Such pattern of performance continues into 2020 despite the outbreak of Covid-19, with the CSI CB Index rose by 4.5% YTD. We believe CB is an attractive choice for investors seeking a balance between risk and return in the China market and such characteristic is a major appeal to foreign institutional investors.

Figure 2: Performance comparison by various equities and bond indexes in 2019

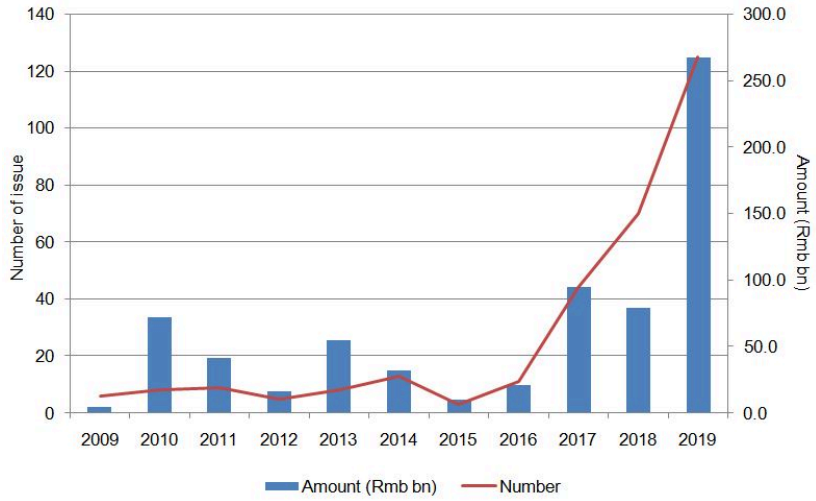


Source: Bloomberg, Shanghai Stock Exchange, Shenzhen Stock Exchange, http://www.csindex.com.cn/en

Relatively simple market structure

China's onshore CB market has undergone many ups and downs over the last ten years. However, the most phenomenal growth started in 2017, with a record 44 new CBs issued in the year for a total of Rmb95bn. Although there is a slight decline in 2018 due to the overall weakness of the domestic equities market, the pick-up in 2019 is extremely powerful as fueled by the strong performance of the A-share market (Figure 3). In 2019, a total of 125 CBs are issued, raising total fund of Rmb268bn and making it a new record year for China's onshore CB market.

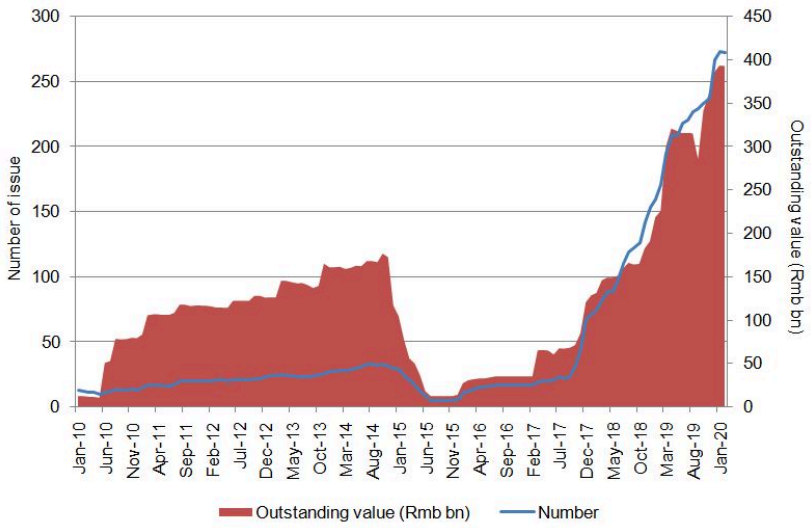
Figure 3: Historical trend of new CB issuance



Source: Eastmoney Choice database

The record CB issuance has placed the outstanding value of China's onshore CB market at about Rmb400bn, or roughly US$58bn, now (Figure 4). This represents a meaningful share when compared with the global CB market of US$400-500bn. Since 2017, the growth of China's CB market has been exponential - by 1,038%, compared with 54% for China's overall onshore bond market. While China's onshore CBs are still yet to be included in key benchmark indices, their growing significance well places them as future candidates. This will also stimulate more interest in this niche bond market segment.

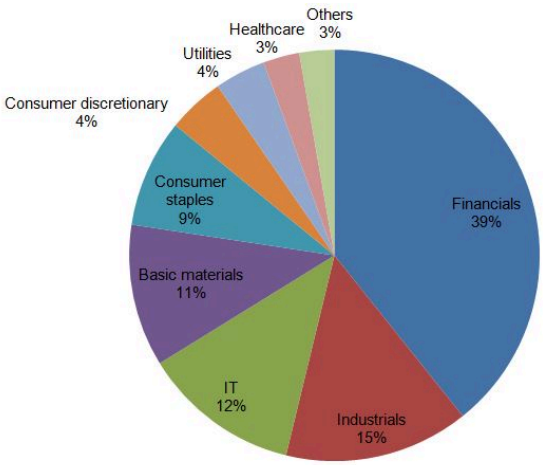
Figure 4: Outstanding CB by value and number



Source: Eastmoney Choice database

Issuers of China's onshore CBs are dominated by the financial sector, accounting for 39% of the total outstanding value (Figure 5). This is then followed by industrials (15%) and information technology (12%). The dominance of the financial sector is predominantly due to the sizeable issues by the joint-stock banks including Shanghai Pudong Development Bank Co. (600000 CH), China Everbright Bank Co A (601818 CH), China Citic Bank Corp (601998 CH) and Bank of Jiangsu Co Ltd (600919 CH). The other major issuers in the financial sector are the securities companies including Guotai Junan Securities (A) (601211 CH) and Changjiang Securities Company (000783 CH).

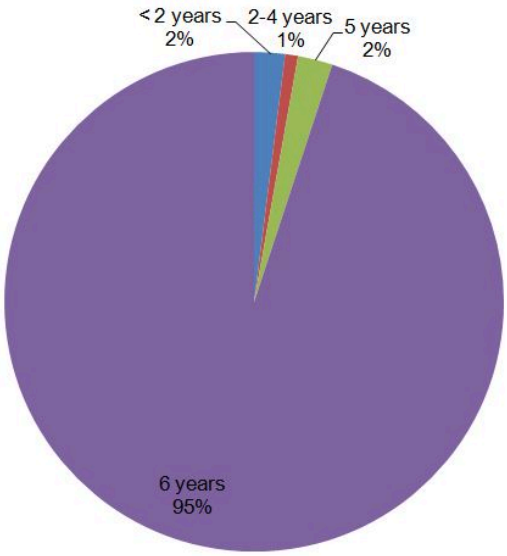
Figure 5: Breakdown of CB value by sector



Source: Eastmoney Choice database

In accordance with China's regulatory requirements, CBs issued onshore are required to have a tenor of between 1 year and 6 years. Realistically, over 95% of the total outstanding CBs are issued with a tenor of 6 years (Figure 6). Given that most of the issuers are inclined towards having the CBs converted into stocks, they mostly opt for the longest tenor to provide enough time for conversion and leave more flexibility to ride through the equity market cycles. In terms of interest rates, most CBs used a step-up structure, increasing by 30-50bp every year until maturity.

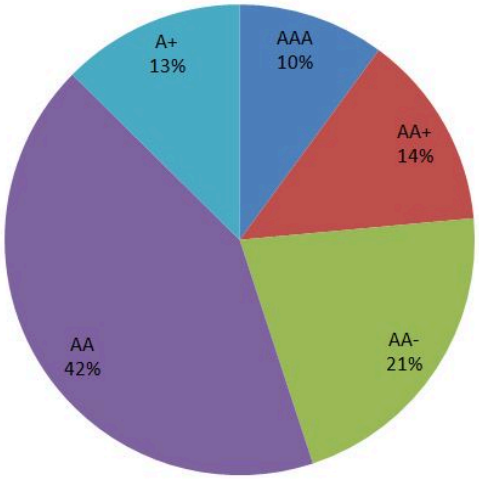
Figure 6: Breakdown of CB by tenor



Source: Eastmoney Choice database

Given the ease for the high-rated companies to issue straight bonds at a lower cost, it is not surprising that most of the outstanding CBs are comparatively low-rated. Currently, only 10% of the outstanding issues are rated at AAA, and most of them are at either AA or AA- (Figure 7). In the onshore bond market, issues are rarely rated below AA-. As such, AA and AA- rated bonds are considered to be much inferior in term of their creditworthiness. For more details, please refer to the discussion under "Rating References" section in Investing into China's Growing Onshore Bond Market.

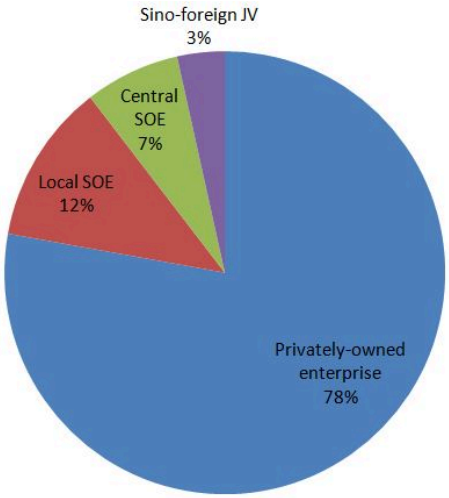
Figure 7: Breakdown of CB by rating



Source: Eastmoney Choice database

The skewed distribution of the ratings of the CBs towards lower-rated issues also reflects that most of the issuers are privately-owned enterprises (POEs). Many of these POEs have weaker credit quality and have more difficult access to bank lending when compared with the state-owned enterprises (SOEs). Banks are also more receptive towards lending to SOEs given their stronger support from either the central or local governments, leaving the POEs more access to the bond markets. In fact, POEs account for the bulk of existing CB issues - 78% of the total CBs (by number) are issued by POEs, with the rest being mostly SOEs (Figure 8).

Figure 8: Breakdown of CB by issuer's ownership type

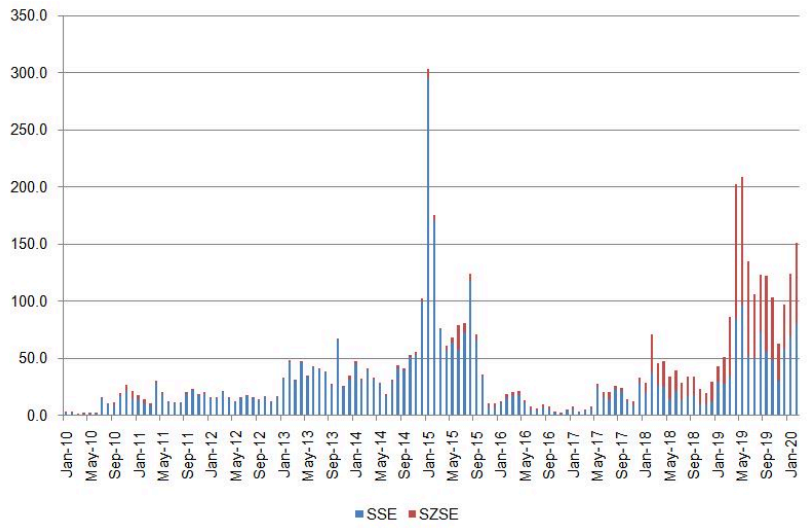


Source: Eastmoney Choice database

Compared with the other onshore bonds in China, trading in CBs are less complicated. Onshore CBs are only listed in the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE), and they are not traded on the China Interbank Bond Market (CIBM) or the over-the-counter (OTC) market. CBs are traded on T+0 basis without limit up or limit down and there is no short-selling.

Historically, the SSE has dominated the trading of CBs. Trading activities of CBs on the SZSE started to accelerate in 2018 on the back of increase in favourable government policies and the exchange has caught up rapidly with the SSE in the last two years. For Feb 2020, the value of CBs traded on SSE is Rmb80.8bn and on SZSE is Rmb70.1bn, meaning that the CB monthly trading value at SZSE is now only 13% less than SSE (Figure 9).

Figure 9: Monthly CB trading volume by exchange (Rmb bn)

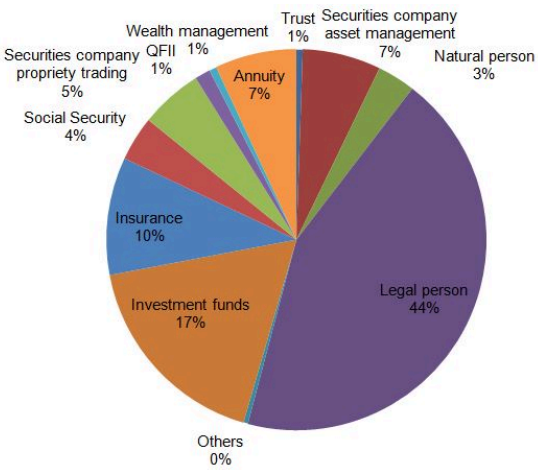


Source: SSE, SZSE

The breakdown of investors in CBs are very different from that for the overall onshore bond market, notably there is an absence of commercial banks which they accounted for 60% of the investors in the overall bond market. Their absence is mostly due to the existence of an equity component in the CBs which barred them from taking part in this niche market.

The absence of commercial banks from the CB market has provided room for other institutional investors - the top three types of CB investors in the SSE include legal persons, investment funds and insurance companies. Legal persons are mostly corporate entities which hold about 44% of the total outstanding CBs listed on the SSE (Figure 10). Foreign investors through QFII, however, only hold 1.3% of the CBs on SSE, though the amount of their holdings has steadily increased over time. We see there is huge room for foreign holdings to increase given the increase access to this market segment and the attractive risk-return balance on CBs. We will have further discussion on this in the section titled "Interesting appeal to foreign investors" below.

Figure 10: Breakdown of CB holdings on SSE by investor type



Source: Eastmoney Choice database

CSRC is the main regulatory body

Since only listed companies are allowed to issue CBs (though recently extended to include unlisted companies) and CBs are only traded on SSE and SZSE, the regulatory arrangements governing them are comparatively simple and involve less regulatory authorities than many other types of onshore bonds. The key regulatory authority in CB issue is the China Securities Regulatory Commission (CSRC) and the listing and trading arrangements are governed by the rules of the SSE and SZSE.

The issue of CBs by companies is governed by the latest Securities Law of the People's Republic of China approved by the Standing Committee of National People's Congress which becomes effective on 1 Mar 2020. However, despite the change from approval system to registration system for securities issuance, the details on if and how it will be implemented on CB issuance is still not yet finalised. Additionally, CB issuance is also governed by the CSRC's Rules governing the issuance of securities by listed companies which came into effect on 14 Feb 2020.

Currently, in terms of specific requirements for CB issuance, they include areas in ROE, leverage, interest coverage, tenor, conversion price, conversion period, rating and guarantee; as well as the specific listing requirements of the Stock Exchanges (Figure 11).

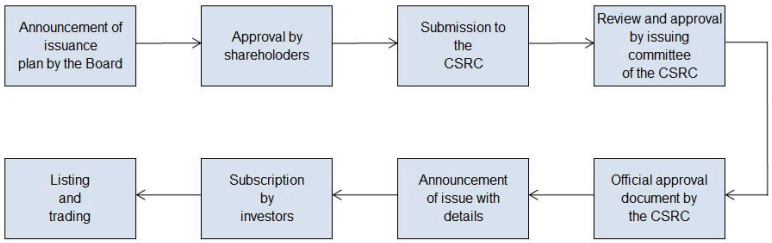
Figure 11: Regulatory requirements for issuance and listing of CB

Requirement	Details
ROE	Weighted average ROE over the last three financial years not less than 6%
Leverage	Total amount of outstanding bond (after issuance) not more than 40% of the net asset value in the last financial report
Interest coverage	Average distributable profit of the last three financial years not less than the interest payment of the bonds in a year
Tenor	Shortest tenor is 1 year and longest is 6 years
Conversion price	Not less than the average trading price of the stock in the 20 trading days before and not less than the average trading price the day before publication of the issuing document
	Adjustment of conversion price needs to be approved by 1/3 of the attending shareholders in shareholder meeting, with holders of the convertible bond abstain from voting
	Conversion price after adjustment not less than the average trading price of the stock in the 20 trading days before and not less than the average trading price the day before the shareholder meeting
Conversion period	No earlier than 6 months after issuance
Rating	Required to appoint credit rating agency for rating and maintaining the rating with annual publication of a rating report
Guarantee	Public issuance of convertible bonds needs to be guaranteed
	No guarantee is needed for companies with net asset value not less than Rmb1.5bn in the latest financial period
	Securities companies and listed companies (except listed commercial banks) are not allowed to provide guarantee
Listing	Total value of issuance not less than Rmb50m

Source: CSRC, SSE, SZSE

Currently, the issuance of CBs is still using the approval system and issuing plan needs to be approved by the CSRC. In terms of issuance procedures, the whole process may take from months to even years, depending on the pace of shareholders approval, review by CSRC issuing committee and the final approval from the CSRC. The current CB issuance process is shown in the chart below (Figure 12).

Figure 12: CB issuance process



Source: CSRC, Osbert Tang

Key development trends and opportunities

Having introduced the background, market structure and regulatory framework for China's onshore CB market, we identify below the key development trends and the potential opportunities that are noteworthy to investors interested in this market segment.

1.) Supportive government policies to drive onshore CB market. In addition to the policies supporting the development of the overall onshore bond market, Chinese government has also put in place policies specifically for further development of the CB market. The acceleration of policy support is particularly effortful starting from 2017, addressing areas including increasing the scope of companies qualified for CB issuance, use of CB in asset restructuring, introducing new issuance methods for CB and relaxing payment arrangement of CB subscription (Figure 13).

Figure 13: Government policies supporting CB development

Date	Key policy	Details
Feb-2017	CSRC's requirement to regulate the financing behavior for listed companies	Waiting period of 18 months for IPO, follow-on issue, private placement, rights issue after the prior issue - CBs are excluded from such requirement
Sep-2017	CSRC's regulations on issuance and underwriting of securities	No upfront payment of subscription monies for investors subscribing for CBs, with payment only needs when subscription is successful
Aug-2019	CSRC trials private placement of CBs for M&As to support listed company development	Encourage the issuance of CBs as consideration for M&As made by listed companies, particularly for privately-owned enterprises
Aug-2019	CSRC guides SSE and SZSE in implementing private placement of CBs by unlisted companies	Support the SSE and SZSE in the publication of the guidelines for the private placement of CBs by unlisted companies
Aug-2019	Special regulations for the asset restructuring of the technology and venture board listed companies	Allows the issuance of CBs in the asset restructuring of listed companies

Source: CSRC, various news reports

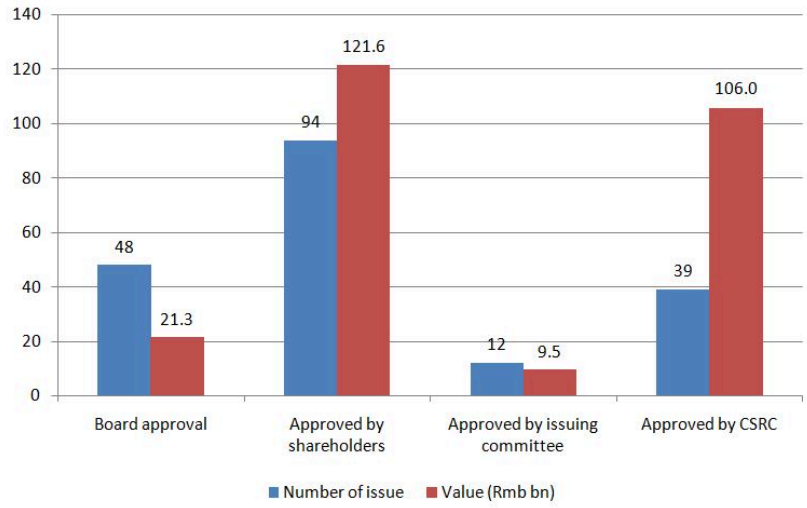
We believe these policies are instrumental to the rapid development of the onshore CB market and without such support; the CB market will not be as thriving as it is now. These policy measures coincided with the rapid growth in CB issuance since 2017. Between 2017 and 2019, total number of new CB issue reached 239 with total proceeds of Rmb441bn. Such issuance figures are much higher than the aggregate of 63 issuance for Rmb252bn between 2009 and 2017. We believe the government will continue to nourish the development of CB as an important direct financing instrument for companies. This will also cater to the need of CB investors who demand a higher return than plain vanilla bonds but only willing to accept lower risk than straight equity.

2.) Ample supply of CBs despite weakened position as a financing option. The rapid development of the onshore CB market since 2017 is partly driven by the high hurdle for listed companies to issue new shares which made them opt for issuing CBs. However, the announcement of Adjustment of regulations related to the refinancing system of listed

companies (证监会发布上市公司再融资制度部分条款调整涉及的相关规则) by the CSRC on 14 Feb 2020 has made it easier for listed companies to issue new shares. For example, the CSRC removed the profit and leverage requirements for follow-on equity issue by the Growth Enterprise Board companies, shortened the lock-up period, increased pricing flexibility for placement to strategic investors and lengthened the validity of issue approval from 6 months to 12 months.

With the new regulations in place, the increase in equity offering will definitely erode part of the market share of CB as a financing option for the listed companies. However, the viability of CB remains unchanged, especially due to its characteristics of no immediate EPS dilution and lower financing costs. There are currently a significant number of CB issues lining up at various stages - board approval, shareholders approval, CSRC issuing committee approval and CSRC final approval (Figure 14). In other words, we continue to see a solid pipeline to keep this market segment flourishing. In the first two months of 2020, there is already Rmb20.7bn of new CB issued. Although this was down by 42% YoY, we believe it is still quite an achievement amid the disruption by the Covid-19 outbreak.

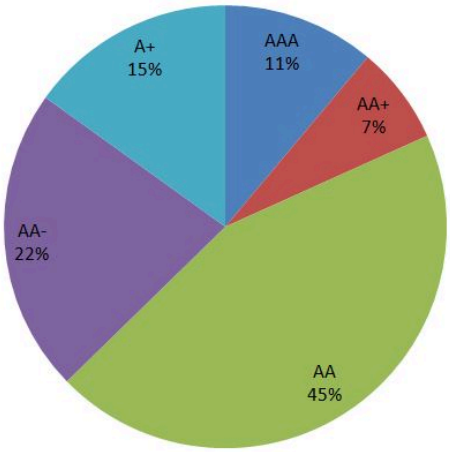
Figure 14: New CB issuance in the pipeline by progress stage



Source: Eastmoney Choice database, Osbert Tang

3.) Increase in lower grade and smaller issues means potentially higher risks. While the new regulations on listed company refinancing will likely to divert part of the fund raising plan of smaller companies from CB to straight equities, the capital hungry small and medium enterprises will still consider CB as an attractive financing option. On this backdrop, we expect the CB market will see an increase in lower grade issuers. A review on the new CB issued in 2019 showed that 45% of the new issues are AA graded and 22% are AA- graded (Figure 15). These issues mean higher interest rates on the CBs for investors, but they also come with higher risks.

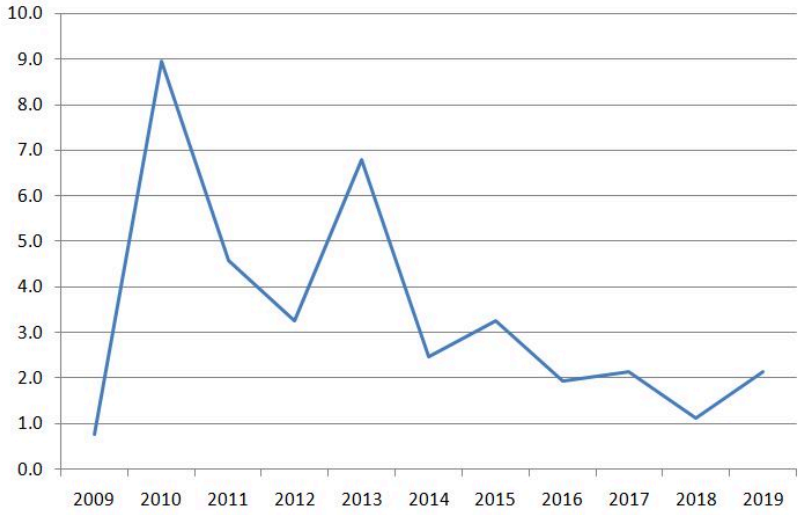
Figure 15: Breakdown of CB issuance in 2019 by rating



Source: Eastmoney Choice database

The increase in smaller-sized issue is actually a continuous trend over the last ten years. Average issue size has declined from Rmb8.9bn in 2010 to Rmb2.2bn in 2019 - or a 76% drop over the 10-year period (Figure 16). This suggests that increasingly smaller issuers are accessing the onshore bond market, riding on the government's promotion and loosening of issue restrictions.

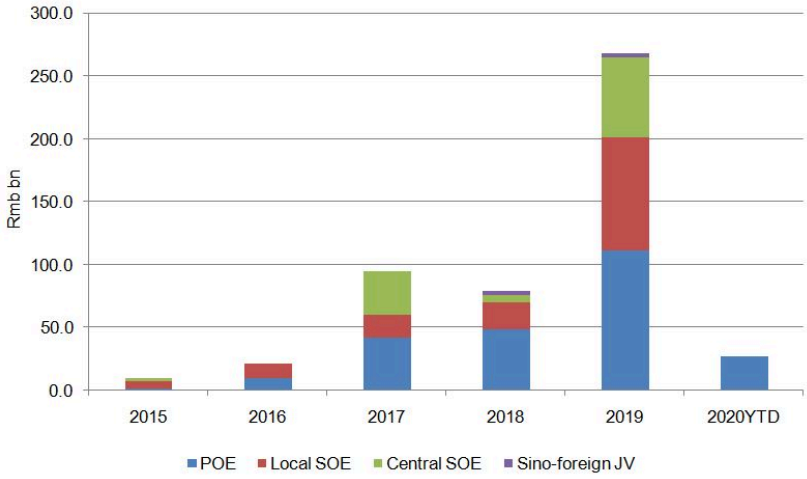
Figure 16: Trend of average size of new CB issue (Rmb bn/issue)



Source: Eastmoney Choice database, Osbert Tang

POE has always been a very important source of issuer of CBs, and since 2017, POE has consistently ranked as the largest category of issuers accounting for at least 40% of the total value of issue in a year (Figure 17). To the extreme, CBs issued so far in 2020 are all by POEs.

Figure 17: Trend of new CB issuance by ownership type

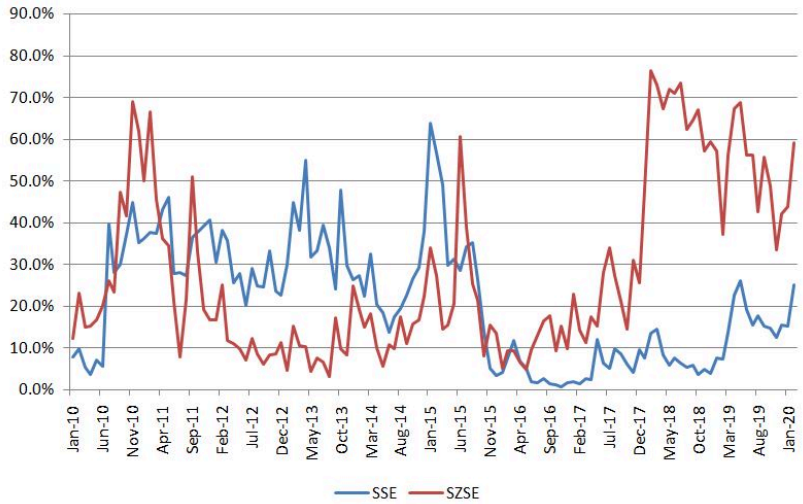


Source: Eastmoney Choice database, Osbert Tang

The combination of lower-graded, smaller size and more POE issuer can be regarded as an indication that credit quality of these issues are likely to trend south. Historically, there is no default for China's onshore CBs as they are mostly converted into equities or redeemed before maturity. However, with a potential weakening of the credit quality of CB issues, investors will need to heighten their oversight on the credit risk which previously has been mostly ignored. In such environment, issuer and issue selection will become an increasingly important factor in investing in China's onshore CB market.

4.) Further escalation of CB trading interest. CB is the more actively traded bond product in both the SSE and SZSE. During 2010-2015, trading of CBs on the SSE mostly accounted for over 30% of the total value of all bonds traded. The collapse of the CB market in 2015 has reduced this to below 10% until 2019. This has improved to over 20% in last year on the back of a strong revival of interest (Figure 18). For the SZSE, the resurgence in trading is even more phenomenal, with CB trading now accounts for more than half of the total bond trading activities on the Exchange, thanks to the government's support for CB issuance by listed companies of growth enterprises and new ventures.

Figure 18: CB as a percentage of total bond trading on the exchanges

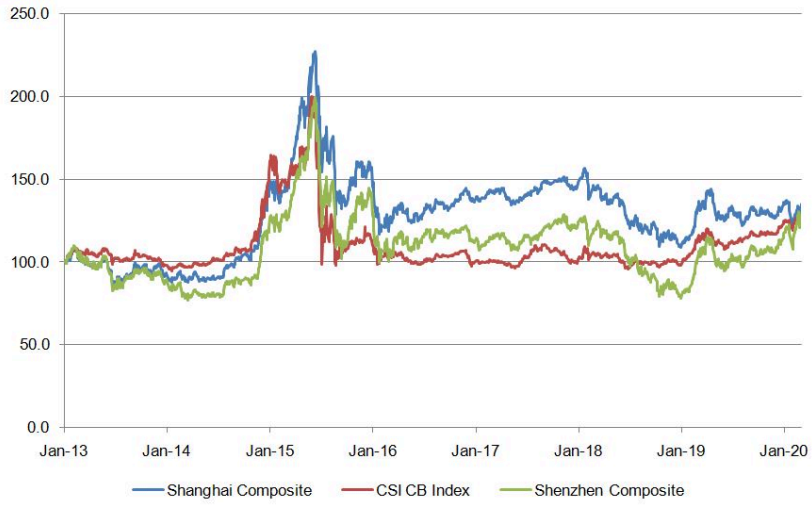


Source: SSE, SZSE

We expect the interest in CB trading to grow along with the rise in CB issuance. The decline in interest rate is likely to stimulate more trust and wealth management products, in addition to CB investment funds (which can invest in CB up to 60% of their assets), to invest in CBs. Moreover, with commercial banks still restricted from using their own funds to invest in CBs, we believe there is still significant liquidity not yet involved in this higher-return market. Over the long term, we believe a step-by-step liberalisation of restrictions will pour additional liquidity into the onshore CB market, though participation of commercial banks will still be strictly overseen by the regulatory authorities.

5.) Increase in volatility along with equity market. We envisage 2020 will be a year of volatility for the CB market, riding on a similarly volatile A-share market. Reviewing the performance pattern for the CSI CB Index, the Shanghai Composite Index and the Shenzhen Composite Index reveals the close correlation between each other. The movement of the CB market is less volatile than the equity market mostly due to its hybrid nature. CB normally outperforms equities during period of bear market and underperforms during bull market (Figure 19).

Figure 19: CB index compared with A-share market (Rebased to 1/1/2013 = 100)



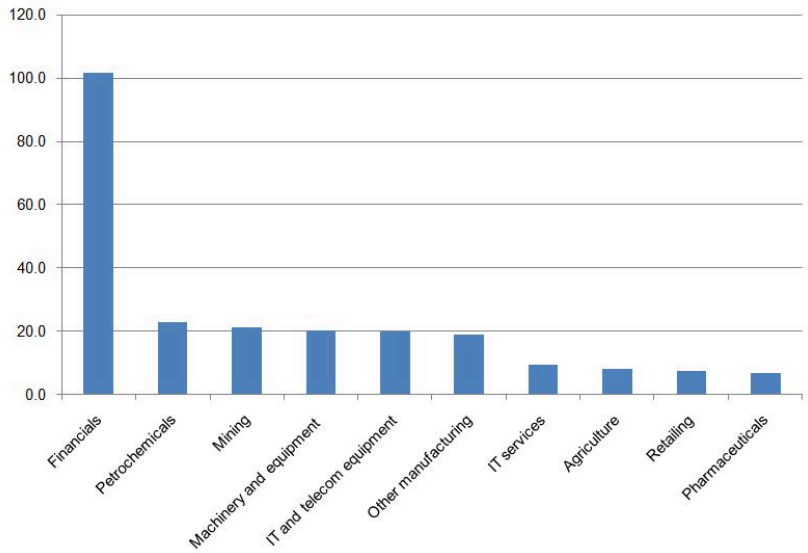
Source: SSE, SZSE

With the Covid-19 outbreak in this year, the outlook of the A-share market looks increasingly uncertain. On the positive front, there is stimulus measures announced by the Chinese government. Meanwhile, the pace of economic recovery will still depend on when the outbreak in other countries turns under control as this will negatively affect the global demand and economic growth. That said, we are certain that the volatility of the A-share market will be significant in this year and the CB market will follow suit.

6.) More diversified sector choices for asset allocation. Currently, some 39% of the outstanding CBs are issued by the financials sector, mostly banks and securities companies. This has limited the choices available for investors. While financials will remain a heavy-weighted sector in the market, we anticipate the increase in issues from other sectors as government support broadens the scope and increases the depth of the CB market. An increase in private placement of CBs as consideration for M&As and asset restructuring and the introduction of unlisted companies as issuers will serve to diversify the issuer mix in the onshore CB market.

Based on the outstanding new CB pipeline, financials still account for a significant 35% of proposed issues. However, this is already lower than the 39% for the current outstanding CB balance in the market. The other top sectors with significant proposed CB issues in the pipeline are petrochemicals, mining, machinery and equipment, IT and telecom equipment and other manufacturing (Figure 20). On aggregate, these sectors account for 36% of the planned issue pipeline. The increase in diversity of new issuers is positive to investors and the future development of the onshore CB market - this means more choices for investors in their sector allocation strategy to capture the growth outlook for different industries.

Figure 20: New CB issuance in the pipeline by sector (Rmb bn)



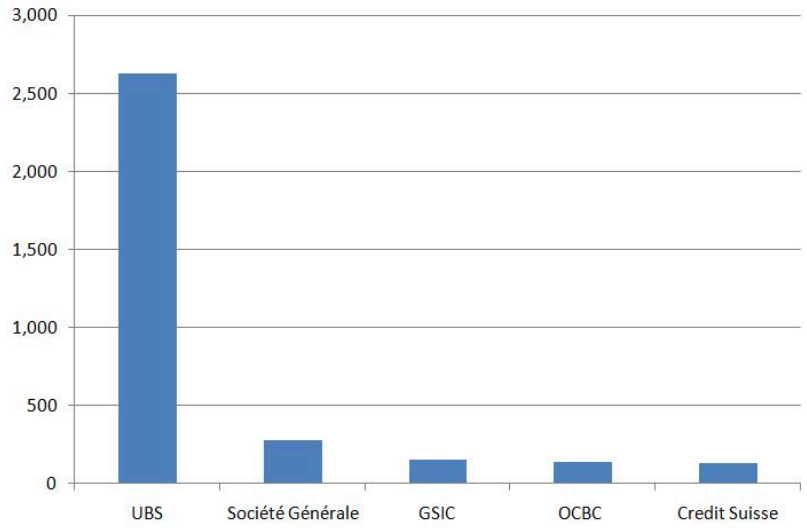
Source: Eastmoney Choice database, Osbert Tang

Interesting appeal to foreign investors

As discussed earlier, when compared with plain vanilla bond, CB has its unique attractiveness to investors. For foreign investors, onshore CBs can also add to their global diversification, with the ability to capture part of the equities upside. Over the last three years, foreign investors have consistently increased their holdings in onshore CBs.

QFIIs' ownership in CBs are on the rise. As a sub-market of the onshore bond market, foreign investors can participate in the onshore CB market through QFII, Renminbi QFII scheme (RQFII) and Bond Connect program. Historically, QFII is the primary way for foreign investors to participate in China's onshore bond market. Based on public disclosures since 2018, the top five QFIIs are mostly international banks and sovereign funds, holding about Rmb3.3bn of CBs (Figure 21). Although this does not show the complete picture of foreign ownership in China's CB market as disclosures may not be timely and complete, this does reveal that the type of foreign investors that are having a relatively higher interest in China's onshore CBs.

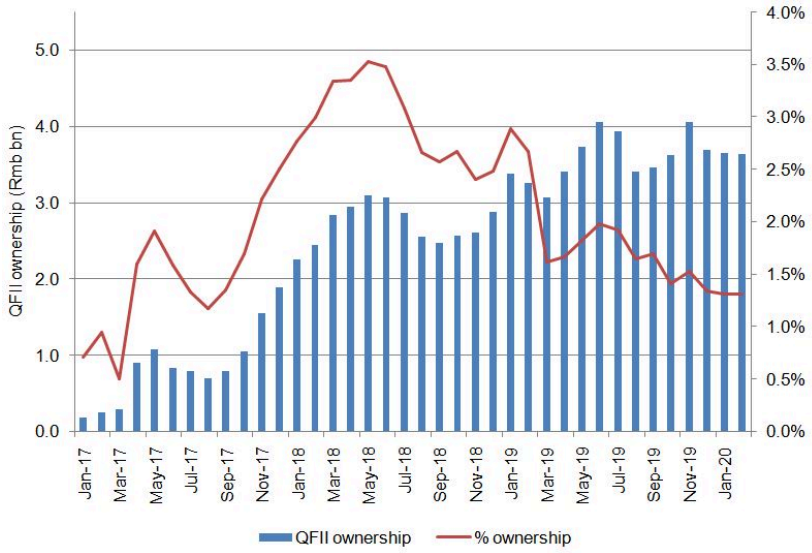
Figure 21: Top QFII CB owners (Rmb m)



Note: based on disclosure since 2018, GSIC = Government of Singapore Investment Corporation. Source: SSE, SZSE

Since 2017, the ownership of CBs on the SSE by QFIIs has steadily increased. At Jan 2017, QFII owned a total of just Rmb0.18bn of CBs on the Stock Exchange and this increased to Rmb3.6bn at the end of Feb 2020 - an 18.5x leap in slightly more than three years. However, as a percentage of total CBs, QFII has dropped from the peak of 3.5% in Jun 2018 to 1.3% in Feb 2020 (Figure 22). We believe the reasons behind the drop in percentage ownership include: 1.) the more rapid growth in domestic, rather than foreign, interest in CB investment; 2.) increase in allocation to equities in a rising market; and 3.) the rise in the use of Bond Connect as an alternative way to participate in the onshore bond market. Nonetheless, the absolute amount of CB owned by QFIIs is still on a rising trend, signaling that high appetite for foreign investors.

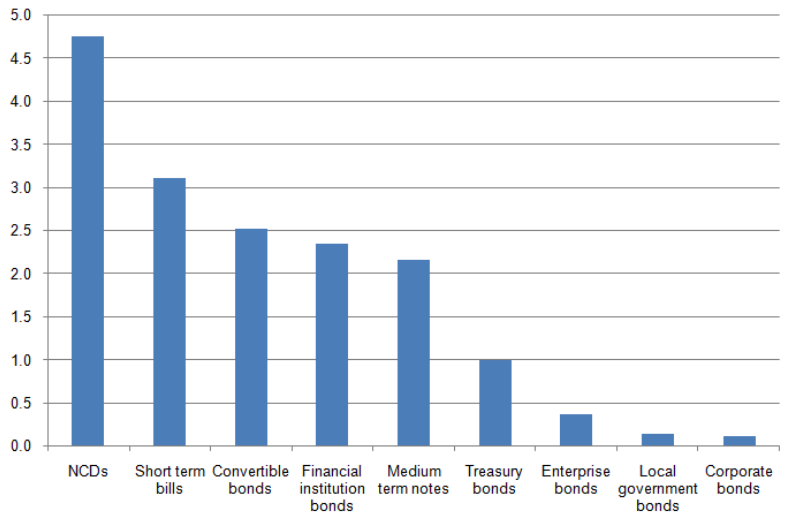
Figure 22: SSE - QFII ownership in onshore CB



Source: SSE

Better liquidity than most bonds with high QFII trading. We highlighted in Investing into China's Growing Onshore Bond Market that one major challenge faced by the global institutional investors is the weak secondary market liquidity. However, this does not apply to the onshore CB market which enjoys a high turnover rate relative to most other onshore bonds. On average, onshore CB has a turnover of about 2.5x annually, compared with below 1x for treasury, enterprises, local government and corporate bonds (Figure 23). The turnover for CBs only lags behind negotiable certificate of deposits (NCDs) and short term bills. This better liquidity is a positive consideration to overseas institutional investors and increases the attractiveness of investing in the onshore CB market.

Figure 23: Turnover rate for different type of bonds in China's onshore bond market (x)



Source: China Central Depository & Clearing Corporation

Since 2017, turnover of CB by QFIIs has averaged at 0.36x per month (4.3x a year). Recently, the monthly turnover rate has stabled at around 0.42x, or equivalent to 5x annually (Figure 24).

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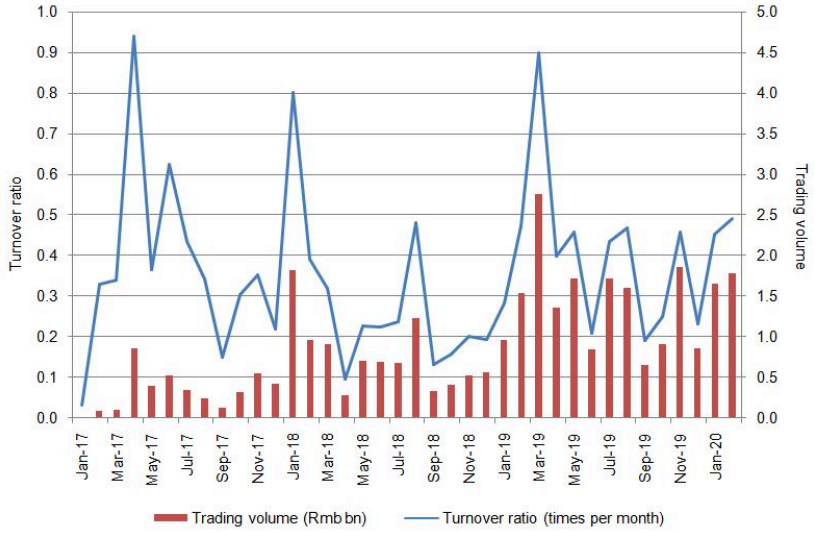
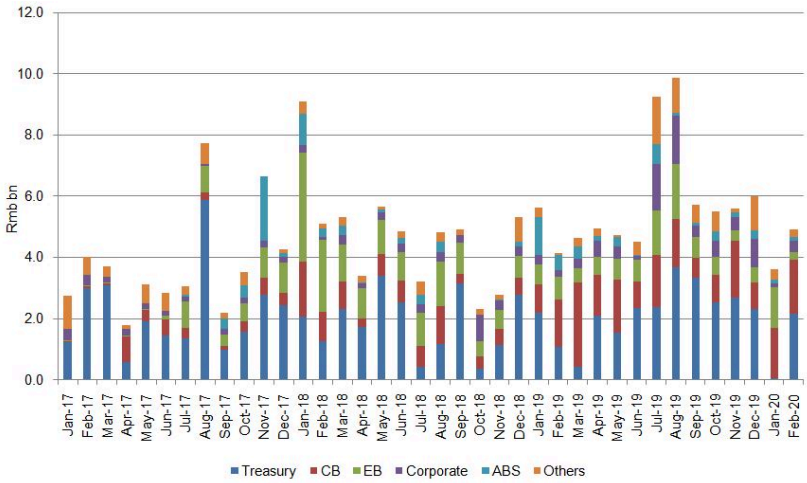
Figure 24: SSE - Turnover and trading volume in CB by QFII



Source: SSE, SZSE

Foreign investors are trading more CBs now. The keen interest of QFIIs on trading of CBs is also reflected by the high proportion of their trade amongst all onshore bond type. Traditionally, the most-traded bonds on the SSE by QFIIs are treasury bonds. However, the importance of CB has grown over the last two years and now accounting for 25-30% of the total bond trading volume for QFIIs (Figure 25). In the last two months, CBs have even overtaken treasury as the most-traded bond product on the SSE, probably suggesting the interest of foreign institutional investors in this growing market segment of China's onshore bond market.

Figure 25: SSE - Breakdown on QFII bond trading volume by bond type



Note: EB = Exchangeable bond, Corporate = Corporate bond, ABS = Asset-back securities. Source: SSE

Conclusion

This Smartkarma Original is a preliminary Insight focusing on the basics of China's onshore CB market for foreign investors, and this is not intended to cover any specific names or suggest an overall CB strategy. While new CB issues in this year will likely to be negatively affected by the new regulatory rules on refinancing by listed companies, we are confident that this will not affect the promising development of this market segment in the long term.

We expect more supportive government policies will be rolled out and there will be more evolving factors affecting the trajectory of the development of China's onshore CB market. With foreign investors only owning a tiny portion of the outstanding CBs, we think there is room for their participation in this bond market segment to increase given the attractive risk-return payoffs. We will follow up with more updates on the policy development and their impacts and conduct further detailed studies on pricing and trading of this rapidly expanding market.

Note: Unless otherwise stated, all data in this Smartkarma Original are as of 5 March 2020.

Disclosure & Certification

- I/We have no position(s) in the any of securities referenced in this insight
- Views expressed in this insight accurately reflects my/our personal opinion(s) about the referenced securities and issuers and/or other subject matter as appropriate.
- This insight does not contain and is not based on any non-public, material information.
- To the best of my/our knowledge, the views expressed in this insight comply with Singapore law as well as applicable law in the country from which it is posted
- I/We have not been commissioned to write this insight or hold any specific opinion on the securities referenced therein
- I/We have signed the Insight Provider Agreement and this insight does not violate any of the terms specified therein.

— Osbert Tang, CFA (26 Feb 2020)

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- Geography: Asia Pacific
- Countries: Generalist
- Sectors: Generalist

Content Verticals

- FX & Rates, Macroeconomics

INR | FX & Rates

Emerging Market Central Banks Playing Catch-Up

By Olivier Desbarres | 18 Mar 2020

EXECUTIVE SUMMARY

Developed central banks in the past week have been falling over themselves to loosen monetary policy and secure the proper functioning of financial and credit markets.

The Fed, RBNZ, Bank of Canada, Bank of England and Norges Bank have delivered inter-meeting policy rate cuts of between 50bp and 100bp and our measure of the developed central bank policy rate has been cut 74bp so far in March, the largest monthly cut since December 2008. It is now in negative territory (-0.05%) for the first time in at least 15 years.

This has raised concerns that developed central banks are close to running out of ammunition, at least in terms of policy rate cuts, which have arguably weighed on global equities and contributed to the outperformance of the Dollar, Euro, Swiss Franc and Yen.

In contrast, major Emerging Market (EM) central banks have, with the exception of Bank of Korea and Banco Central de Chile, kept their policy rates unchanged in the past fortnight. This is broadly in line with our view that "*the overall pace and magnitude of [central bank] policy rate cuts in Non-Japan Asia will be modest*."

The EM central bank policy rate – a GDP-weighted average of policy rates in 20 major EM economies – was admittedly cut a sizeable 74bp between mid-2019 and end-January 2020 but has been cut only 4bp so far in March, albeit to a new multi-decade low of about 4.3%.

We think EM central banks are concerned that further rates cuts could exacerbate capital outflows and put further downward pressure on their currencies and upward pressure on already high and/or rising headline CPI-inflation.

As a simple rule of thumb we think EM central banks with a high real policy rate and stable/appreciating currencies are more likely to cut their policy rates in coming weeks (see Figure 7). On this basis central banks in India, the Philippines and Taiwan seemingly have room to cut rates.

We also think that the South African Reserve Bank will cut rates at its policy meeting on 19th March, as long as the Rand remains broadly stable as it has been in the past week.

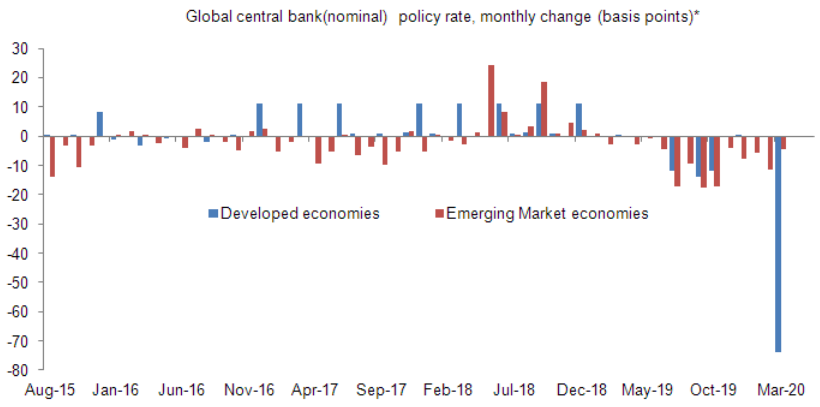
DETAIL

Developed central banks aggressively loosened monetary policy with more likely to come

Developed central banks in the past week have been falling over themselves to loosen monetary policy and secure the proper functioning of financial and credit markets.

- The Federal Reserve announced a resumption of its purchases of Treasuries and asset-backed securities to the tune of $700bn;
- The European Central Bank – which left its policy rates unchanged at its meeting last Thursday – announced an increase in its asset purchases by €120bn for the rest of the year;
- The Reserve Bank of New Zealand (RBNZ) said on 16th March said that a "*Large Scale Asset Purchase programme of New Zealand government bonds would be preferable*" to further rate cuts;
- Reserve Bank of Australia Governor Philip Lowe said on 16th March that the RBA "*stands ready to purchase Australian government bonds in the secondary market*" and would announce further measures to support the Australian economy on 19th March.

Figure 1: Developed central banks have cut rates aggressively in past fortnight, EM central banks have not

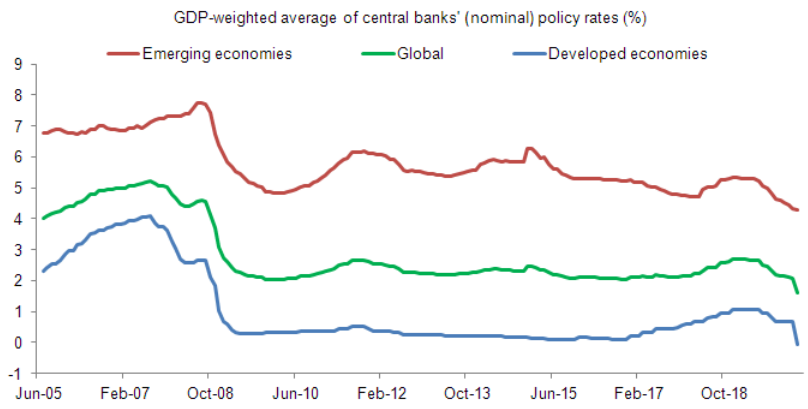


Source: 4X Global Research, IMF, national central banksNote: GDP-weighted average of central bank policy rates in developed economies – Australia, Canada, Denmark (deposit rate), Eurozone (deposit rate), Japan, New Zealand, Norway, Sweden (repo rate), Switzerland (3m SIBOR until June 2019 then policy rate), United Kingdom and United States – and emerging markets – Brazil, Chile, China (1-year Loan Prime Rate), Czech Republic, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Nigeria, Philippines, Poland, Romania, Russia, Singapore (overnight rate average), South Africa, Taiwan, Thailand and Turkey.

The Federal Reserve, RBNZ, Bank of Canada, Bank of England and Norges Bank in the past week have also delivered inter-meeting policy rate cuts of respectively 100bp, 75bp, 50bp and 50p and 50bp. Our measure of the developed central bank policy rate – a GDP-weighted average of nominal policy rates in major developed economies and economic blocks – has been cut 74bp so far in March, the largest monthly cut since December 2008 (-78bp) – see Figure 1. Moreover, we expect central banks in Australia and Canada in the near term to further cut their policy rates, currently at 0.50% and 0.75% respectively.

As a result the developed central bank policy rate is now in negative territory (-0.05%) for the first time in at least 15 years, according to our estimates (see Figure 2). The previous low was 0.1% in November 2016. This has raised concerns that developed central banks have or are close to running out of ammunition, at least in terms of policy rate cuts – concerns which have arguably weighed on global equities in the past week and contributed to the sustained outperformance of the US Dollar, Euro and more traditional safe-havens, namely the Swiss Franc and Japanese Yen.

Figure 2: Global central bank policy rate at its lowest in at least 15 years



Source: 4X Global Research, IMF, national central banks

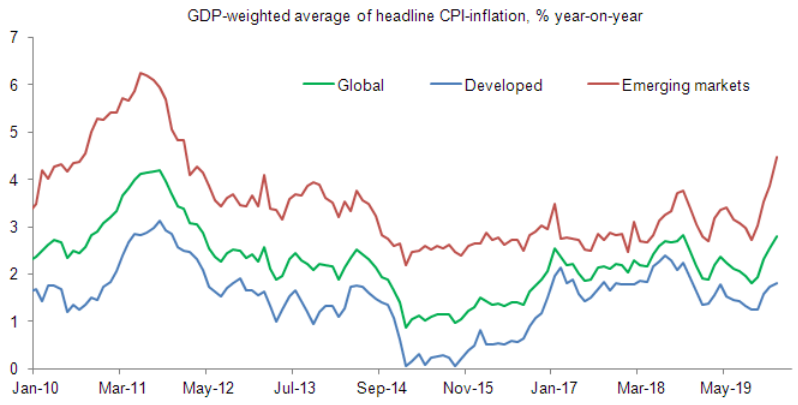
Emerging Market central banks now lagging developed counter-parts in cutting rates

In contrast, major Emerging Market (EM) central banks have, with the exception of Bank of Korea and Banco Central de Chile, kept their policy rates unchanged in the past fortnight.

In Non-Japan Asia (NJA), the Bank of Korea delivered a 50bp in inter-meeting rate cut (to a new record low of 0.75%) on 16th March, joining the ranks of Indonesia and Malaysia which each cut their policy rates 25bp on 20th February and 2nd March, respectively. In the greater scheme these rate cuts have been modest, in line with our view that "*the overall pace and magnitude of [central bank] policy rate cuts in Non-Japan Asia will be modest*." (see Asian central bank policy rates – Scalpel not knife, 7th February 2020). In Emerging Europe, Middle East, Africa and Latin America major central banks have kept their policy rates on hold, with the exception of Banco Central de Chile which cut its policy rate 75bp to 1.00% on 16th March.

As a result our measure of the EM central bank policy rate – a GDP-weighted average of nominal policy rates in 20 major EM economies – has been cut only 4bp so far in March and 21bp year-to-date (see Figure 1) albeit to a new multi-decade low of about 4.3% (see Figure 2).

Figure 3: CPI-inflation has risen rapidly in EM economies in the past six months to about 4.5% yoy in January



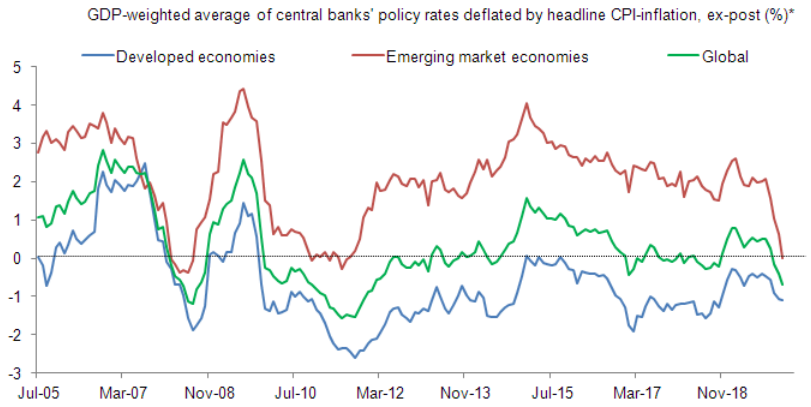
Source: 4X Global Research, IMF, national central banks and statistics officesNote: GDP-weighted average of headline CPI-inflation in developed economies – Australia, Canada, Denmark, Eurozone, Japan, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States – and emerging markets – Brazil, Chile, China, Czech Republic, Hungary, India (WPI-inflation), Indonesia, Korea, Malaysia, Mexico, Nigeria, Philippines, Poland, Romania, Russia, Singapore, South Africa, Taiwan, Thailand and Turkey.

There are at least four possible, non-mutually exclusive explanations in our view as to why EM central banks have on the whole refrained from following in the footsteps of developed central banks in aggressively cutting their policy rates in the past couple of weeks.

1. They are not convinced that policy rate cuts are the best way to deal with the current economic fall-out;
2. They think that policy rate cuts in developed economies will deliver an economic boost to their economies (via lower debt repayment costs for example);
3. They cut their policy rates quite forcefully last year and in early 2020 and want to see how these rate cuts feed through to domestic growth and inflation before embarking on another round of sustained rate cuts (see Asian central bank policy rates – Scalpel not knife, 7th February 2020). To put it in perspective, we estimate that the EM global central bank rate was cut by about 78bp between mid-2019 and end-January 2020, more than twice as much as the developed central bank policy rate (-37bp). The other way to look at it is that developed central banks in the past fortnight have effectively been playing catch up with their EM counterparts.

4. They are concerned that further rate cuts will exacerbate capital outflows and put further downward pressure on their currencies and upward pressure on already high and/or rising headline CPI-inflation. Our GDP-weighted measure of EM headline CPI-inflation rose 165bp in the 12-months to January to an eight-year high of 4.4% (see Figure 3). January is the last month for which CPI-inflation data are available for all major EM economies.

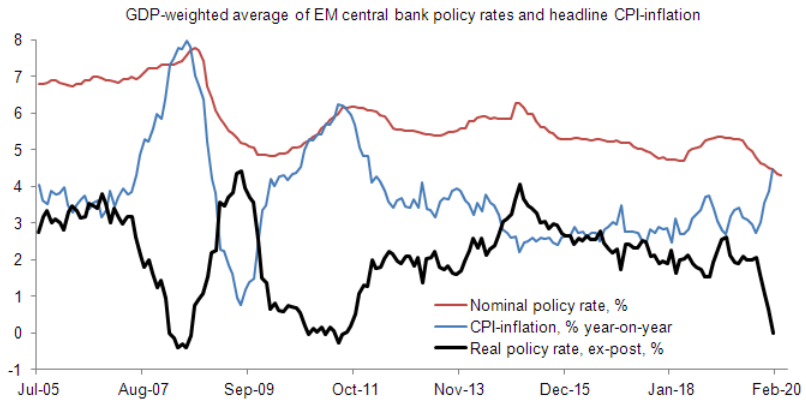
Figure 4: Global central bank real policy rate fell sharply in late-2019…



Source: 4X Global Research, IMF, national central banks and statistics officesNote: *Wholesale Price Inflation (WPI) in India is used in the calculations

Over that period the EM central bank policy rate was cut 88bp, resulting in a sharp 250bp fall in the real (ex-post) policy rate to a 102-month low of about zero (see Figures 4 & 5). Even before the coronavirus epidemic became a headline story EM central bank interest rate policy was already stimulative and inflationary, in our view.

Figure 5: …and fall in EM economies was particularly acute, potentially limiting need/room for further cuts

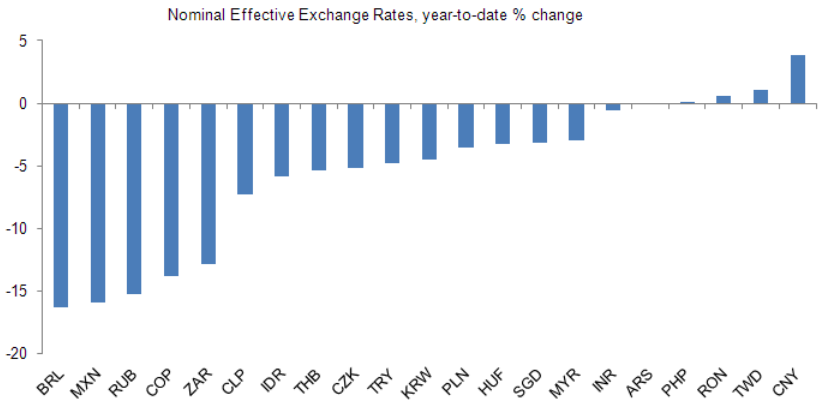


Source: 4X Global Research, IMF, national central banks and statistics officesNote: Wholesale Price Inflation (WPI) in India is used in the calculation of the inflation rate and real policy rate

Moreover, since January the EM central bank policy rate has been cut further, albeit by a modest 16bp (see Figure 1), while most EM currencies have weakened – resulting in an outright loosening of overall monetary policy. Figure 6 shows that only the Romania Lei, Taiwan Dollar and Chinese Renminbi Nominal Effective Exchange Rates (NEERs) have appreciated since year-to-date, according to our estimates. In broad terms, high-yielding, Latin American and currencies of oil-exporting nations have weakened the most while NJA and European currencies have weakened the least.

Financial markets, faced with a once-in-a-generation sell-off in global equities and acute volatility, are seemingly turning a blind eye to macro data releases, or at most only giving them a cursory glance. However, EM policy-makers are likely still paying attention to inflationary developments to the extent that high and/or rising inflation eats into consumers' real purchasing power and could in time cause a loss of market confidence, exacerbating capital outflows and domestic currency pressures.

Figure 6: Only a handful of major EM currencies have appreciated year-to-date



Source: 4X Global Research, BIS, investing.com

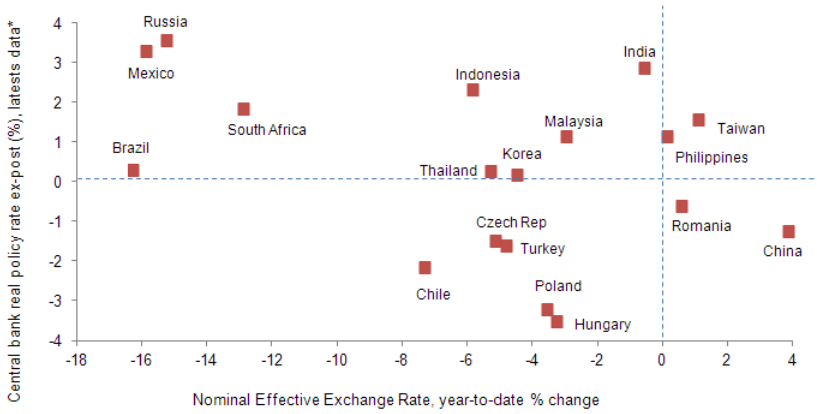
Some EM central banks may have scope for "catch-up" policy rate cuts

With this mind the next obvious question is which EM central banks have the room to cut their policy rates near-term and "catch up" with developed central bank policy rates. There is of course no blanket answer for all EM economies covered given the multitude of factors which individual central banks take into account when setting domestic policy rates. However, as a rule of thumb we think that EM central banks with a high real policy rate (in absolute and historical terms) and stable or appreciating currencies are more likely to cut their policy rates in coming weeks.

On the basis of this admittedly simplified metric:

- Central banks in India, the Philippines and Taiwan seemingly have the room to cut policy rates. Their real policy rates were still positive as of February at respectively 2.9%, 1.2% and 1.6%, according to our estimates, and the Indian Rupee and Philippines Peso NEERs have been broadly stable since end-2019 while the Taiwan Dollar has appreciated about 1% and (see Figure 7).
- Central banks in Brazil, Mexico, Russia and South Africa have positive real rates but their currencies have been under acute pressure in recent months which in our view reduces the scope for policy rate cuts.

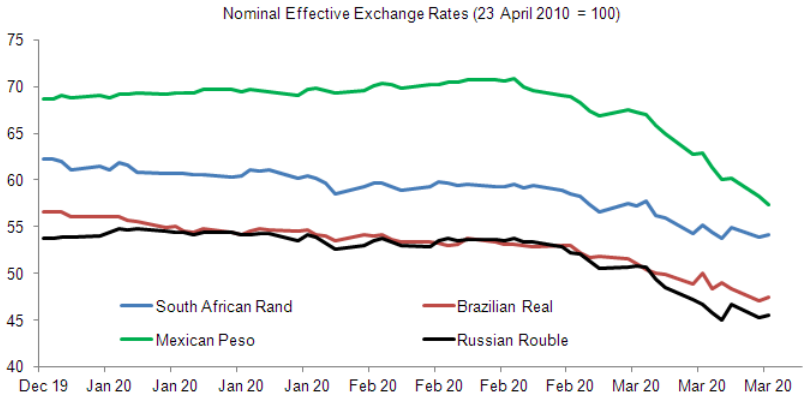
Figure 7: This simple metric may provide rough guide to whether EM central banks have room to cut rates



Source: 4X Global Research, IMF, national central banks and statistics officesNote: *Last available data point for real policy rate is January 2020 for Brazil, China, Indonesia and Malaysia and February 2020 for other EM economies. Wholesale Price Inflation (WPI) is used in the calculation of the real policy rate for India.

- However, the South African Rand NEER has been broadly stable in the past six sessions (see Figure 8). If this remains the case in the next two trading sessions we think the South African Reserve Bank will cut rates from 6.25% at its policy meeting which concludes on 19th March.
- The National Bank of Poland's real policy rate is amongst the lowest of any major EM economy (-3.2% in February) but the Polish Zloty has been reasonably resilient in relative terms. The NBP Management Board on 16th March publicly stated that it supported the recommendation of NBP President Glapiński to cut the policy rate (currently at 1.5%).

Figure 8: Mexican Peso and Brazilian Real have continued to weaken but Rand has been stable in past week



Source: 4X Global Research, BIS, investing.com

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- I/We have not been commissioned to write this insight or hold any specific opinion on the securities referenced therein
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— Olivier Desbarres (17 Mar 2020)

Chuanyi Zhou

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- Countries: China, Hong Kong
- Sectors: Real Estate, Industrials

Content Verticals

- Credit, Debt Capital Markets

Sino Ocean Land | Credit

Sino-Ocean - Tear Sheet - Lucror Analytics

By Chuanyi Zhou | 14 Apr 2020

EXECUTIVE SUMMARY

We view Sino-Ocean as "Medium Risk" on the LARA scale. Our assessment reflects the company's: presence in higher-tier cities, especially Beijing, which reduces market risk; debt-funded expansion, which has led to a deterioration in credit metrics and execution risk; increasing use of JV structures, resulting in poor transparency on project-level sales and debt, as well as uncertainty on related-party transactions; implied support from China Life Insurance; and experienced Board members and management, with low turnover.

Our fundamental Credit Bias on Sino-Ocean is "Stable", albeit the COVID-19 pandemic could affect the company's performance in terms of construction and delivery of properties, rental revenue and the occupancy rate of investment properties, as well as contracted sales. That said, the financial profile has been improving and liquidity has been sound. We like the company's substantial exposure in higher-tier cities, especially Beijing. We also note that it has increasingly made use of JV structures at the project level, which reduces transparency on debt and sales.

We view Sino-Ocean as "Moderate" on the LAGA scale, given its: long operating and listing history; support from China Life; and effective Board of Directors.

DETAIL

Sino-Ocean

Tear Sheet

Sino-Ocean Group Holding is a developer with a diversified property focus on T1 and T2 cities in China. Founded in 1993, Sino-Ocean was previously a subsidiary of SOE COSCO Group. COSCO sold its holdings in 2010, as the SASAC had required it to exit the real-estate business. Sino-Ocean was listed

on the HKEX in 2007. Its largest shareholders are China Life Insurance (also an SOE) and Dajia Insurance (previously known as Anbang) with c. 30% holdings each.

Overall Risk Assessment

We view Sino-Ocean as "**Medium Risk**" on the LARA scale. Our assessment reflects the company's: [1] presence in higher-tier cities, especially Beijing, which reduces market risk; [2] debt-funded expansion, which has led to a deterioration in credit metrics and execution risk; [3] increasing use of JV structures, resulting in poor transparency on project-level sales and debt, as well as uncertainty on related-party transactions; [4] implied support from China Life Insurance; and [5] experienced Board members and management, with low turnover.

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We view Sino-Ocean as "**Moderate**" on the LAGA scale, given its: [1] long operating and listing history; [2] support from China Life; and [3] effective Board of Directors.

Key Credit Drivers

Geographical focus on higher-tier cities: Sino-Ocean has significant exposure in T1 and T2 cities, with a strong presence in Beijing. We view its exposure and long operating history in such cities as positive factors, as they entail lower market and execution risks.

Debt-funded expansion: The company has been using debt to expand in existing and new markets. Its debt level has almost doubled in three years.

Weak margins: The increasing land and construction costs have pressured Sino-Ocean's margins. These were at the low end among peers at 20% as of FYE 2019, while the EBITDA margin was very thin at only 14%.

Increasing use of JV structures: At the project level, Sino-Ocean makes extensive use of JV structures (c. 21% of assets). This reduces transparency on contracted sales, revenue recognition and debt.

Implicit support from China Life: A strategic investor with an SOE background, China Life Insurance is one of the company's controlling shareholders. It has been supporting Sino-Ocean since 2009, both operationally and financially. For example, one of China Life's subsidiaries has subscribed to Sino-Ocean's MTNs.

Country Overview

In March 2020, China gradually eased the lockdown measures imposed to contain the COVID-19 outbreak, with people returning to work, factories re-opening and businesses resuming operations as normal. Large companies, including SOEs and industrial players, have mostly restarted business, and are on track to return to full capacity. However, some SMEs have been pushed to the brink by the shutdown, and in some cases have had to lay off employees. While the government has implemented a number of measures to support companies in this situation, the resumption of SME activity could be constrained. Industry-wise, services sectors are facing more challenges, and we expect that a decline in export orders will hit more Chinese companies going forward.

COVID-19 should result in a very weak Q1/20 for China, and possibly the first quarterly contraction in 30 years. In March 2020, the country's official manufacturing PMI rose to 52.0 (44.8 e), after hitting a historical low of 35.7 in February. Still, this does not signal that the economy has returned to normal. There was a notable improvement in the production and new orders components, but those related to external trade remained in contraction. The CPI in March was up by 4.3% y-o-y, mainly driven by higher food prices (+18%).

The PBOC has been pumping liquidity and cutting funding costs to support the economy. Total social financing (TSF) rose to a record high of CNY 5.15 tn in March 2020. The outstanding TSF stood at CNY 262 tn as of end-March, which was up 11.5% y-o-y. The central bank expects loan demand to surge further in Q2, as key government-backed projects are restarted, businesses re-commence operations, and consumer and real estate demand pick up.

In 2019, China’s GDP grew 6.1% y-o-y to c. CNY 99 tn. The growth was the slowest in three decades, due to sluggish domestic and foreign demand, as well as escalating US trade pressure.

In the long run, positive factors for China include: [1] the shifting of the economy’s reliance from exports to domestic consumption (Exports/GDP for 2019: 17.4% vs. 2008: 32%); [2] increased migration to urban areas (Urban/Total Population: 60.6% vs. 47%); and [3] higher living standards (urban disposable income for 2019: CNY 42,359 vs. CNY 15,781).

In May 2017, Moody’s downgraded its rating for China to A1 (stable) from Aa3. In September, S&P downgraded the rating to A+ (stable) from AA-. Both agencies noted the rise in debt throughout the country's economy, which they believed would reduce financial stability. The agencies also acknowledged as positives reforms and economic growth. Fitch affirmed its A+ (stable) rating for China in March 2018.

Industry Outlook

The impacts from the COVID-19 pandemic on the Chinese property sector can be summarised as: [1] weaker contracted sales; [2] slower property delivery/revenue recognition; [3] declining recurring income from rental and management fees; and [4] regulatory changes in both property-specific policies and the financing environment.

Developers recorded weak contracted sales in Q1/20, due to the closure of physical sales centres from late January. In Q1/20, the GFA sold in 50 Chinese cities plunged to the lowest level since 2011. Lower-tier cities recorded the largest decline in Q1 overall. February was the worst month of the quarter, and sentiment gradually recovered in March.

During the period, developers took their sales efforts online, while cash collections were weak. Real estate players have either forgone the setting of 2020 sales targets or pegged these at conservative levels, reflecting industrywide reservations on the market. Sentiment on property purchases was also weak, as potential buyers may have delayed property purchase decisions in anticipation of slower economic growth, lower income and declining property prices.

As of mid-March 2020, more than half of the property sales centres and c. 70% of property agents had opened for business again, according to the China Real Estate Information Corporation (CRIC). The research house also estimated that 50-60% of construction sites had resumed operations by then. During their FY 2019 results presentations, most companies said they expected works to resume in March, and to return to normal by April. Construction was halted from late January to early March, which could lead to slower revenue recognition in H1. Positively, this also limited developers' cash outflows during the period. In view of their limited resources, we believe that developers may prioritise starting new projects (to increase turnover) over completing existing projects and delivering these properties. This would be supported in part by the permission granted by some local governments to delay property delivery timelines.

The transacted land area was lower, while land prices went up. Large-scale developers were fairly prudent in terms of land acquisitions during the quarter, while medium-sized players appeared to be more aggressive.

On the financing front, the amount of offshore bonds issued in Q1/20 by developers was 33% higher y-o-y, while the amount raised from onshore bonds was stable. Companies with a large share of wealth management products and trust loans will be more vulnerable. Many banks have been directed to extend maturities or renew loans amid the outbreak. Therefore, bank loans, developers' most important financing channel, should be at a standstill at least for the next few months.

Going forward, there could be a relaxation in rules for onshore debt issuances, with the switch from an approval-based mechanism to a registration-based one from the beginning of March 2020. This could create an easier financing environment. For offshore financing, the PBOC and SAFE

relaxed the ceiling on the amount each company can use in mid-March, though this is not applicable to real estate and LGFV issuers. It is positive for related sectors as a whole that the government continues to control the leverage of already highly levered developers and local governments, though this may not be good news from a refinancing perspective.

On the regulatory front, the government is likely to back up the property sector, on account of its importance to the economy. Local governments are motivated to support developers given their heavy reliance on land-related income, which accounted for more than half of local public finances in 2019. That said, the central government has reiterated its guidelines that "housing is for living, not for speculation" and "not to use real estate as a short-term means of stimulating the economy". Hence, we expect only a marginal relaxation and short-term support from local governments, especially given the "one policy for one city" approach. We do not foresee a significant relaxation in property-sector controls at the national level.

At the city level, numerous new policies have been introduced to either ease the liquidity pressure on developers or encourage purchases. In the former respect, a significant number of cities have granted: [1] delays in payment or instalments for land premiums; [2] permission for developers to push back property deliveries; and [3] a relaxation of both pre-sale requirements and supervision on the use of proceeds from pre-sales. To encourage purchases, many local governments have implemented: [1] a relaxation of regulations on the use of pensions; and [2] rules supporting the purchase of property by non-resident experts/professionals. Some lower-tier cities have even extended financial support for property purchases. Notably, some city-level policies have been revoked, including those that had relaxed House Purchase Restrictions (HPRs) and mortgage restrictions. This could signal the central government's determination in upholding its guidelines.

We expect demand to recover in Q2/20, on the back of solid demand from buyers who delayed purchases earlier owing to the outbreak, along with demand stimulated by the virus and home quarantine measures themselves. In the latter case, demand would come from: [1] residents who cannot return to homes they had been renting prior to the outbreak, as their neighbourhoods (e.g. in Hangzhou) require proof of property ownership to enter the premises; and [2] those whose need to upgrade has become greater during the home quarantine period. We also expect developers to accelerate project launches. Small-scale players may put their projects or land up on sale, at which point there could be a new wave of industry consolidation. This may result in a further increase in leverage for some developers.

In 2020, we foresee that contracted sales nationwide will decline 5-10% y-o-y. This assumes: [1] a base-case estimate (i.e. without considering the COVID-19 outbreak) of flat contracted sales; [2] the historical trend of Q1 accounting for c. 15% of full-year sales on average; and [3] a 40-70% decrease in Q1/20 sales, with the outbreak coming under control in Q2. Similarly, we project a 10-15% drop in newly started projects, a flat number of completed projects, and a 5-10% drop in land spending for 2020, based on a similar methodology.

We also anticipate weaker performance from developers in 2020, both in terms of contracted sales and revenue recognition. We remain cautious on their liquidity profiles, and expect: [1] lower OCF, given soft contracted sales and cash collection; and [2] no major relaxation in the credit environment, and possibly a reduction in financing through wealth management products. We foresee that most developers will be conservative with respect to investments on land, acquisitions and non-core business. However, opportunities for acquisitions could arise in H2 with asset sales by small/regional developers, adding to the uncertainty regarding developers' cash outflows.

In the longer term (next 3-5 years), we believe the outbreak could have an impact on the trend of urbanisation in central regions of China, and Hubei in particular. We project increased infrastructure investment in Hubei and nearby provinces in the coming years, as efforts are made to rebuild badly affected areas. This could stimulate further urbanisation, particularly in lower-tier cities. The outbreak could also have a longer-term effect on business strategies. According to a Tsinghua University survey conducted in early February 2020, more than half of the business owners surveyed said they would invest in taking their businesses online after the outbreak. This is in line with our observation of developers' online sales initiatives.

Chinese developers' USD Notes have been experiencing heavy selling pressure since mid-March, given the liquidity crunch in the market. This has resulted in very large spreads (up to 15 pts) between a company's onshore and offshore bonds. Prices for developers' Notes have since stabilised. However, the market volatility could translate into higher offshore financing costs for them in the near future.

Business Risk Profile & Strategy

Sino-Ocean was founded in Beijing in 1993. The company expanded beyond the Chinese capital in 2004, gradually building a presence in the Beijing-Tianjin-Hebei, as well as the northeast, central and southern regions of the country. As of FYE 2019, Sino-Ocean had projects in 47 cities. The company operates under a traditional build-to-sell model, although it has exposure to the property investment and management sectors. Property development contributes c. 85% of total turnover.

Sino-Ocean's two main shareholders are China Life Insurance and Dajia Insurance, with each having a c. 30% holding. Dajia's stake in Sino-Ocean is slightly smaller than that of China Life, with each of these shareholders having appointed two NEDs on the company's Board. The dividend payout ratio was high at 35% in FY 2019 (FY 2018: 40%). Chairman Li Ming has a c. 2% stake.

Dajia is a new entity that was created in July 2019 to take over Anbang's insurance operations, after banking and insurance regulator CBIRC completed the two-year takeover of Anbang. The authorities had taken control of the CNY 2 tn conglomerate in February 2018, after then-chairman Wu Xiaohui was arrested and subsequently jailed for fund-raising

fraud. During the state custody period, the authorities offloaded Anbang's non-core businesses (e.g. luxury hotels) and preserved only the insurance operations.

Operating Results: In Q1/20, Sino-Ocean recorded contracted sales of CNY 15.5 bn, which was 30% lower y-o-y . This was a combined effect from less GFA sold (-22%) and lower ASP (-10% to CNY 20,195 psm).

In FY 2019, contracted sales increased 19% y-o-y to CNY 130 bn. This was supported by more GFA sold (+23%), which offset the decline in ASP (-5% to CNY 21,700 psm). Sino-Ocean has a diversified geographical presence in 42 cities. The top contributing market is Beijing, which accounted for 22% of sales. The other markets each contributed less than 10% of sales.

Land Bank: In FY 2019, Sino-Ocean acquired 34 plots of land and three developed projects, adding c. 7 mn sqm of GFA to the land bank.

As of FYE 2019, the land bank spanned 37 mn sqm, which should be sufficient for six years of development. The average cost of the land bank was CNY 7,500 psm, which stood at 34.5% of the contracted ASP.

Financial Risk Profile

Profitability: In FY 2019, Sino-Ocean's revenue increased by 23% y-o-y to c. CNY 51 bn. Some 85% of the revenue was derived from the property development segment, which registered 21% growth. This was supported by more GFA delivered, which offset the weaker recognised ASP. Recurring income (which included rental, management fees and other real estate businesses) amounted to CNY 7.7 bn, covering more than 1.4x of the interest expense during the period. The gross profit margin was stable at 20%. EBITDA increased by 34%, with the EBITDA margin improving to 14%. Profitability was relatively weak compared to industry standards.

Sino-Ocean has significant exposure to JVs and associates (c. 21% of assets). These have increasingly contributed to the bottom line. In FY 2019, profits from JVs and associates accounted for 18% of pre-tax profits, compared to 11% in FY 2018.

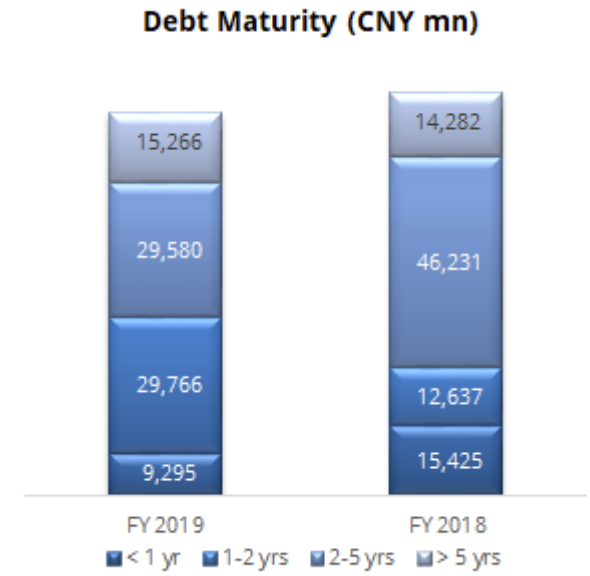
Leverage: The company's gross borrowings declined 5% y-o-y to c. CNY 84 bn, while short-term debt decreased significantly to CNY 9.3 bn. Revenue/Debt improved substantially to 61%, supported by strong top-line growth. Net Debt/Net Inventories remained weak at 73%, as a result of a lower cash balance at FYE 2019. Debt/EBITDA strengthened as a result of good revenue growth and stable margins.

Coverage: The interest expense increased by more than 24% y-o-y, possibly owing to higher funding cost (5.5% vs. FY 2018: 5.38%) and a short-term rise in leverage in H1/19. EBITDA/Interest coverage continued to be very weak at 1.4x, with higher interest offsetting the EBITDA growth.

Liquidity: The liquidity profile continues to be sound, albeit the cash balance declined by 20.5% y-o-y to CNY 31 bn. Cash/Short-term Debt coverage is satisfactory at more than 3x.

Financing Activities and Debt Structure: In 2019, Sino-Ocean issued USD 1.1 bn Senior Notes and redeemed USD 1.2 bn Senior Notes. The company also issued CNY 2.9 bn onshore Corporate Notes. In 2020, it issued USD 400 mn 4.75% Notes due in 2030.

The company's short-term debt accounted for 11% of gross debt as of FYE 2019. Sino-Ocean will face a maturity cliff in 2021, when 35% of its debt will come due.



Source: Company, Lucror Analytics

Ratings

Even though Sino-Ocean is close to triggering some of the rating sensitivities, we do not foresee imminent rating actions given the agencies' heavy weightage for China Life's support.

In December 2019, Fitch affirmed the company's BBB- (stable) rating. The agency viewed favourably China Life's support, the adequate and diversified land bank, as well as the quality investment properties. Positive rating sensitivities include: [1] signs of a stronger relationship with China Life; [2] sustained neutral to positive cash flow from operations; [3] Net Debt/ Adjusted Inventory < 30%; and [4] attributable recurring EBITDA interest coverage > 0.6x. Negative rating sensitivities are: [1] EBITDA margin < 22%; [2] Net Debt/Adjusted Inventory rises to nearly 40%; [3] attributable recurring EBITDA interest coverage < 0.3x; and [4] signs of a weaker relationship with China Life.

In April 2017, Moody's revised the outlook on Sino-Ocean's Baa3 rating to stable from negative, on account of the improved credit metrics and support from China Life. The agency projected that a strong sales performance and debt management would support the credit metrics. Factors that could lead to an upgrade include: [1] EBIT/Interest above 4.25x; [2] Revenue/Debt over 90%; or [3] Adjusted Debt/Capitalisation below 40% on a sustained basis. Downward rating pressure could result from: [1] EBIT/Interest below 2.7x; [2] Revenue/Debt under 60%; or [3] Adjusted Debt/Capitalisation above 50%. In addition, signs of a reduction in ownership or weaker support from China Life (or deterioration in this entity's credit profile) could be negative for Sino-Ocean's rating.

Corporate Governance

We view Sino-Ocean as "**Moderate**" on the LAGA scale. The company has a long history of operations, having been a subsidiary of SOE COSCO before coming under mixed ownership. It has been listed since 2007. Sino-Ocean now has two major shareholders, China Life Insurance and Dajia Insurance (previously Anbang), with c. 30% stakes each. China Life, which is state-owned, has provided reasonable support to the company, with a subsidiary having subscribed to the MTNs.

Dajia is a new entity that was created in July 2019 to take over Anbang's insurance operations, after banking and insurance regulator CBIRC completed the two-year takeover of Anbang. The authorities had taken control of the CNY 2 tn conglomerate in February 2018, after then-chairman Wu Xiaohui was arrested and subsequently jailed for fund-raising fraud. During the state custody period, the authorities offloaded Anbang's non-core businesses (e.g. luxury hotels) and preserved only the insurance operations.

We believe Sino-Ocean's Board of Directors is effective on account of these factors: [1] the Board has three EDs (from neither China Life nor Dajia), four NEDs (two from China Life and two from Dajia) and five INEDs; [2] Chairman Li Ming has been with Sino-Ocean since its inception and has a c. 2% stake, albeit he is also CEO; and [3] the five INEDs have professional backgrounds in finance, law and shipping; conversely, they hold multiple Board appointments.

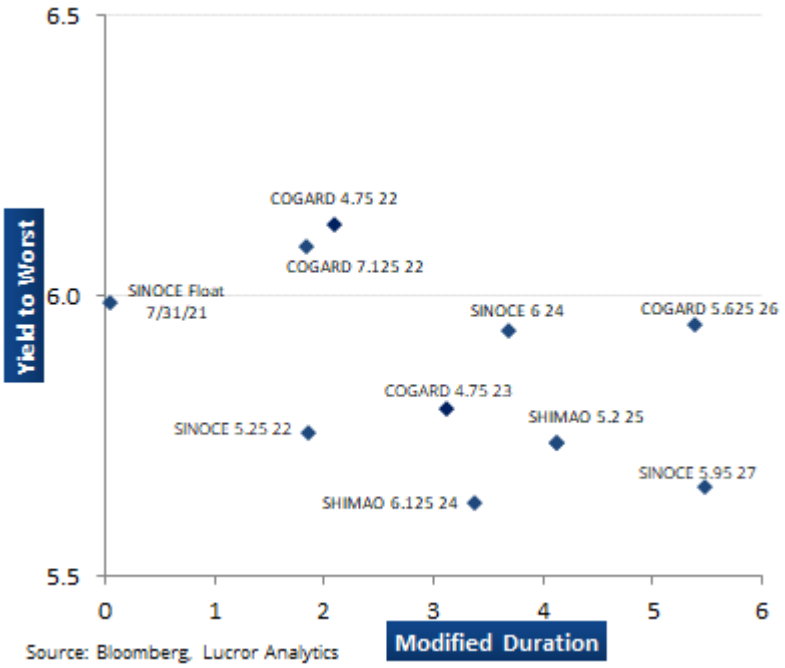
Sino-Ocean has substantial entrusted loans to JVs, as well as amounts due to and from JVs. These form a large part of its related-party transactions.

Trade Recommendation

Our fundamental Credit Bias on Sino-Ocean is "**Stable**", albeit the COVID-19 pandemic could affect the company's performance in terms of construction and delivery of properties, rental revenue and the occupancy rate of investment properties, as well as contracted sales. That said, the financial profile has been improving and liquidity has been sound. We like the company's substantial exposure in higher-tier cities, especially Beijing. We also note that it has increasingly made use of JV structures at the project level, which reduces transparency on debt and sales.

Sino-Ocean's Notes have been resilient against the recent market movements, as compared to its peers. This could be a result of the implicit support from its SOE parents. Liquidity for the various bond tranches is sound, while technicals are neutral. The company has more long-duration Notes than peers. The SINOCE '29s and '30s are trading below 90, yielding c. 6.2%. The '24s and '27s are trading above par and yielding 5.3-5.6%. The '22s are trading at 103 and yielding 3.7%.

The SINOCE curve is trading closely with SHIMAO and CHJMAO. In our view, SINOCE has a weaker credit profile than SHIMAO and COGARD, but enjoys stronger parental support. The SINOCE Notes seem to have priced fairly, and we maintain our "**Hold**" recommendation.



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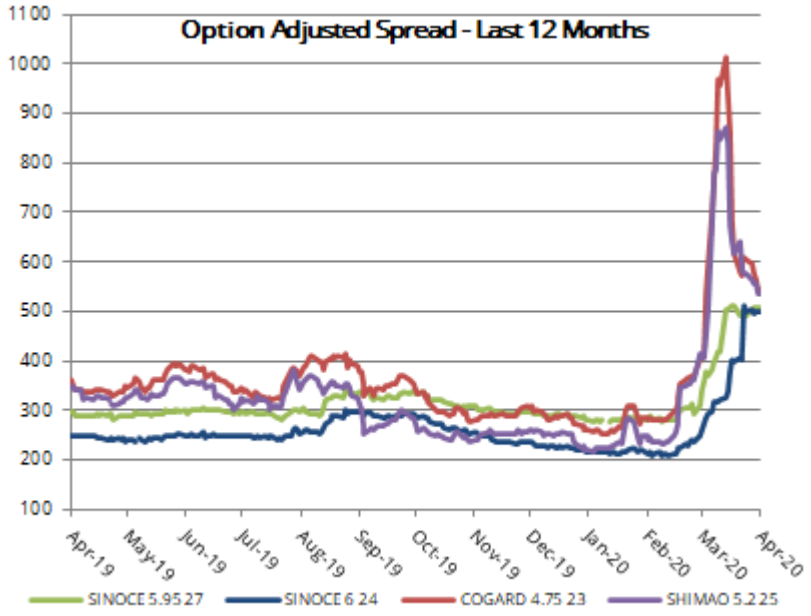

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— Chuanyi Zhou (14 Apr 2020)

Hank Calenti, CFA

Financials Credit Analyst | CreditContinuum

Hank has over 30 years' experience analysing and supervising financial institutions as a sell-side analyst and central banker. He has been part of firms like Wells Fargo Securities, Société Générale, Moody's Investors Service, and has been an Advisor to the Governor of the Central Bank of the United Arab Emirates.

Areas of Expertise

- Primary Asset Class: Credit
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Bank Contingent Capital & Coronavirus Contagion

By Hank Calenti, CFA | 30 Apr 2020

EXECUTIVE SUMMARY

When you purchase bank contingent capital, you may marry it for the foreseeable future. Coronavirus contagion is challenging this contractual relationship.

With an on-going global economic and cash flow contraction, we undertake a deep dive within this **Smartkarma Original** report to understand which banks are better equipped to keep their vows regarding bond coupons and calls.

As such, we perform **fundamental analysis**, from an Additional Tier 1 (AT1) investor's perspective, on 15 of the largest US, UK, and Asia-headquartered banks. We also assess this fundamental positioning relative to some of the largest banks in the European Union. We present our **top picks and pans** and provide single security recommendations based on **relative value analysis** wherein we consider the likelihood of continued coupon payments. The **resulting handbook** guides the investor through detailed analytical constructs to deliver actionable recommendations.

The analysis is also driven by our view that a liquidity event is the Point of Non-Viability (PONV) for any financial institution. In the current operating environment of large forbearance activity, this coronavirus economy brings us closer to a liquidity event. We believe the market underappreciates this risk. As such, we go somewhat 'mad scientist' in considering the deposit franchise strength and cash flow composition of each banks' liquidity towards assessing sensitivity to a payment flow contraction. **This is original analysis.**

With the recent passage of time and expectations of better days ahead, AT1 bond prices have recovered slightly. We are not convinced that this recovery is sustainable since much depends on the pathology of this disease. As such, we cannot rule out eventual vow renunciations via AT1 coupon suspensions, non-calls or a death do us part PONV event for certain institutions.

DETAIL

FUNDAMENTAL PICKS and PANS for AT1 INVESTORS

We present our top picks and pans based on a fundamental assessment of each bank from an AT1 investor's perspective.

Fundamental Picks and Pans for AT1 Investors

Top 5 (from top down)	Bottom 5 (from bottom up)
Bank of China HK	UOB
China Constr. Bnk	Bank of East Asia
Bnk of America	HSBC
CCB (Asia)	Citigroup
Bank of China	Standard Chartered

Source: CreditContinuum Ltd. • Created with Datawrapper

In our view, the top 5 banks exhibit credit fundamentals, which are beneficial to AT1 investors. This is not to say that bonds issued by these banks are our top picks, as the market could overprice these securities; however, given the choice between a security issued by one of these institutions and that from another bank in this report, at a similar spread over Treasuries and similar first call date, we would prefer one of our top picks.

Within out top 5 banks, China Construction Bank (CCB) and Bank Of America (BAC) are a close second to Bank of China Hong Kong; however, we place CCB above BAC in the relative ranking as it has a larger gap to maximum distributable amount (MDA) trigger point and a higher level of distributable reserves available in the unlikely event that it pierces its Common Equity Tier 1 (CET1) combined buffer requirement. The difference between Bank Of China (BCHINA) and DBS Group Holdings (DBS), the next bank that we would place into an ordinal ranking, is also low; however, DBS' propensity for exposure to the oil sector, even if closely related to the Government of Singapore, makes this bank slightly less attractive than BCHINA, in our judgement

The bottom 5 banks exhibit credit fundamentals which are not beneficial to Additional Tier 1 bondholders, in our view. Again, this is not to say that we would not invest in an AT1 bond issued by one of these banks, as the market could underprice these securities; however, given the choice between a security issued by one of these institutions and that from another bank in this report, at a similar spread over Treasuries and similar first call date, we would prefer the other bank.

Within our bottom 5 banks, United Overseas Bank (UOB), Bank Of East Asia (BNKEA) and HSBC Holdings (HSBC) vie with each other for last place, in our judgement. UOB takes bottom rank due to higher than peer lending to non-investment grade corporates relative to its loss-absorbing capacity as well as higher than peer commercial real estate (CRE) exposure and higher than peer exposure to income producing real estate. Although these may be one and the same with respect to its HY corporate exposure, the confluence of these metrics may be problematic in the current operating environment. Level 3 assets are also high relative to the firms CET1 capital. Combined with a less attractive deposit franchise than peers and outsized repurchase transaction activity, given its deposit franchise, this institution takes bottom place from our perspective.

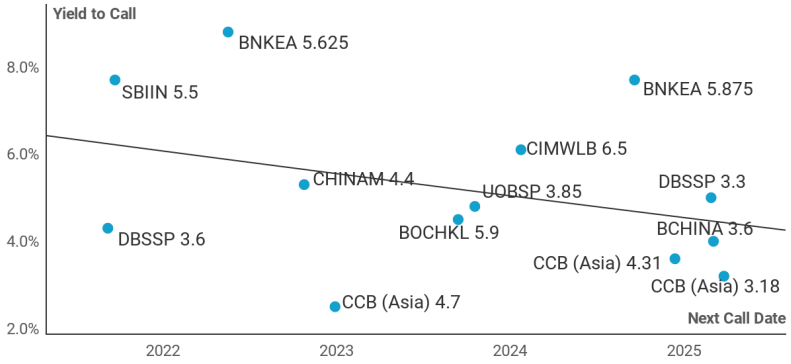
Bank of East Asia is not far behind UOB also due to higher than peer commercial real estate exposure, as well as higher than peer exposure to small and medium (SME) sized firms relative to its loss absorbing capacity. Special mention loans, which may be related to its CRE and SME exposure, are also high relative to peers and, taken together, may also be problematic in the current operating environment. As with UOB, Bank of East Asia also has a less attractive deposit franchise; however, in addition, it also has higher than peer reliance on performing loan cash flows as a source of liquidity. This is a dangerous combination in the current operating environment. That is, a material increase in forbearance activity and/ or nonperforming loans may have a greater impact on its ability to service its obligations relative to peers. Put simply, there could be liquidity event, and this equates to increased point of non-viability event risk. Taken together, and although not our base case, we have concerns regarding BNKEA reaching the point of non-viability prior to breaching capital triggers.

HSBC vies for last place also due to higher than peer exposure to commercial real estate. Exposure to high yield corporate loans is second only to UOB relative to its loss absorbing capacity while Level 3 assets are a similar proportion of CET1 capital as at UOB. The main differentiators are a materially stronger deposit franchise and more globally diversified portfolio. However, the coronavirus does not adhere to national borders. As such, diversification may equate with cost complications as borrowers seek forbearance. In addition, if HSBC breaches its CET1 combined buffer requirement, due to higher than expected loan losses, then the firm would not have distributable reserves available to service its AT1 coupons. Breaching the CET1 combined buffer requirement may have a more onerous impact on HSBC AT1 investors than if the same were to occur at a US bank. Juxtaposed with recently unmoored governance issues, as well as the firm's propensity to double-down on an already questionable strategy, and the direction of travel does not add comfort for debt investors.

RELATIVE VALUE ANALYSIS

This Chart is of No Value for AT1 Investing

Asian Bank AT1 Yields



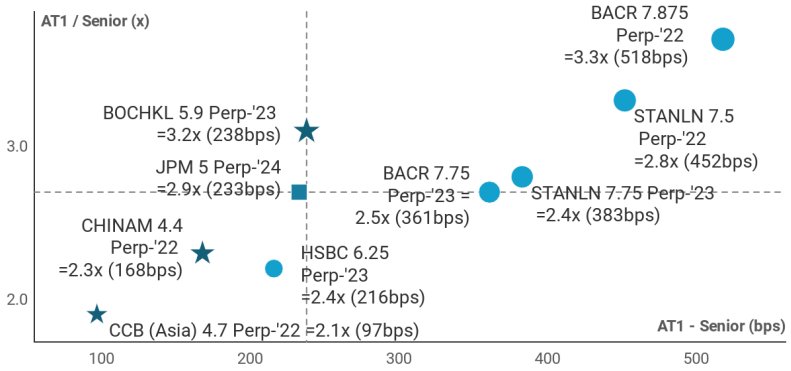
Data as of 26 April 2020

Source: Bloomberg, CredtiContinuum Ltd. • Created with Datawrapper

If you are serious about investing in bank contingent capital, then get serious about assessing the relative value of an AT1 security relative to its alternative investment. This requires considering the additional spread (yield) pick-up available from owning an AT1 bond relative to the additional risk undertaken. The level of risk priced into an AT1 bond can be identified by comparing the spread of the AT1 bond to that of a less risky security issued by the same entity, with a maturity or first call at around the same date. In addition to gains to be made from owning the right bond, there is an opportunity cost to be avoided from owning the wrong bond in a banks' **credit continuum.**

Prefer BOCHKL to CCB(Asia); BACR for the strong of heart

Option adjusted spread - '22 & '23 dated bonds



Data as of 26 April, 2020

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

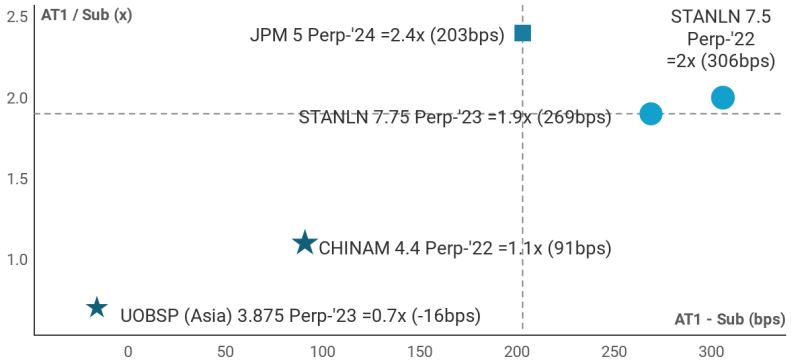
Amongst AT1 bonds with first call in the three year and under area, Barclays Plc (BACR) and Standard Chartered (STANLN) offer good spread pick-up relative to their senior unsecure bonds; however, the question is whether there is enough pick-up for the risks associated with owning their contingent capital. Since we place StanLn as the lower end of our fundamental picks and pans for AT1 investors, we would prefer a higher spread multiple relative to BACR's AT1 / senior unsecured relationship.

Bank of China Hong Kong's (BOCHKL) AT1 looks like an attractive opportunity to pick-up +230bps relative to senior unsecured debt of similar maturity. In addition, as Bank of China Hong Kong sits at the top of our fundamental picks and pans for AT1 investors, juxtaposed with its 2023 first call, the higher multiple at 3.2x the senior unsecured spread is also attractive relative to JPMorgan Chase & Co's (JPM) longer-dated security.

At the same time, China Construction Bank (Asia) ((CCB (Asia)) offers less than 100bps pick-up relative to its similar dated senior unsecured bond in the three year and under space. While this bank also sits towards the top of our fundamental picks and pans for AT1 investors, this bond is fully priced. There may be safety in owning this security, but we see better value elsewhere.

UOB is Overpriced; Prefer JPM or CHINAM

Option adjusted spread- '22 & '23 dated bonds



Data as of 26 April, 2020

Source: Bloomberg, CreditContinum Ltd. • Created with Datawrapper

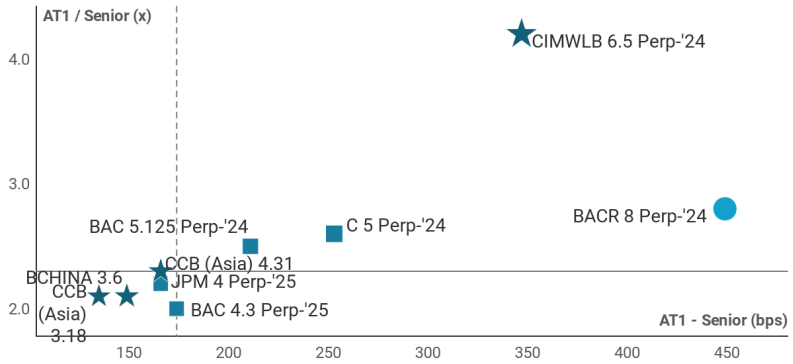
Also, in the three year and under area, United Overseas Bank's 3 7/8% coupon 2023 first call bond trades tighter than its lower risk subordinated debt. This may represent a tactical trading opportunity to buy the less risky sub bond (UOB 3 ¾% 29-24) and sell the AT1 instrument. However, given that UOB sits at the bottom of our fundamental picks and pans for AT1 investors, we question whether the subordinated bond price reflects the risk of non-call. That answer is beyond the breath of this report but must be addressed prior to undertaking this trade.

Although China Merchants Bank A (CHINAM) and JPMorgan Chase are neither picks nor pans in our fundamental assessment, the spread pick-up in their AT1s relative their respective subordinated bonds is preferable to that available at UOB. At the same time, given that Standard Chartered sits

towards the bottom of our fundamental picks and pans, its AT1 bonds may not offer enough spread relative to its subordinated debt to represent an attractive investment opportunity. We would prefer the JPM bond to that of StanLn's at these levels.

CIMWLB offers Value

Option adjusted spread - '24 & '25 dated bonds



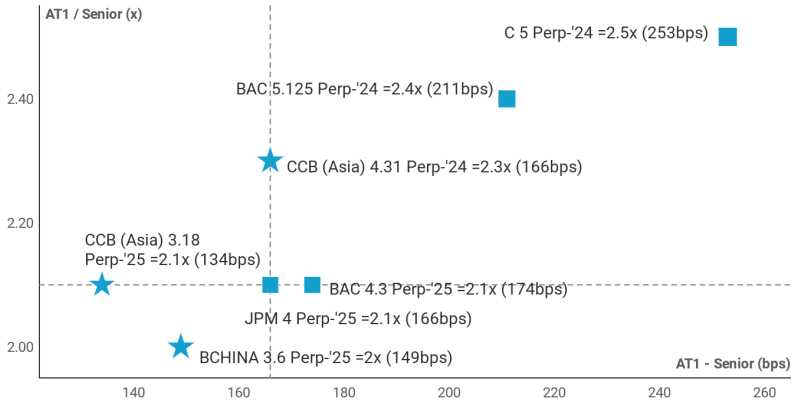
Data as of 26 April, 2020

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

Amongst AT1 bonds with first call in the three year and over area, CMB Wing Lung Bank (CIMWLB) offers tremendous value relative to slightly shorter dated senior unsecured debt issued by its parent bank, China Merchants Bank. The CMB Wing Lung security offers an opportunity to pick-up 350bps relative to China Merchants 4% coupon 2023 maturity bond. Although neither China Merchants nor CMB Wing Lung Bank are a fundamental top pick or pan, the 3.9x senior spread multiple is attractive relative to other AT1 bonds with first call in 2024 and 2025.

CCB and BAC '24s show Off-the-Run Value

Option adjusted spread

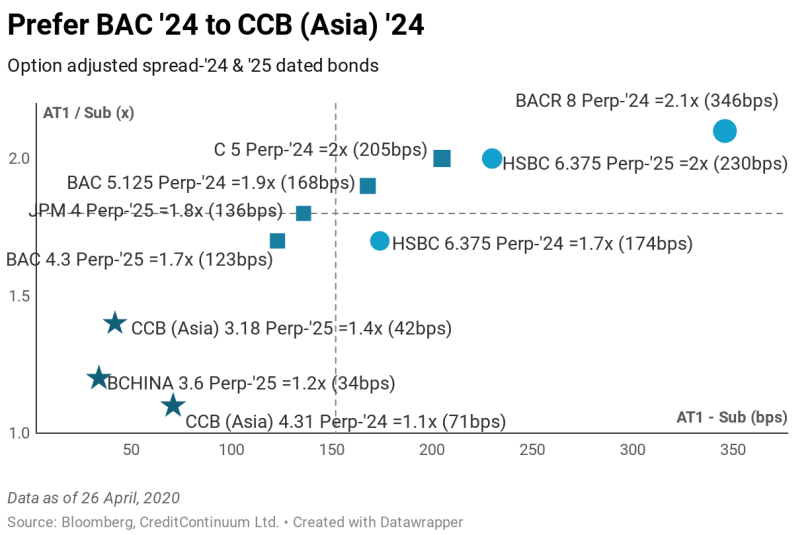


Data as of 26 April 2020

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

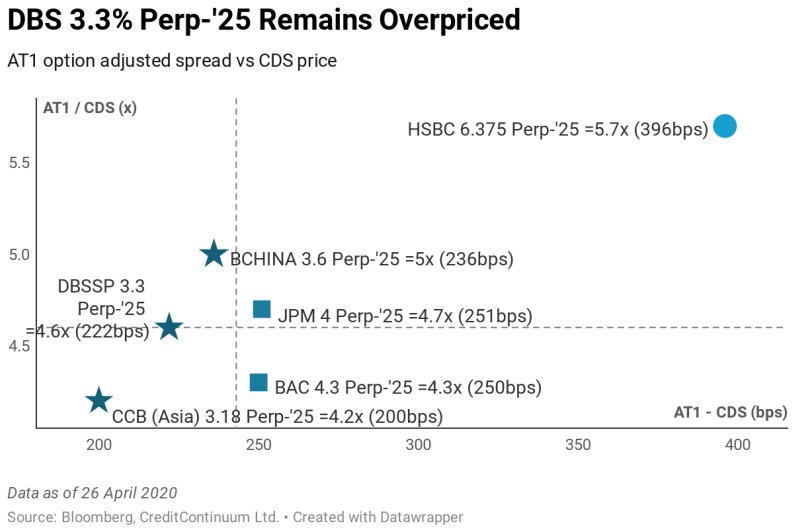
China Construction Bank's (Asia) and Bank of America's AT1 bonds that are callable in 2024 also offer value when considered without CMB Wing Lung Bank's attraction. These bonds trade relative to their respective senior unsecured bonds at levels that are in excess of their longer dated (2025) securities. We believe this may be due to their "off the run" status and this represents an opportunity to pick-up additional risk-adjusted spread for essentially the same level of risk. As both institutions sit at the top of our fundamental picks and pans for AT1 investors, this additional spread opportunity is even more enticing, in our view.

At the same time, Bank of China's 3.6% coupon 2025 callable AT1 bond appears fully priced despite the bank also being amongst our top picks from an AT1 fundamental perspective; however, it does offer more upside relative to its senior unsecured debt than, also fully-priced, China Construction Bank's (Asia) 4.7% coupon 2022 callable bond.



Although they both offer value relative to their senior unsecured bonds, if we had to choose between Bank of America's and China Construction Bank's (Asia) AT1 2024 callable bonds, we would prefer Bank of America's. Our rationale is that BAC's bond offers an additional +160bps spread over its subordinated debt of similar maturity while CCB's (Asia) only offers +70bps.

JPMorgan Chase's AT1 bonds also offer a tactical trading opportunity to pick-up additional risk-adjusted spread for essentially the same level of risk. JPMorgan's 5% coupon bond callable in 2024 trades at a multiple of 2.4x the spread on its similar dated subordinated debt, as shown in the "UOB is Overpriced; Prefer JPM or CHINAM" chart. At the same time, JPM's 4% coupon bond callable in 2025 trades at a multiple of 1.8x the spread on its similar dated subordinated debt as show above. The 2024 bond offers an additional spread pick-up over its subordinated bond of almost 70bps relative to the 2025 security. This may represent another "off the run" opportunity.



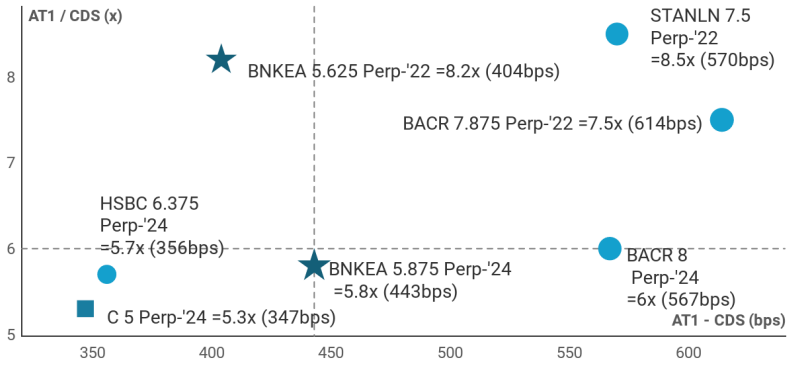
Ideally, AT1 relative value analysis is undertaken by comparing the spread of the AT1 bond to that of a less risky security issued by the same entity, with a maturity or first call at around the same date. Unfortunately, when a security of similar maturity is not available, then a comparison to credit default swaps (CDS) is the next, albeit imperfect, alternative. However, this may require another step in the analysis, as discussed below.

DBS Group Holdings does not have senior or subordinated bonds outstanding that are of similar maturity to its recently issued 3.3% coupon 2025 callable AT1-bond. Relative to its 5-year senior unsecured CDS, the AT1 bonds trades at a multiple of 4.6x and offers a credit spread pick-up +220bps. Compared to other banks that do have senior or subordinated bond outstanding that are of similar maturity to their AT1 bonds, this is not attractive.

We point to Bank of China's (BCHINA) 3.6% coupon 2025 callable bond. This trades at a multiple of 5x its 5-year senior CDS for a credit spread pick-up of +230bps. As shown in the prior chart entitled "Prefer BAC '24 to CCB(Asia) '24", the BCHINA bond also trades at a multiple of 1.2x its similarly dated subordinated debt for a spread pick-up of only 34bps. This suggests that either BCHINA's subordinated debt trades very wide relative to its AT1 bond or it may suggest that DBS Group Holdings recently issued AT1 debt is overpriced. Given that the DBS Group bond also trades inside that of all the other banks, save for CCB(Asia) in the chart above, it is more likely that the DBS bond is slightly overpriced.

Bank of East Asia's Perp-'22 AT1 looks attractive - We Pass

AT1 option adjusted spread vs CDS price



Data as of 26 April 2020

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

Bank of East Asia (BNKEA) also does not have senior or subordinated bonds outstanding that are of similar maturity to its outstanding AT1-bonds. Relative to its 2-year senior unsecured CDS, BNKEA's 5 5/8% coupon 2022 callable AT1 bonds trades at an eyewatering multiple of 8.2x and offers a credit spread pick-up +400bps. Compared to other banks that do have senior or subordinated bond outstanding that are of similar maturity to their AT1 bonds, this is relatively attractive. However, Bank of East Asia vies for the bottom rung in our fundamental picks and pans for AT1 investors. In addition, the Barclays' AT1 bonds offers a similar multiple and higher credit spread relative to its 2-year senior CDS and this bank is not in our fundamental pans for AT1 investors, although only by a fraction. As such, we are not convinced that the spread level on offer in BNKEA's Perp-'22 AT1 bond is sufficiently attractive relative to the perceived risk of the institution at this point in time. We suggest passing on this opportunity.

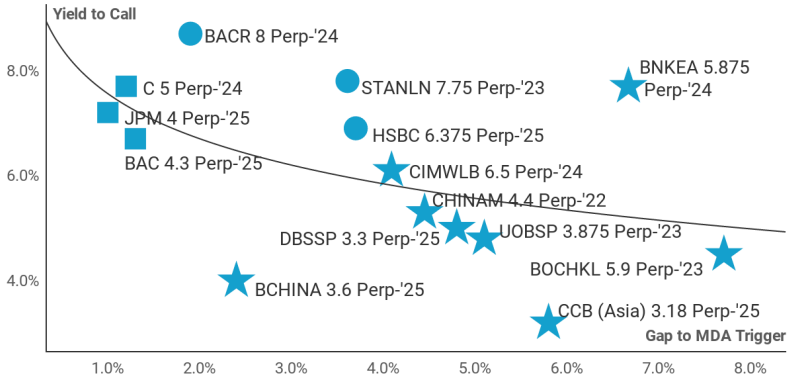
TECHNICAL ASPECS in AT1 BOND INVESTING

The most immediate risk to contingent capital holders is not conversion into equity or a write-down of par value, rather it is that coupons on these securities will be cancelled. Once cancelled, these coupons are not cumulative and, in some institutions, the cancellation of an optional AT1 coupon does not restrict the ability of the firm to pay equity dividends.

To avoid the potential requirement to cancel optional distributions, such as dividends, AT1 coupon payments or employee bonuses, the firm must maintain Common Equity Tier 1 (CET1) capital in excess of its CET1 combined buffer requirement (CBR). Should an institution breach its CET1 CRB, the firm would enter the twilight-zone of being subject to maximum distributable amount (MDA) threshold levels. These are restrictions on the

amount of optional distribution payments that may be made relative to the extent to which the firm pierces its CBR. As such, we repeatedly refer to the extent to which the firm's CET1 ratio is above its CBR as the "Gap to MDA trigger". The greater this gap, the better for AT1 investors.

Potential Coupon Deferral is Not Priced in



Yield as of 26 April '20; Gap to MDA Trigger is March '20 for US banks, Sept '19 for CCB(Asia) and Dec '19 for others

Source: Company reports, Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

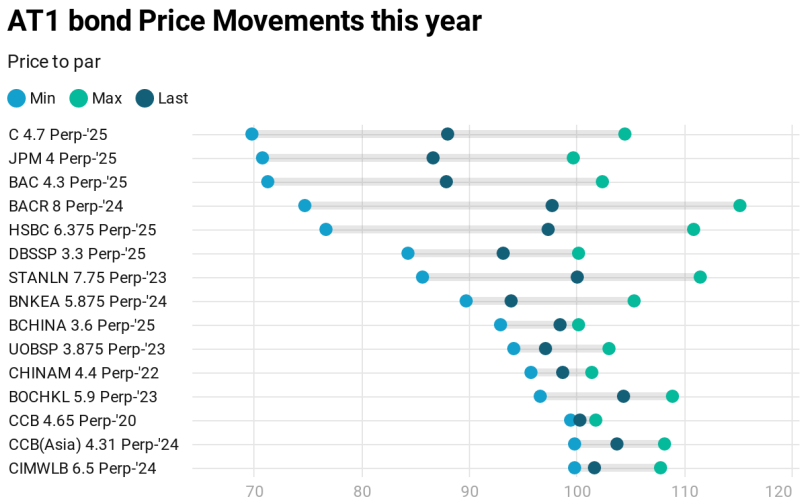
The gap to a potential coupon deferral is no longer priced within the AT1 securities of most global banks and, given the relatively limited movement in Asian bank AT1 bonds this year, it was never priced in with respect to most Asian-headquartered bank bonds. We are not convinced that this will remain the case as the economic damage from the coronavirus shutdown reverberates over time. We think it irrationally optimistic to expect corporate and consumer behaviour to automatically revert to pre-virus activity levels. Forbearance activity may reduce the amount of reported losses taken in the near term; however, higher risk weighted assets from drawdowns on loan commitments or higher probabilities of default or loss given default may reduce the gap to MDA trigger points. Even if these items do not result in a breach of the MDA trigger point, we note that the longer payment system throughput remains low, the higher the likelihood of an inadvertent liquidity crisis within a financial institution. As such, we assess each of these risks in turn within this report. First, we begin with a review of recent AT1 bond price volatility, then we assess exactly what is communicated in the price of an AT1 bond.

AT1 Price Volatility and Liquidity

The big picture: Given the uncertainty of potential economic outcomes so far this year, juxtaposed with developing uncertainties regarding coupon payment likelihood, contingent capital security prices have proven themselves volatile. However, as this downside volatility increased, market liquidity evaporated. The lack of liquidity in the market during the middle of March suggests that actionable trades in size were likely to be priced much lower for securities that were trading well below par value. Put simply, these prices were aspirational at some points.

The minutiae: For those AT1 issuers where we undertake a deeper fundamental analysis in this note, we provide the range of US$-AT1 prices and recent price levels in the chart below. Since most Asia-headquarter AT1 issuers typically do not issue contingent capital with a first call date of longer than five years, each security shown below represents the longest dated Basel III US$-AT1 eligible bond with first potential call notice due within the next five years.

Implications: When you purchase contingent capital, you may marry it for the foreseeable future. This suggests that investing in contingent capital can be as stressful as other important decisions in one's investing lifecycle. It is not for credit tourists nor the faint of heart.



Assessment: In general, Asia-headquartered contingent capital bonds were much less volatile, in price terms, than AT1 bonds issued by non-Asia-headquartered institutions. We note that adding Deutsche Bank's (DBK GR) and some Italian bank AT1's to this chart would make other bond prices appear relatively stable. This would not be a meaningful comparison as Deutsche Bank and certain Italian banks may face a more existential threat than most financial institutions.

Amongst Asia-headquartered banks, DBS Group Holding's (DBSSP) the Bank of East Asia's (BNKEA) AT1 bonds proved more volatile than their regional peers. Nonetheless, HSBC's and Standard Chartered's (StanLn) bonds were materially more volatile than even these banks.

Given the recent passage of time and expectations of better days ahead, AT1 bonds prices have recovered for most institutions. We are not convinced that this recovery is completely sustainable. We anticipate a jagged low upward sloping trend, possible punctuated by periods of materially lower prices and liquidity for some securities.

Spread Versus Call Risk in AT1 Prices

The big picture: To better understand what is in the price of each security, it is useful to deconstruct the spread into credit and call risk.

The minutiae: The spread of a callable bond, to first call, relative to a zero-coupon bond is the bond's Z-spread. For a callable bond, this is comprised of pure credit risk in the bond, known as the (call) option adjusted spread, and the call option value. The call option value is essentially the difference between the Z-spread and the option adjusted spread.

The implications: Understanding what is in the price of a bond is a necessary step towards assess the relative value of the security. The credit risk, call option value or both may be mispriced.

Credit vs Call Risk in the Price - Asia AT1

(bp mid)

Bond	Credit Risk Spread (OAS)	Call Risk Spread (option value)	Z-Spread
BCHINA 3.6 Perp-'25	294	61	355
CHINAM 4.4 Perp-'22	300	189	489
BNKEA 5.625 Perp-'22	460	383	843
BNKEA 5.875 Perp-'24	535	195	729
BOCHKL 5.9 Perp-'23	350	64	415
CCB 4.7 Perp-'22	211	3	214
CCB(Asia) 4.31 Perp-'24	293	28	321
CCB(Asia) 3.18 Perp-'25	262	19	281
CIMWLB 6.5 Perp-'24	468	99	568
SBIIN 5.5 Perp-'21	492	244	736
DBSSP 3.6 Perp-'21	240	154	394
DBSSP 3.3 Perp-'25	284	169	453
UOBSP 3.875 Perp-'23	197	247	444

Data as of 26 April 2020; OAS=Option Adjusted Spread

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

Assessment: The price of Bank of East Asia's (BNKEA) AT1 bonds contain both the largest level of pure credit risk and the largest amount of non-call risk amongst a broader mix of bonds within our coverage universe. The BNKEA 5 7/8% coupon bond callable in 2024 has the widest option adjusted spread at 535 basis points (bps). This is even wider than State Bank Of India's (SBININ) AT1 bond, despite a higher all-in Z-spread in SBIIN's bond. Of course, on a spread to effective duration basis. SBIIN's bond shows more credit risk given that the SBIIN bond is callable in 2021. Meanwhile, the

BNKEA 5 5/8% coupon bond callable in 2022 has the largest non-call spread risk priced into its security amongst these bonds. This is also higher than the call option value priced into SBIIN's AT1 bond. The dynamics affecting SBIIN's AT1 bond are idiosyncratic and, given that India's financial system faced a less attractive set of circumstances as the coronavirus pandemic hit the country, detailing the attractiveness of SBIIN's bond relative to other global financial institutions would be better served in a separate note. Suffice it to say, however, that SBIIN's spread levels are wide for more than one reason.

Concurrently, United Overseas Bank's (UOBSP) AT1 bonds contain the smallest level of pure credit risk amongst these bonds. UOBSP's 3 7/8% coupon bond callable in 2023 has an option adjusted spread of 197bps. Nonetheless, non-call risk is priced higher within this security with non-call spread risk at 247bps. The UOBSP bond is the only security where non-call spread risk exceeds pure credit risk amongst this notes' coverage universe.

China Construction Bank's (CCB) 4.7% coupon bond callable in 2022 has a non-call spread on only 3bps in its price. In fact, for each of CCB's AT1 bonds, the non-call spread is exceedingly low. Given current global operating conditions, the market is extremely bullish on these securities.

We are not convinced that each of these securities is properly priced. As such, alpha generating opportunities exit. For comparative purposes we provide a similar table of analysis on the non-Asia headquartered banks discussed in this report below.

Credit vs Call Risk in the Price - UK and US AT1

(bp mid)

Bond	Credit Risk Spread (OAS)	Call Risk Spread (option value)	Z-Spread
BACR 7.875 Perp-'22	703	168	871
BACR 7.75 Perp-'23	560	373	933
BACR 8 Perp-'24	669	160	829
HSBC 6.25 Perp-'23	386	380	766
HSBC 6.375 Perp-'24	426	292	718
HSBC 6.375 Perp-'25	477	169	646
STANLN 7.5 Perp-'22	636	148	784
STANLN 7.75 Perp-'23	591	148	739
BAC 5.125 Perp-'24	363	178	540
BAC 4.3 Perp-'25	329	302	631

Data as of 26 April 2020; OAS=Option Adjusted Spread

Source: Bloomberg, CreditContinuum Ltd. • Created with Datawrapper

FUNDAMENTAL ASSESSMENT PREQUEL

The layer of loss absorption capital which matters most to contingent capital investors is Common Equity Tier 1 (CET1) capital as this is the level of capital immediately subordinate to AT1 securities. As the CET1 capital requirement is a ratio of common equity to risk-weighted assets, we assess which institution may be more likely to experience a combination of loan losses and risk-weighted asset inflation which may lower the gap to a MDA trigger point.

Loss absorption ability is a function of largely static resource buffers and dynamic resource accumulation. Put simply, it is a function of starting capital resources plus profitability over time. However, given the enormity of this health care crisis and the scale of forbearance activity underway to counter the economic impacts, it is difficult to forecast likely loan loss experience. In addition, given the scale of government actions also undertaken to counter the economic impact of this crisis, it is difficult to forecast the potential core revenue impacts on financial institutions. As such, we assess the asset quality, capital adequacy and liquidity of each institution from several angles towards identifying institutions with greater potential to reduce the size of their buffer to an MDA trigger point.

We begin our deep dive into the capacity of our coverage universe to service their AT1 bonds by assessing what exactly may actually suspend AT1 coupons. That is, we examine the gap to MDA trigger relative to the firm's available distributable reserves. We then consider whether an institution could have resources sufficient to continue to service its AT1 coupons after it pierces it combined buffer requirement.

Thereafter, we assess the quantity and quality of capital reported to consider whether the gap to MDA trigger is real or an accounting figment. We follow this with an analysis of asset quality towards identifying which institution may be more likely to experience a combination of loan losses and risk-weighted asset inflation that may lower the gap to an MDA trigger point. We complete our analysis by focusing on liquidity.

We have a particular concern regarding liquidity as we believe that a lack of liquidity may generate a point of non-viability event (PONV). In the current operating environment of large forbearance activity, institutions that are already market confidence sensitive due to less than stellar asset quality, less than attractive deposit franchises or a greater likelihood of piercing their CET1 combined buffer requirement are at greater risk of a PONV liquidity event.

FUNDAMENTAL ASSESSMENTS from an AT1 INVESTOR'S PERSPECTIVE

We begin our deep dive into the capacity of our coverage universe to service their AT1 bonds by assessing what exactly may actually suspend AT1 coupons.

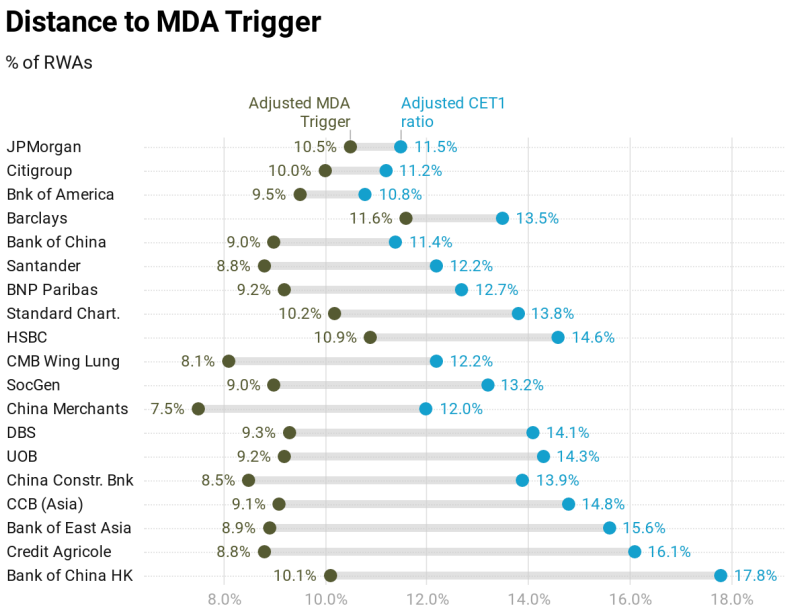
MDA Buffer Gap Analysis

The big picture: The most immediate risk to contingent capital holders is not conversion into equity or a write-down of par value, rather it is that coupons on these securities will be cancelled. Once cancelled, these coupons are not cumulative and, in some institutions, the cancellation of an optional AT1 coupon does not restrict the ability of the firm to pay equity dividends.

The minutiae: To avoid the potential requirement to cancel optional distributions, such as dividends, AT1 coupon payments or employee bonuses, the firm must maintain CET1 capital in excess of its CET1 combined buffer requirement (CBR). The CBR sits above the minimum Pillar 1 capital requirement, which for most institutions equates to a CET1 level above 4.5% of risk-weighted assets. The CBR is comprised of a capital buffer requirement at 2.5% of RWAs plus any globally- or domestically- significant buffer requirement as well as any counter-cyclical capital buffer requirement and 2/3'rds of any general Pillar 2 capital buffer requirement, where applicable. Should an institution breach its CET1 CRB ratio requirement, the firm would enter the twilight-zone of being subject to maximum distributable amount (MDA) threshold levels. Essentially these are restrictions on the amount of optional distribution payments that may be made relative to the extent to which the firm pierces its CBR. Given that this is directly related to AT1 coupon payment ability, we fully weight this metric in our fundamental assessment of each bank from an AT1 investor's perspective.

Implications: At a minimum, approaching a level that will breach the CET1 combined buffer requirement should result in negative AT1 price action. In addition, on piercing the CET1 CBR we would expect some rating agencies to revisit their assumptions regarding AT1 instruments, leading to additional rating downgrades. This could push some investment grade bonds into the non-investment grade area, thereby limiting the universe of investors that are able to purchase these securities, continuing the potential downward price spiral.

In our analysis we attempt to incorporate all the forbearance measures recently announced by the regulatory agencies that influence the gap between the CET1 ratio and the MDA trigger threshold. The recent announcements have either the effect of increasing the amount of CET1 available or the effect of lowering the CBR level. Notably, counter-cyclical buffer requirements were reduced to zero by many supervisory regimes. This has the impact of lowering the CBR level. In addition, recently announced, temporary, dividend suspensions have the impact of increasing CET1 level for those banks which removed anticipated dividend payments from retained earnings.



Data as of March '20 for US banks, Sept '19 for CCB(Asia) and Dec '19 for all others

Source: Company reports, CreditContinuum Ltd. • Created with Datawrapper

Assessment: As we entered this global pandemic, US banks start with a surprisingly low layer of Common Equity Tier 1 capital available above the level at which optional distributions may be suspended. We owe this to years of payouts at or above the annual amount of net income available to shareholders. This was driven by stress tests which did not consider the suspension of optional payments as tantamount to failing the test. We believe that if creditors are placed at risk of non-payment, then this represents a failure to protect debt holders and, as such, represents a failure of the test.

Aside from US banks, the only other entity with a layer of CET1 capital less than 2 percentage points above the MDA threshold is Barclays. As a UK-headquartered institution, Barclays also faces an unenviable conversion trigger level that is higher than most other banks globally. We believe that this higher trigger level at 7% of CET1 could place Barclays' AT1 holders at higher price volatility risk, should the bank breach its MDA threshold. We note that in 'passing' each of its recent Bank of England administered theoretical stress tests, Barclays suspended or converted AT1 bonds towards remaining above its minimum capital requirements. This does not add comfort for AT1 investors.

Amongst Asia-headquartered institutions, Bank of China shows the thinnest layer of CET1 capital above its MDA threshold level. However, the implications of piercing this threshold are not as clearly annunciated by the Chinese regulatory authorities as they are at other institutions. As such, piecing this level may not be as meaningful for a China-headquartered institution, although we would expect some measure of conditionality applied by the regulator. Irrespective, we expect Bank of China to manage its accounts in a manner which avoids this potentiality.

At the other end of the spectrum, Bank of China Hong Kong, the Credit Agricole Group and the Bank of East Asia report levels of CET1 that are well in excess of their MDA threshold levels. We note that for securities issued by Credit Agricole SA (ACA FP), the listed entity of the Credit Agricole Group, the threshold level is the lower of the Group or SA entity. We derive an adjusted CET1 ratio of12.7% versus an adjusted MDA trigger point of 7.8% for Credit Agricole SA resulting in a CET1 buffer of 4.9 percentage points over the CBR. Despite this lower buffer amount, we would expect the Group to undertake corporate actions that would enable SA to remain above its MDA threshold level, for as long as it is able to do so. Put another way, CET1 layers above the CBR are more genuine at Bank of China Hong Kong and at the Bank of East Asia. However, the MDA trigger point is not the only potential restriction on optional distributions. The amount of available distributable income, more generally known as distributable reserves, may also constrain optional distributions.

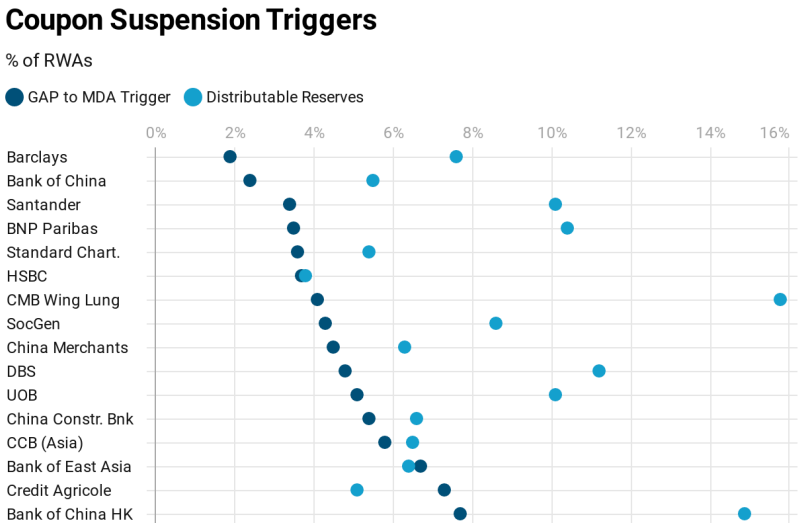
Coupon Suspension Triggers

The big picture: Put simply, in order to distribute earnings, there must be enough earnings available for distribution after meeting other obligations. These earnings are known as the level of available distributable items (ADI). The amount of ADI must exceed the amount of optional distributions for all potential payments to be made

The minutiae: A bank may not distribute amounts that would result in breaching regulatory capital requirements. In addition, earnings available for distribution are net of any legally binding equity reserve requirements. The question therefore amounts to: What is available for distribution? The simple answer for most institutions is retained earnings, however, gains from property or subsidiary revaluation may not count towards ADI. In addition, a firm may apportion some of its share premium, which is not readily and, in some cases, is not normally available for distribution, into retained earnings. The Royal Bank of Scotland undertook this step several years ago as it prepared to restart equity dividends. As such, some analysts combine the retained earnings amounts and the share premium reserves to derive the amount of ADI. Since apportioning share premium reserves requires passing a resolution within a general or exceptional shareholder assembly, this takes time; however, time is not on the side of a confidence sensitive financial institution during an economic crisis. As such, we only include the amount that it readily available for distribution in our analysis, that is, the lower of distributable reserves or the amount of ADI disclosed by the bank as available for maximum distributable amount calculations. This results in a more conservative estimate of what may turn-off AT1 coupon payments which we believe is appropriate in light of current metric in our fundamental assessment of each bank from an AT1 investor's perspective.

Implications: A firm can run out of ADI prior to crossing its MDA threshold, at which point, if total optional distributions exceed the level of ADI, then all optional ADIs may not be paid. In part because it is subject to a separate set of archaic accounting principles, Deutsche Bank recently fell afoul of its ADI amounts and it is not in a position to make coupon payments on its AT1 bonds. As such, we exclude Deutsche Bank from our coverage universe for the

purposes of this note; however, we note that it may take other steps towards insuring AT1 coupon payments in the future, which again, is idiosyncratic to Deutsche Bank contingent capital and beyond the remit of this already large note.



Assessment: Most institutions report available distributable items (ADI or distributable reserves) that are in excess of the CET1 gap to maximum distributable amount (MDA) triggers. However, Barclays, Credit Agricole and the Bank of East Asia have less ADI readily available than the gap to a potential MDA trigger point. As ADI is a component of CET1, the potential ADI trigger is due to a higher level of non-distributable reserves relative to risk-weighted assets within the institution.

The Bank of East Asia's (BNKEA) ADI constraint may be more pressing than that of the others in our opinion, due to technicalities regarding ADI levels at Credit Agricole and Barclays and uncertainty regarding the total amount of ADI at BNKEA. As we noted earlier, our conservative analysis only includes retained earnings in the ADI figure. For BNKEA this amounts to HK$31 billion. The firm also reports share capital of HK$41 billion, a portion of which we assume could be made available for distribution with shareholder approval; however, we do not include this amount in our analysis. In addition, the firm also reports that HK$5 billion of retained earnings may not be distributed to shareholders due to amounts earmarked for loss impairments that are expected but not recognized. Given that the firm does not report an audited amount reserves that may be distributed, we advise caution when considering the total amount of available distributable item at BNKEA.

For the Credit Agricole Group, this differential is due to a lower level of distributable reserves within Credit Agricole SA, the contingent capital issuing entity, relative to the gap to MDA trigger at the consolidated Group level entity. As we noted earlier, constraints on payouts may be applied based on triggers crossed at the Group or SA entity level. Generating ADI

is not as simple as increasing CET1 within a subsidiary bank; however, we would expect the Credit Agricole Group and issuing entity subsidiary (Credit Agricole SA) to arrange for an ADI transfusion as needed.

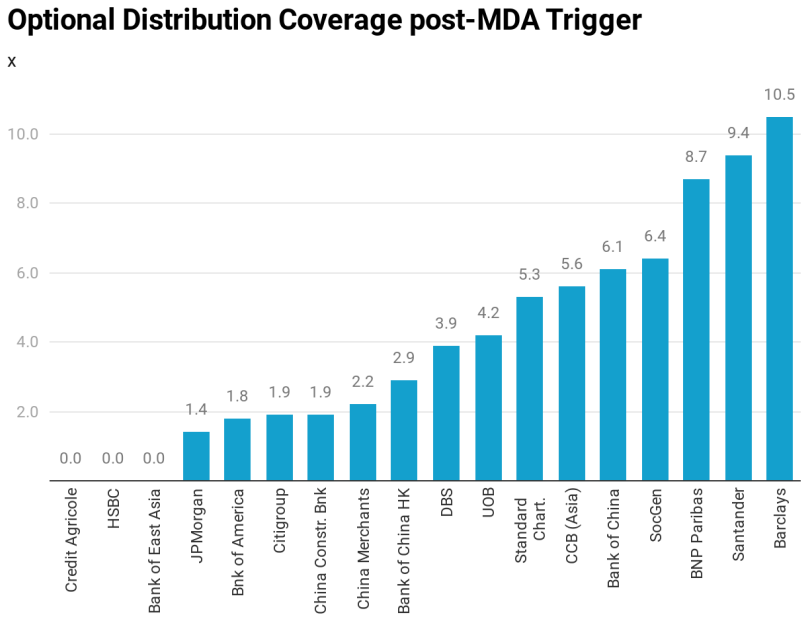
The differential between the amount of ADI and the layer of CET1 above the MDA trigger is largest at Barclays amongst our coverage universe. Furthermore, the GBP22 billion of disclosed distributable reserves is materially lower than the GBP44 billion of retained earnings reported as of year-end. However, given an exceedingly low level of dividend payouts, the lower level of ADI may not be a constraining factor for Barclays AT1 investors in the near term, as we show in the chart below.

Optional Distribution Coverage post-MDA Trigger

The big picture: Piercing the CBR level may not result in automatic suspension of AT1 coupons. This is dependent on the cap placed on the amount of ADI which may be distributed (which is known as the maximum distributable amount) relative to the total amount of distributions proposed.

The minutiae: For EU banks the maximum distributable amount is set relative to the extent to which the combined buffer requirement (CBR) is breached. In deriving the level at which the maximum distributable amount exceeds the level of distributions proposed, we assume that each bank slightly breaches its CBR. For European banks this would result in an 80% maximum distributable amount cap. As such we assign an 80% MDA cap for all non-US banks. For US banks, we assign the 60% MDA cap as per recently issued regulatory guidelines. Given that this assessment is only of value once the firm breaches its CRB, we partially weight this assessment in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: The subtleties of distributable amounts are unlikely to be appreciated by broader media outlets and the inexperienced credit investor. As such, investing opportunities may arise while the market digests an MDA trigger event.



Multiple of recently declared annual dividends @ 60% MDA for US banks and 80% for all others

Source: Company reports, CreditContinuum Ltd. • Created with Datawrapper

Assessment: HSBC will not have ADI sufficient to pay all of its optional distributions if it breaches its MDA trigger. Like Barclays, HSBC reports a materially lower level of reserves that are available for distribution relative to its total amount of retained earnings. This combination of a relatively low gap to MDA trigger and no excess ADI available to service optional distributions puts HSBC AT1 holders at higher risk relative to other entities, in our opinion.

Concurrently, as per our methodology, Credit Agricole and the Bank of East Asia may not have ADI sufficient to pay all optional distributions if they breach their MDA trigger, absent actions that create additional ADI.

We do not include US banks in the assessment of ADI versus MDA trigger thresholds in the prior Coupon Suspension Trigger chart because US bank ADI levels are established after the firm breaches its MDA trigger. For US banks these are set relative to the amount of earnings generated over the prior four quarters. Therefore, absent no earnings available for shareholders during the prior four quarters, ADI is not a threshold constraint towards determining coupon suspension thresholds. Nonetheless, US bank MDA payouts may be materially lower than that of the other banks should they pierce their CET1 combined buffer requirements as is shown above. This is due to both a lower level of earnings available for payout and a 60% constraint applied to deriving maximum distributable amounts once breaching the MDA trigger level.

Please note that having an amount available for distribution is not the same as distributing this amount. Regulatory authorities may step-in and suspend optional coupon payments at any time. As such, undue reliance on MDA coverage levels is not advised. The level of earnings available for distribution

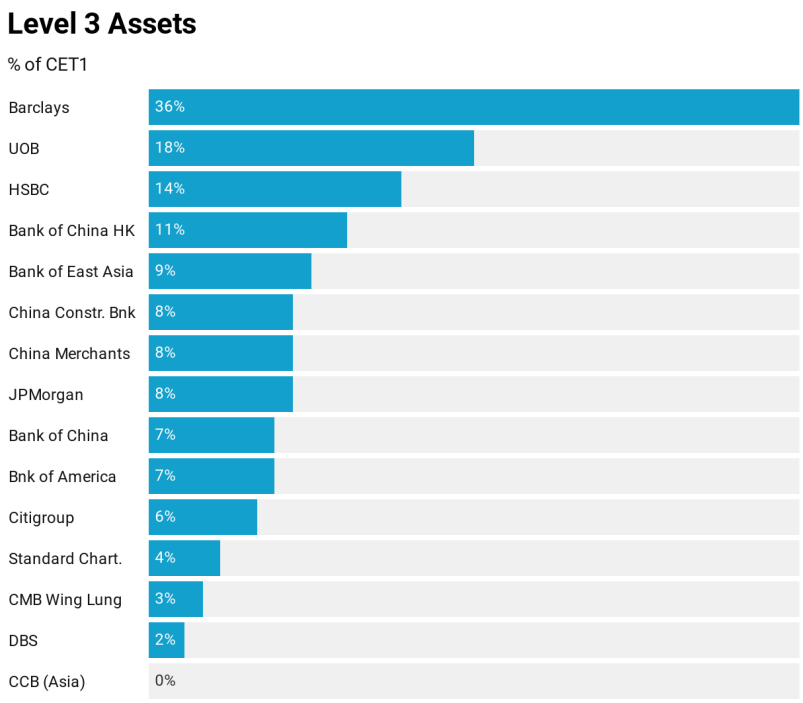
may be impacted by accounting measures that can generate type I errors. A false positive with respect to coupon paying ability would have long lasting negative implications for the AT1 market in general.

Level 3 Assets and Capital Quality

The big picture: When Level 3 assets constitute a material portion of Common Equity Tier 1 capital, it is fair to question the reality of net capital levels.

The minutiae: Level 3 assets are assets whose fair value cannot be easily determined based on readily available market prices. Level 2 asset are assets whose fair value is model derived based on observable prices of other assets. As such, there is a considerable amount of judgement entailed in determining the fair value at both levels although Level 3 securities entail materially more management judgement. This assessment translates into the level of capital available for absorbing losses. With the potential for a Type I error with respect to the reported quality and quantity capital, we fully weight Level 3 assets relative to loss absorption ability in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: An institution that starts with an already high amount of Level 3 assets on its balance sheet may see a substantial increase in these amounts as assets that are currently classified as Level 2 become Level 3 assets during periods of relative illiquidity, as recently experienced. Although there is no hard and fast point at which Level 3 assets represent a significant impairment in capital quality, the higher the level, the more market participants are likely to question the true capital adequacy of the firm.



Assessment: Barclays clearly entered coronavirus-generated market-illiquidity at a materially higher amount of Level 3 assets relative to its loss absorption capital. The next highest bank in our ranking, United Overseas Bank, reported Level 3 assets levels at one-half that of Barclays. Concurrently, China Construction Bank (Asia) reported de-minimis amounts of Level 3 assets while the DBS Group, CMB Wing Lung Bank and Standard Chartered also reported amounts that are far from significant. Notably, US banks entered into this crisis with Level 3 asset amounts that were materially lower than when the Global Financial Crisis began. As such, we will be keeping a closer eye on Barclays' reported amounts of Level 3 assets and the rate at which Level 2 asset valuations migrate into Level 3.

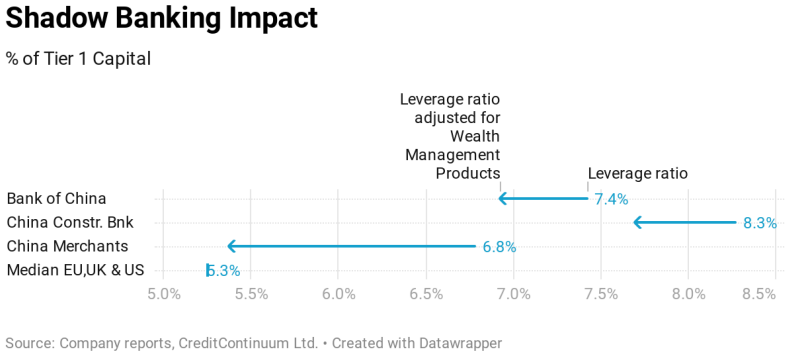
Shadow Banking and Capital Adequacy

The big picture: When assessing the adequacy of capital available for loss absorption amongst China-headquartered banks, we believe it best to address the unasked question directly. What is the capital adequacy of each bank including all shadow banking activities?

The minutiae: Off-balance sheet wealth management products may represent the best estimate of banking activities that are driven off-balance sheet to meet management objectives which could include regulatory restrictions on loan-to-deposit ratios or other less apparent incentives. However, adding these assets to risk-weighted asset capital calculations at a 100% risk weight may not be appropriate, as these assets include loans and other securities that should be weighted at less than 100%. As such, we add off-balance sheet wealth management products to leverage assets towards

deriving an adjusted Tier1 leverage asset ratio. To assess this resulting amount, we compare the adjusted Tier 1 leverage ratio to the median Tier 1 leverage ratio of European banks.

The implications: A relatively high level of shadow banking activity may overstate the true level of capital available to absorb losses as the firm may face incentives to make its wealth management clients whole. This would result in larger than expected losses and lower loss absorption capacity over time.



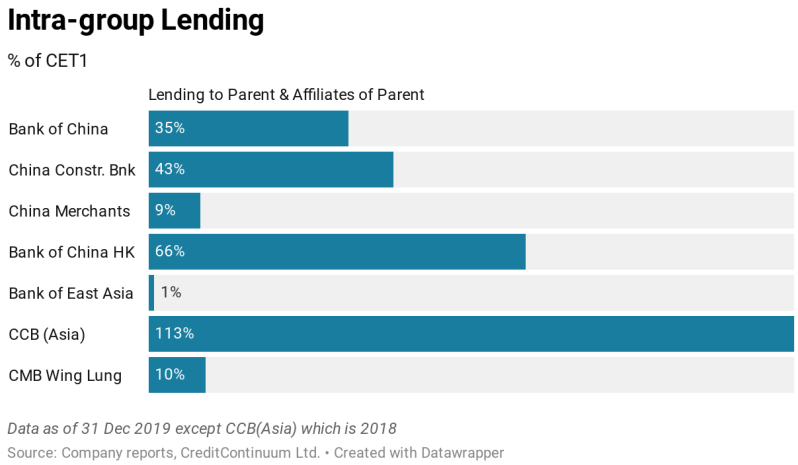
Assessment: Although China Merchants Bank appears to be more impacted than others, if we are correct in our methodology, then there is no reason for concern amongst the largest Mainland China-headquartered banking institutions. Relative to European banks in the broader coverage universe of this note, the median Tier 1 leverage ratio of Mainland China-headquartered banks remains well above European banks even after adjusting for potential shadow banking activities. This adds comfort to the reported levels of loss absorbing capacity. As such, although we run this test as a sanity check on the reported levels of loss absorption, we do not weigh shadow-banking activities in our fundamental assessment of each bank from an AT1 investor's perspective.

Related Party Exposure and Capital Adequacy

The big picture: High levels of lending to a controlling shareholder may change incentive schemes between the parent and its subsidiary bank. In addition, lending to affiliates ties the lender to potential problems in the affiliate entity. These exposures may limit the quantum of capital available to absorb losses during periods of extreme stress.

The minutiae: Gross levels of related-party exposure, rather than exposure net of deposits or other liabilities, is preferable for undertaking capital adequacy assessments. Our experience from assessing emerging market banks around the globe is that related-party deposits and liabilities tend to disappear as the bank or the related entity become distressed. This leaves an asset which may be difficult to recover in a timely manner.

The implications: The parent may orphan an institution which is not critical to its operations, with limited loss impact, if it has already removed all capital injected into the subsidiary institution. We note that a judgement regarding the level of importance of the subsidiary to the parent is critical in this assessment. This judgement could be wrong. In addition, lending between affiliated companies raises the sensitivity of the lending entity to potential problems in the related company.



Assessment: China Construction Bank (Asia) loaned all the capital owned and controlled by its parent bank, China Construction Bank, back to the parent-entity and related affiliates, as of year-end 2018. We note that full financials for 2019 were not available on the website of CCB(Asia) as we prepared this report. Nonetheless, in our judgement, this level of related-party exposure is not likely to be problematic due to the importance of CCB(Asia) to CCB's operations. We expect CCB to make resources available to CCB(Asia) in the unlikely event of need. The same could be said for the parent – subsidiary relationships between each of the Mainland China banks and their Hong Kong SAR located subsidiaries.

The amount of lending between the Mainland China banks and their respective controlling entity is also unlikely to be problematic in our judgement, due to the national service nature of these enterprises. We note that Bank of China (BCHINA) and China Construction Bank (CCB) are controlled by the same entity, Central Huijin Investment Ltd. The principal activity of Huijin is investment in major state-owned financial institutions on behalf of the China's State Council and investment in other related businesses approved by the State Council. As related-entities, difficulties in one entity may result in negative market price action in the securities of the other, due to their relationship; although to be fair, a problem in BCHINA or CCB would most likely result in indiscriminate systemic concerns by the market.

The Bank of East Asia's related-party exposure in the chart above is related to lending to shareholders with significant influence. This lending is not material.

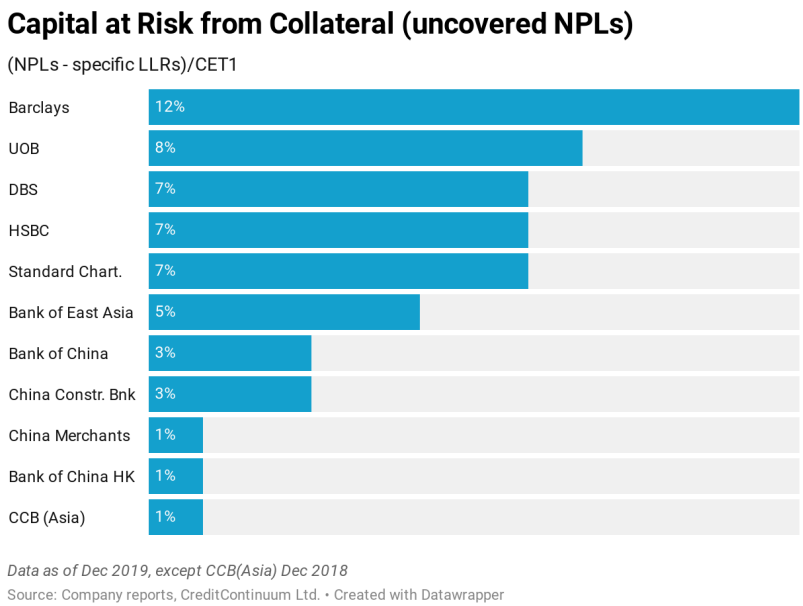
Taken together, although we run this test as a sanity check on the reported levels of loss absorption, we do not weigh related-party exposure in our fundamental assessment of each bank from an AT1 investor's perspective.

Capital at Risk from Collateral Dependency

The big picture: Loss-absorption ability is also sensitive to the extent to which loss-reserves cover non-performing loans (NPLs). In a deteriorating economic environment, collateral valuations that were previously based on generous assumptions can quickly become overly optimistic. In addition, in an environment where inflation outcomes are highly uncertain, deflation may also reduce the level of collateral coverage on nonperforming loans. These risks can reduce the quantum of capital available to absorb additional losses.

The minutiae: We subtract loan loss reserves (LLRs) specifically identified against nonperforming loans to derive a net NPL level. These LLRs are typically identified as stage 3 related LLRs or specific LLRs. The remaining LLRs are more general in nature. The general reserves may be required by regulators as a governor against excessively rapid loan growth or they may represent allowances for losses that are likely but are yet to be identified. Taken together, our methodology results in a lower NPL coverage level than assigning all LLRs against NPLS; however, we believe that it identifies the level of capital at risk from collateral. As such, for institutions that appear overly dependent on collateral recovery, it is of value to consider the level of general reserves available, although our experience is that they are rapidly depleted following an economic contraction. Given the sensitivity of disclosed loss absorption capacity to collateral dependency, we fully weigh this metric in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: The uncovered potion of nonperforming loans represents a potential claim on the loss absorption ability of the bank. This claim can lower the gap to MDA trigger, all things equal (ceteris paribus). As such, excessive collateral dependency is not in the best interests of bank AT1 bondholders.



Assessment: Barclays stands out with over 12% of capital at risk due to either collateral deterioration or from NPLs simply being unsecured. Subtracting all loan loss reserves from NPLs lowers this ratio to only 4% of CET1 capital. This suggests to us that the bank has built large general reserves for losses which are likely but yet to be identified within its unsecured personal loan portfolio.

China Construction Bank (Asia), Bank of China Hong Kong and China Merchants Bank begin from the other end of the spectrum, with limited downside risk from uncovered nonperforming loans.

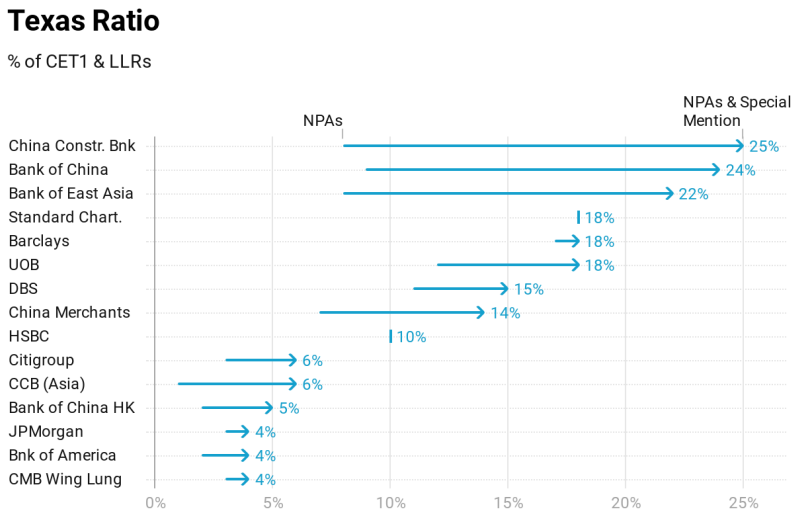
Asset Quality to CET1 (Texas) Ratio

The big picture: The stock of non-performing assets (NPAs) at the beginning of an economic downturn is augmented by a flow of additional NPAs, net of charge-offs, over time. This net flow tends to peak as the economy recovers. As such, NPAs are, by definition, a lagging indicator of asset quality at any point in time. However, the higher the level of NPAs relative to Common Equity Tier1 capital and loan loss reserves as an economic contraction begins, the greater the greater the reliance on future earnings for loss absorption. The higher the reliance of future earnings capacity, the lower the likelihood of de-risking in the near term as the firm attempts to grow-out of its problem.

The minutiae: We consider nonperforming loan (NPL) data to be a useful, but insufficient metric for assessing the starting point of an institution's asset quality. Adding repossessed assets as well as restructured performing assets generates our non-performing asset (NPA) amount. NPAs represent loans which are not performing as per the terms of the original contractual obligation. These are loans that were poorly underwritten. However, this is a backward-looking metric which does not capture lending where the near-term performance is questionable, even if it is currently performing. Combining NPAs with special mention category lending, where available, may provide insight into the firm's near-term asset quality challenges. Where

special mention lending is not explicitly disclosed, we include non-government guaranteed loans that are past due 90 days or more and still accruing interest. This ratio is typically referred to as the Texas ratio as it compares asset quality to tangible equity. It was popularized in the 1980s during the Texas banking crisis which, as many of our followers will be aware of, I worked on while at the Federal Reserve Board. Given the fuller picture available on asset quality from adding special mention lending to NPA, we weigh this metric more than NPAs alone in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: Institutions entering an economic downturn with high levels of NPAs relative to starting loss absorption ability may be incentivized to double down and grow their way out this situation via higher risk lending and / or they may face the necessity of reducing optional earnings distributions. Adding other loans identified as being potentially problematic to NPAs in the numerator of our Texas ratio can identify institutions with even greater reliance on future earnings for loss absorption. A double-dip economic contraction can prove disastrous for these institutions.



Data as of Dec '19, except US (March '20) and CCB(Asia) Dec '19; NPAs= NPLs (Stage 3) and repossessed assets; Special Mention = past due 90 days and performing for US banks; HSBC and StanLN do not report Special Mention

Source: Company reports, CreditContinuum Ltd. • Created with Datawrapper

Assessment: Standard Chartered and Barclays entered this economic crisis with NPAs in the high teens relative to their loss absorbing capacity. United Overseas Bank and DBS Group Holdings were not far behind. As the flow of new NPAs increases, some of these institutions may be incentivized to grow their way out this situation via higher risk lending and / or they may face the necessity of reducing optional earnings distributions as a means to build loss absorbency.

At the same time, loans classified as special mention at China Construction Bank, Bank of China and the Bank of East Asia's signify considerable susceptibility to an economic downturn. United Overseas Bank, DBS Group Holdings and China Merchants Bank are not far behind in this metric. If the

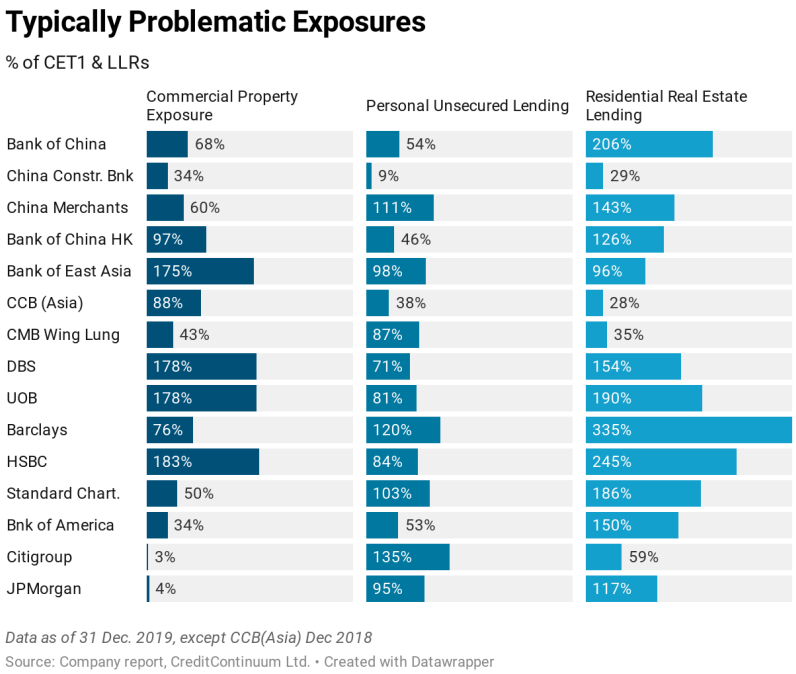
flow of additional NPAs is more than that suggested by the special mention category, then these institutions may face even greater reliance on future earnings for loss absorption or even higher pressure to reduce optional earnings distributions as a means to build loss absorbency.

Typically Problematic Exposures

The big picture: Problematic exposures are difficult to identify, a-priori; however historical loss experience points to certain sectors that tend to underperform when economic activity declines.

The minutiae: In a perfect world with perfect disclosure regarding significant risk concentrations, we would already have retained exposure to the oil and gas sectors, commodities, hotels, restaurants, airlines, et. at our disposal. The world is not perfect and information regarding significant risk concentrations in these areas are yet to be disclosed by most banks, if at all. As such, we assess broader categories of potentially problematic exposures. We compare these broader categories to starting loss absorption levels to gain an understanding regarding where losses may be concentrated.

The implications: Loss given default varies considerably within a portfolio of loan products. Clearly, losses are greater within unsecured lending. A small portfolio of unsecured lending can generate large losses in a short period of time. Commercial real estate (CRE) also tends to generate losses that are high; however, location and utility can change the level of losses within this portfolio. Residential real estate lending tends to generate lower levels of loss given default, relative to CRE and unsecured personal lending. However, asset recovery time varies considerably by jurisdiction and residential real estate lending also tends to generate lower margins, so getting the right client, right valuation, right location, and right mix of properties can make a difference in a low margin product. Taken together, portfolio size, alone, is not the best indicator of future loss experience; however, it does point to concentrations which may test the loss absorption ability of the institution. Given the relative loss given default and speed with which these losses may be taken, we assign full weight to unsecured personal lending and partial weight to CRE lending followed by a lower weight on residential mortgage exposure in our fundamental assessment of each bank from an AT1 investor's perspective.



Assessment: Although no firm hits the triple crown of exposure to each typically problematic sectors, the Bank of East Asia comes close with commercial property, personal unsecured, and residential real estate lending at levels of 175%, 98% and 96%, of CET1 and LLRs, respectively. Other notable exposure concentrations include those at HSBC, Barclays and Citigroup Inc (C).

HSBC's exposure to commercial property and residential real estate lending stands out at 183% and 245% of CET1 and LLRs, respectively. Our understanding is that this exposure is diversified across the UK and Hong Kong and, as such, may be less problematic than more concentrated exposures at other institutions.

Barclays' exposure to commercial property is predominantly UK-centric and the personal unsecured lending is primarily UK- and US-driven. Our prior research on Barclays noted that the US exposure generated higher levels of charge-offs than US banks. This suggests exposure to lower quality borrowers. In the current operating environment, we anticipate higher losses from this portfolio.

Citigroup's unsecured personal lending is also US-centric, although its recent US charge-off experience is better than Barclays. In addition, Citigroup's personal unsecured exposure is also via major city-center lending around the world, including Mexico City and Seoul. These emerging market exposures may be more problematic.

China Construction Bank (CCB) and CMB Wing Lung Bank (CIMWLB) get kudos for limited exposure to each potentially problematic sector. CCB's commercial real estate, personal unsecured and residential property lending was only 34%, 9% and 29% of starting loss absorption, respectively.

Meanwhile, CIMWLB's commercial real estate, personal unsecured and residential property lending amounted to 43%, 87 and 35% of starting loss absorption, respectively.

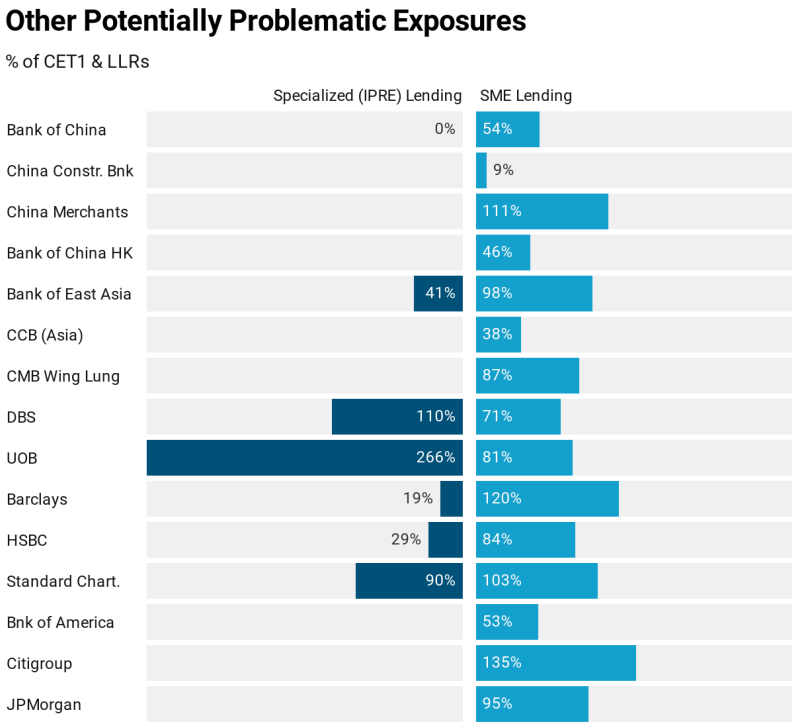
If we had to choose investing based solely on HSBC's or Barclays' exposure to typically problematic sectors, we would prefer HSBC's, principally because we do not like the "unsecured' nature of the personal lending. Unfortunately, investing is not that simple.

Other Potentially Problematic Exposures

The big picture: Other potentially problematic areas include lending for income producing real estate (IPRE), otherwise known as specialised lending, and lending to micro, small and medium sized enterprises (SMEs).

The minutiae: We derive this data from bank regulatory reports and specialised lending is potentially so problematic that it gets its own section within these reports. SME lending also gets special attention as a line item per type of risk weighting model employed. This exposure is separate and distinct from IPRE lending. Although insightful, given the lack of detail regarding the composition of these exposures, we assign partial weights to each in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: These exposures are not additive to the typically problematic levels in the chart above; however, when considered along with other exposure metrics, they provide depth to the asset quality picture.



Data as of 31 Dec. 2019, except CCB(Asia) which is Dec 2018

Source: Company reports, CreditContinuum Ltd. • Created with Datawrapper

Assessment: United Overseas Bank and DBS Group Holdings report exposures to income producing real estate that are large relative to their starting loss absorbing capacity. Given the nature of this economic crisis, these exposures may prove to be highly problematic. Standard Chartered's exposure is not far behind while exposure at HSBC and Barclays is not material. Concurrently, Bank of China's reported exposure is so low that it actually is 0% relative to CET1 and LLRs. All others did not report this information. These exposures are primarily Asia-centric and, as such, will be primarily influenced by the length of the economic shutdown relative to any government assistance provided to these enterprises. They may be subject to forbearance and long restructuring time-periods by each lender.

Citigroup, Barclays, China Merchants Bank and Standard Chartered Bank standout with relatively large exposures to SMEs. Given that these are micro, small and medium sized loans, individual loan granularity is high, although apart from Standard Chartered Bank, diversification by geography may be low. However, considering the global nature of this pandemic, diversification combined with small size may raise workout costs. That is, lower geographic diversification may aid in keeping forbearance and restructuring costs low. We highlight Standard Chartered Bank due to its Africa, Middle East and Asia footprint and its historically silo-style geographic franchise set-up, which adds costs to the franchise and these exposures.

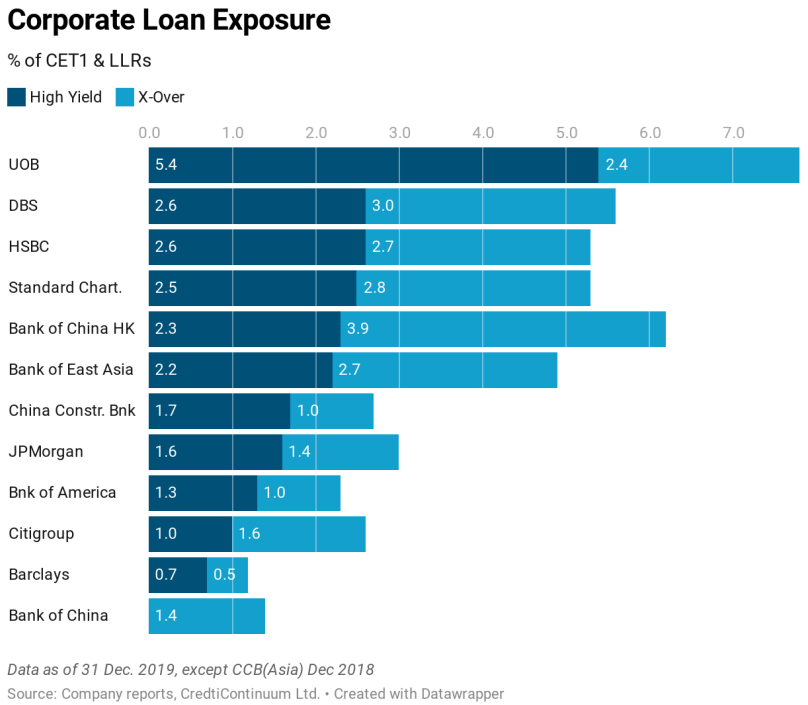
Corporate Loan Exposure by Credit Quality

The big picture: Finally, when considering the starting asset quality of each institution as we entered this global pandemic, the level of high yield and cross-over ranked corporate loan exposure relative to starting loss absorbing capacity completes our asset quality assessment.

The minutiae: Our high yield (HY) exposure amounts are primarily those with a probability of default in excess of 0.50%, which is in-line with corporate loss exposure rankings by the major rating agencies. These are typically BB+ and lower rated entities. Our cross-over (x-over) exposure amounts are primarily those with a probability of default in excess of 0.15%, but below 0.50%. These are typically BBB+ through BBB- corporate loan exposure rankings by the major rating agencies. Notable exceptions include Bank of China and Bank of China Hong Kong. Bank of China's breakdown between high yield and X-over is not directly comparable with the other institutions, due to a materially different default probability distribution. Bank of China Hong Kong provides probability of default data with a break between HY and X-over at the 0.75% default area. This makes the HY versus X-over comparison slightly flattering for this institution. Nevertheless, the total amount of non-high-grade corporate exposure is insightful for both institutions. Given the higher probability of losses and greater risk-weighted asset inflation potential within the HY category we assign full weights to this metric followed by partial weight for X-over category loans in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: Taken together with our assessment of typically problematic exposures and other potentially problematic exposures, we can assess which institution may be more likely to experience a combination of

loan losses and risk-weighted asset inflation which may lower the gap to a MDA trigger point. Note that these exposures are also not additive to the Typically Problematic Exposure chart, nor are they additive to the Other Potentially Problematic Exposures chart above; however, when combined with this information, they complete the asset quality picture.



Assessment: Total non-high-grade corporate loan exposure, comprised of high yield and cross-over (X-over) loans is significant at United Overseas Bank, DBS Group Holdings, HSBC Holdings, Standard Chartered, Bank of China Hong Kong and in the Bank of East Asia.

United Overseas Bank (UOB) stands-out with high yield corporate loan exposure at 5.4x CET1 and LLRs. In addition, X-over lending adds another layer of exposure which amounts to 2.4x starting loss absorbing capacity. Taken together, non-high-grade corporate lending exposure is 7.8x starting loss absorbing capacity. We note however, that UOB's exposure numbers may not be directly comparable with the other banks, as it explicitly includes specialised lending as a separate category within its corporate credit exposures while no other institution is as transparent. Nonetheless, adjusting for UOB's specialised lending levels, high yield and X-over exposures are still near the top of the leaderboard at 4.2x and 1.5x CET1 and LLRs, respectively.

The total amount of non-high- grade corporate loan exposure at DBS Group Holdings, HSBC Holdings, Standard Chartered, and Bank of China Hong Kong are broadly similar in the range of 5.3x to 6.2x CET1 capital and LLRs. Bank of China Hong Kong reports the highest level of non-high-grade corporate loan exposure relative to loss absorbing capacity while HSBC and DBS Group

Holdings jointly report the second highest level of high yield exposure, after United Overseas Bank. The Bank of East Asia is not far behind these institutions.

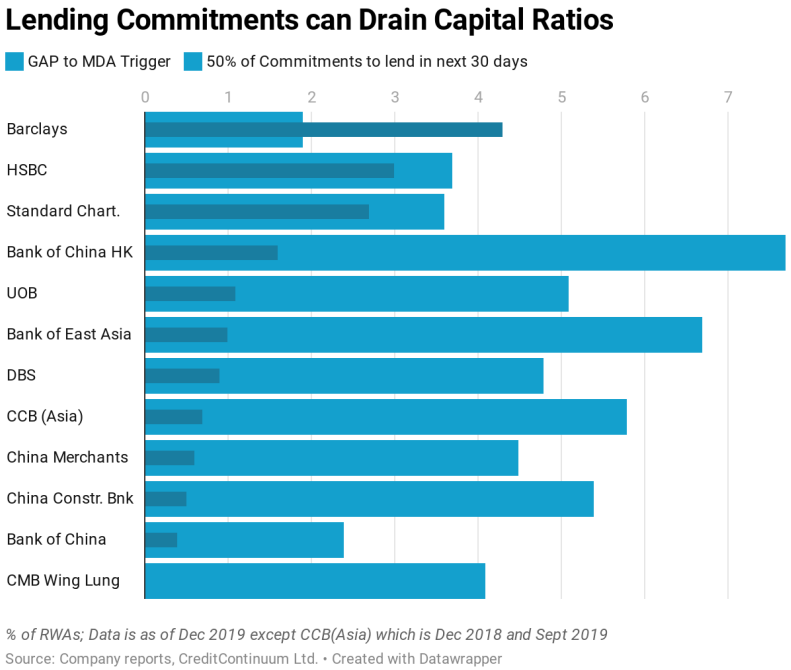
High yield corporate lending may prove more problematic than loans with a lower probability of default as HY loans may require repeated restructuring or forbearance. However, the probability of default amongst X-over loans may rise to a level which results in reclassification of these exposures into the high yield area. Both situations would result in higher risk-weighted assets (RWAs) and therefore lower capital ratios, ceteris paribus. We expect higher RWAs driven in part by higher corporate default probabilities over the near term. Longer-term, higher probabilities of default amongst residential real estate and personal unsecured lending exposures will also raise RWAs. As such, **risk-weighted asset inflation may be more significant with respect breaching the gap to MDA distribution restrictions than actual loss experiences this year**.

Lending Commitments can Drain Capital Ratios

The big picture*:* At best, a sudden and unexpected increase in risk-weighted assets could materially reduce the gap to a maximum distributable amount (MDA) trigger point, at worst it could result in the imposition of maximum distributable amount restrictions. Although many corporations accessed their credit lines as the economic shutdown from the coronavirus began in March, we are not convinced that this will be the last major draw by these institutions. A longer than anticipated shutdown of the economy, a longer than expected recovery of economic activity or a relapse into another shutdown and another round of lending commitment drawdown could ensue.

The minutiae: Commitments to lend within the next 30 days in regulatory reports may overstate the likely level of drawdowns. In their recent first quarter results, Bank of America, Citigroup and JPMorgan reported loan growth at levels that were 70%, 54% and 65%, respectively, of weighted commitments to lend within their regulatory reports. This may represent the peak of these drawdowns. As such, we apply a 50% haircut to weighted commitments to lend in our analysis. Given that this analysis requires a qualitative element of judgement regarding the likely reason for large lending commitments, we do not assign a weight to this metric in our fundamental assessment of each bank from an AT1 investor's perspective; however, we do consider this element where risk assessments appear equal.

The implications: When drawn, commitments to lend result in an increase in risk-weighted assets within the financial institution. This will reduce the gap to a maximum distributable amount trigger level, ceteris paribus. Given the nature of this economic crisis, excessive commitments to lend may not be beneficial to AT1 bondholders.



Assessment: Barclays, HSBC and Standard Chartered exhibit relatively large commitments to lend relative to their respective risk-weighted asset levels, even after applying a 50% haircut on already weighted commitments that may be drawn in the next 30 days. These banks could be susceptible to a large and unexpected liquidity-event.

At Barclays, commitments to lend relative to risk-weighted assets are a multiple of its gap to an MDA trigger level, even after applying a 50% haircut on already weighted lending commitments. We believe that this is primarily due to a high level of credit card commitments to lend. HSBC's relatively large lending commitments relative to its gap to MDA trigger levels is also likely to be due to high levels of credit card commitments. This personal unsecured lending is unlikely to be drawn all at once.

As noted earlier in this report, Standard Chartered is not over-exposed to credit card lending, as shown in lower personal unsecured lending exposures. This suggests that its lending commitments may be more company or corporate focused. This type of exposure is more likely to be drawn during an economic downturn. While the optics at Barclays and HSBC appear worse, the reality may be more problematic at Standard Chartered.

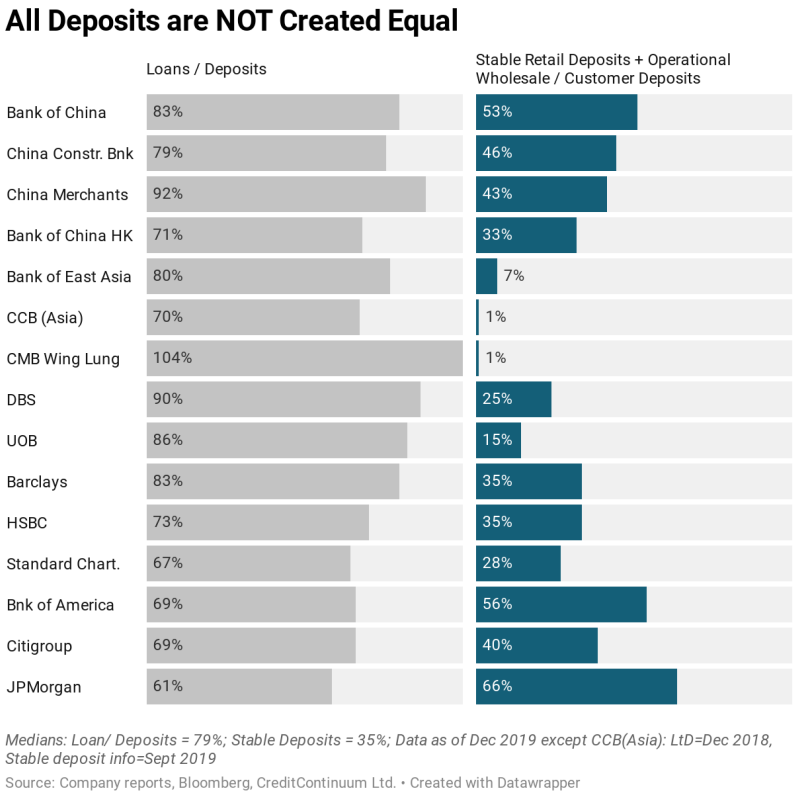
All Deposits are not Created Equal

The big picture: All deposits are not created equal, full stop.

The minutiae: Loan-to-deposit ratios can be seriously misleading if these are interpreted as liquidity indicators. At the same time, liquidity coverage ratios are based on assumptions regarding the likely stability of deposits which may not hold true during periods of market distress. Retail deposits are generally more stable if the deposit is subject to a government guarantee

or if the client automatically deposits his/ her paycheck into the account. Wholesale deposits are generally more stable if the bank provides cash management or other services to the company which make the deposit less price sensitive. Given the importance of a stable deposit franchise in times of distress, we assign a full weight to this metric in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: During periods of market distress or economic uncertainty, franchises build upon relatively more stable depositors are more likely to survive. A valuable deposit franchise can mean the difference between a Point of Non-Viability (PONV) liquidity event and a non-event.



Assessment: JPMorgan Chase, Bank of America and Bank of China exhibit deposit franchises that should be the envy of all others, each with stable deposits in excess of 50% of total customer deposits.

China Construction Bank, China Merchants Bank, Citigroup, HSBC and Barclays report stable deposit levels that are at or above the median level within our coverage universe.

At the same time, CMB Wing Lung Bank and CCB(Asia) exhibit deposit franchises that are more akin to branches of foreign banks, rather than stand-alone subsidiaries. This adds to our perspective that these institutions are too important for their Mainland China parent banks to allow them to fail as we noted earlier in our related party exposure discussion.

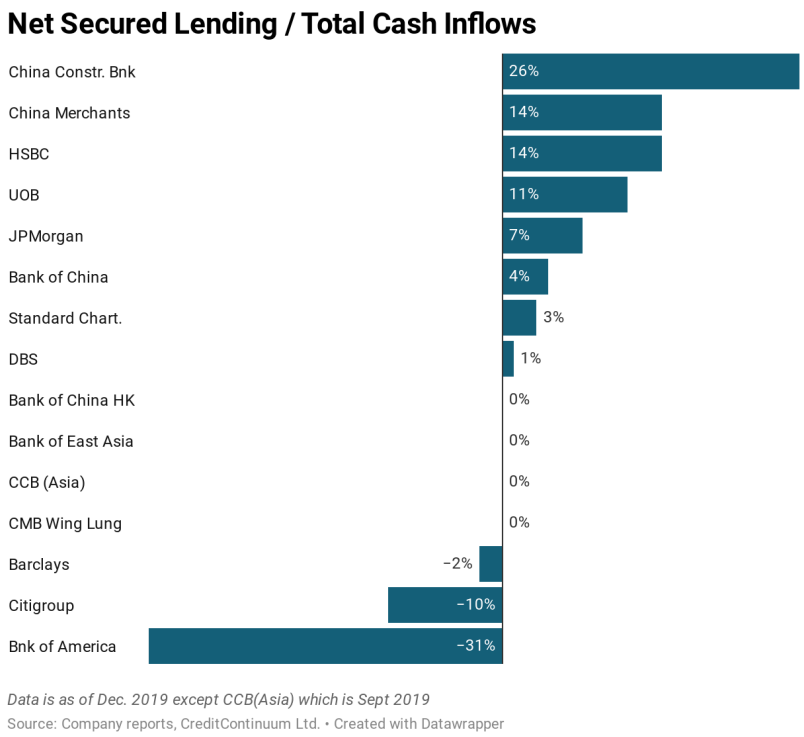
At the other end of the spectrum, despite reporting relatively low loan-to-deposit ratios, the Bank of East Asia and United Overseas Bank exhibit deposit franchises that are significantly less attractive than their respective peers. This may make these institutions more vulnerable to confidence sensitivity during periods of market distress.

Net Secured Lending / Total Cash Inflows

The big picture: Market induced panics have a bad habit of unexpectedly lowering the liquidity of all securities. At certain points during the recently volatile month of March, US Treasury securities were offered only, while at other points, market participants could not get enough of these securities. In this environment, an over-reliance on providing market liquidity via repurchase security transactions as well as an over-reliance on taking market liquidity via these instruments, may not be wise.

The minutiae: Regulatory reports on anticipated cash flow over the next 30 days provide an insight into the relative positioning of institutions in the repo market. Some are net creditors and other are net borrowers over the near term. Taking the net weighted position relative to total expected cash inflows provides us with an assessment of the real potential impact of this relative positioning. Given the speed with which markets can change, we assign full negative marks from this metric to the worst result and average weights to others in our fundamental assessment of each bank from an AT1 investor's perspective.

The implications: A collapse in market liquidity could have implications for an institution's ability to meet its obligations over the short-term. This is essentially the genesis of what ended Lehman Brothers. Absent coordinated central bank action, which may take time, the collapse in liquidity could negatively impact the liquidity position of an institution. As we elaborated above, institutions with less attractive deposit franchises could experience an unforeseen liquidity event. Since banks are confidence sensitive entities, even if the institution has unimpeded access to central bank support, this situation could result in a greater volatility within the institution's bond prices.



Assessment: China Construction Bank, China Merchants, HSBC and United Overseas Bank each exhibit net repurchase transaction activity that is a material portion of total monthly expected cash inflows. Amongst these institutions, China Construction, China Merchants and HSBC have relatively more attractive deposit franchises than United Overseas Bank (UOB).

At the same time, institutions with relatively more attractive deposit franchises, such as Bank of China, JPMorgan Chase and Bank of America have less exposure to a potential market illiquidity event than United Overseas Bank. This makes UOB's short-term net repo exposure to total expected cash inflows even more disturbing. On an absolute basis, it was even higher than Citigroup's negative net position. Perhaps this was an aberration, but it is worth taking into consideration when investing in the bank's AT1 bonds, in our view.

We note that Bank of America's relatively large net borrower position in the repo transaction market is not itself without risk. Money is fungible and this short-term position may fund volatile investment banking activity. This could result in unrealized losses that may lower common equity through a decline in other comprehensive income.

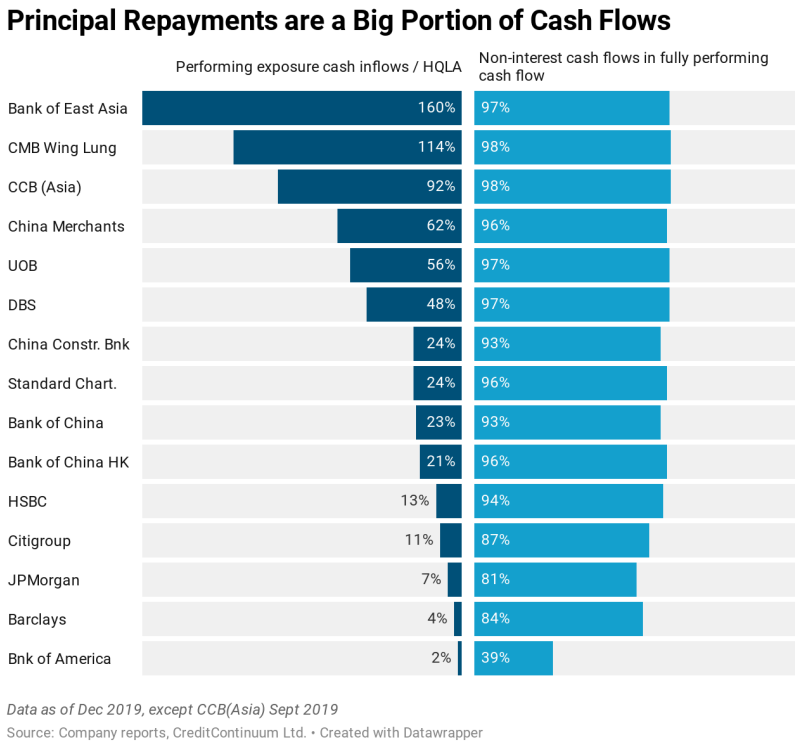
Principal Repayments are a Big Portion of Cash Inflows

The big picture: Cash is king and capital adequacy is an accounting concept. Over the long-term, the going-concern status of a financial institution is dependent on liquidity. This requires the receipt of cash inflows. The greater

the number of borrowers that can defer payments combined with the longer these payments are extended, the greater the risk of an unexpected cash flow crisis.

The minutiae: The higher the dependency on performing loan cash inflows as a source of liquidity, combined with the higher the level of principal repayments within this cash flow, the greater the risk of an unexpected cash flow crisis due to the unintended effects of forbearance activity. As such, we calculate the level of principal repayments imbedded within anticipated performing loan cash flow by subtracting monthly interest income, as derived from bank annual reports, from weighted expected monthly cash inflows in regulatory reports. We then divide this result into the weighted expected monthly cash inflows to determine the level of principal repayments for monthly cash flows. This generates our non-interest cash flows in fully performing cash flow ratio. We derive the dependency on performing loan cash flows as a source of monthly liquidity by dividing weighted performing cash inflows by high quality liquid assets. Given the jump to PONV potential from liquidity missteps we assign full weight to the performing cash flow dependency ratio in our fundamental assessment of each bank from an AT1 investor's perspective. Concurrently, given the surprising result of our analysis on principal repayment reliance, we assign full positive marks from this metric to the best result and average weights to others.

The implications: A lack of liquidity may generate a point of non-viability event (PONV). In the current operating environment of large forbearance measures, institutions that are already market confidence sensitive due to less than stellar asset quality, less than attractive deposit franchises or a greater likelihood of piercing their CET1 combined buffer requirement are at greater risk of a PONV liquidity event.



Assessment: Three of the four Hong Kong-based banks in our coverage universe report outsized reliance on performing loan cash flows as a source of liquidity. Bank of East Asia, CMB Wing Lung Bank and CCB(Asia) each report weighted performing loan cash flow expectations in excess of their available high-quality liquid assets. As such, an increase in nonperforming loans within these institutions could have a greater impact on their ability to service their obligations relative to their peers. For CMB Wing Lung Bank and CCB(Asia), this may not prove problematic as their deposit franchises are more akin to branches of foreign banks, which further raises their importance to their parent banks. The jury is out with respect to the implications for the Bank of East Asia although this does not look attractive for AT1 debt investors.

In addition, we are surprised to see that almost all the institutions in our coverage universe, save for Bank of America, relies predominantly on principal repayments as a source of monthly liquidity. This makes large forbearance initiatives fraught with potential danger. Combined with an outsized reliance on performing loan cash flows as a source of liquidity and an institution may be at greater risk of a PONV event.

Disclosure & Certification

- I/We have no position(s) in the any of securities referenced in this insight
- Views expressed in this insight accurately reflects my/our personal opinion(s) about the referenced securities and issuers and/or other subject matter as appropriate.
- This insight does not contain and is not based on any non-public, material information.
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- I/We have not been commissioned to write this insight or hold any specific opinion on the securities referenced therein
- I/We have signed the Insight Provider Agreement and this insight does not violate any of the terms specified therein.

— Hank Calenti, CFA (30 Apr 2020)

Kyle Rudden

Alpha-Centric ESG Research

Kyle Rudden is an ESG analyst with an alpha-centric approach to ESG research. He believes global sustainability is imperative, and private-sector capital is its cornerstone. The Triple Bottom Line: People, Planet, AND Profit.

Areas of Expertise

- Primary Asset Class: Equities
- Geography: Global
- Countries: United States
- Sectors: Utilities, Energy

Content Verticals

- ESG, Quantitative Analysis

Central Retail | ESG

ESG and IPOs: ESG Affects IPO Investing but Pre-IPO Research Is Scarce

By Kyle Rudden | 30 Apr 2020

EXECUTIVE SUMMARY

The intersection of ESG and initial public offerings is a treacherous corner in the ESG landscape. ESG is highly material and uniquely relevant to IPOs, affecting deal interest and valuations, and in some cases killing the IPO altogether. For IPO investors, pre-IPO ESG research is critical, but almost non-existent. ESG information is out there if you know where to look and are willing to dig. This is Part I: Probem.

ESG and IPOs is an important subject for ESG investing, and in my opinion doesn't receive enough attention. Although I have published a few IPO-specific ESG reports in which I broach the subject, I have been wanting to write about it in more depth – a proper thematic treatment versus passing mention as background in some other report – but I debated about how to best present it to you.

Let me explain the dilemma.

The purely-pedantic version of the ESG and IPO story goes like this: ESG really, really matters for IPOs, therefore pre-IPO ESG research really matters for IPO investors, but the fact of the matter is pre-IPO ESG research doesn't really exist, ergo IPO investors are really screw... up that proverbial creek, sorry, thanks for reading, cheers. I really, really didn't want to write *that* report.

I did anyway. Here it is. Sort of.

My instinct is that for this subject, there is as much if not more value in a more practical hands-on approach. Saying, "*Here is the problem, and here is how to solve it*" is far better than just "*Here is the problem.*" However, the theoretical part of the story is still important, on its own and as context for the practical report. What else is there to do, then, but to publish both. A problem-solution pair.

1. **ESG and IPOs: ESG Affects IPO Investing but Pre-IPO Research is Scarce:** This report about how and why ESG matters to IPO investors, and the shortcomings of pre-IPO ESG research.
2. **ESG and IPOs: Pre-IPO ESG Research with Central Retail as a Case Study:** Solutions to the problem of non-existent pre-IPO ESG research, with Central Retail (CRC TB) as a "case study."

DETAIL

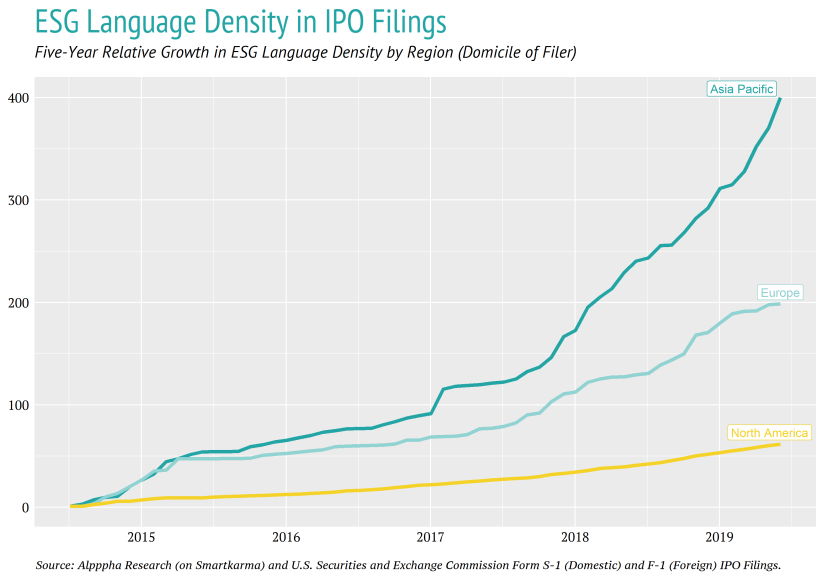
Introduction

ESG is increasingly prevalent in the IPO process because ESG is both highly-material and uniquely relevant to IPOs. ESG factors and concerns impact deal interest and valuation, and their influence continues into the post-IPO market, affecting price, risk, and volatility. Expert, timely pre-IPO ESG research is critical, but virtually non-existent. Fortunately, there is plenty of ESG information out there, and conducting a do-it-yourself pre-IPO ESG assessment is entirely feasible.

ESG is Increasingly Being Integrated Into the IPO Process

Historically, ESG was the near-exclusive purview of a very narrow cohort of institutional investors, and publicly-traded securities. ESG was almost entirely a secondary-market consideration. When ESG made its way into the IPO process it was often viewed as the quirky curiosity of "one of those" investors, and it came into play very late in the IPO process (i.e., roadshow or book building).

Things have changed. Recently ESG has become more prominent in venture capital, private equity, and equity capital markets – including, of course, IPOs. ESG is no longer the idiosyncratic interest of a few, is being integrated earlier in the IPO process, and is advocated by more parties including founders and early investors, advisors and underwriters, and a wider swatch of IPO investors.



There is a good reason for all this change. ESG factors have proven highly material to IPOs and all involved parties, especially issuers and investors. In virtually all cases, ESG has some influence on deal interest, book building, and valuation. In some cases, ESG can actually make or break an IPO. Below, I summarise how ESG fits into the IPO process accompanied by real-life anecdotes.

Founders and Early Investors Set the ESG StageThroughout this Insight I use "pre-IPO" fairly loosely, to mean anything before trading, but here I am referring to true pre-IPO investors – founders, venture capital, private equity, and cornerstone (aka anchor) IPO investors. This is where the stage is set for ESG success or failure. If this group is focused on ESG matters, and for the right reasons, it permeates the rest of the IPO process.

Central Retail The Chirathivat family, along with CRC's cornerstone IPO investors, definitely set the stage for my positive pre-IPO ESG assessment of CRC. The Chirathivats, CRC, and other affiliated companies – such as Central Pattana (CPN TB) and COL PCL (COL TB) – take sustainability and social responsibility seriously. Moreover, CRC's cornerstone investors are ESG-minded.
For more, see Central Retail: Initial ESG Assessment Is Impressive.

IPO Underwriters are Imposing ESG ConditionsSometimes progressive issuers seek out ESG-minded advisors and underwriters. Other times, ESG-minded investment banks influence IPO issuers. Regardless of how they get together, the point is that advisors and underwriters are bringing ESG into the IPO process early. This leads to genuine ESG integration, versus ESG being a roadshow afterthought as it has been in the past.

Goldman Sachs Investment bank Goldman Sachs (GS US) will not underwrite IPOs of companies without one or more diverse Board candidates. Its definition of "diverse" includes sexual orientation and gender identity, with a definitive focus on gender diversity. The minimum number of diverse candidates increases over time, and the criteria could be extended to international IPOs.
For more, see Goldman Sachs' Commitment to Board Diversity.

Stock Exchange ESG Listing Rules Relate to IPOsStock exchanges around the world are increasingly requiring ESG-related reporting (often in terms of sustainability and governance versus ESG *per se*) as a general listing rule, and some have special disclosure rules for pre-IPO companies. One way or another, either during the IPO or immediately after, many IPO issuers will face ESG disclosure rules. It is best to accept it and be preemptive.

Stock Exchanges Exchanges with general ESG listing rules represent 18% of global market capitalisation, and an even smaller percentage with pre-IPO ESG reporting requirements. However, in addition to continued growth in global averages, current percentages are significantly higher for IPO-intensive regions. For example, over 50% of APAC capitalisation is subject to ESG rules.
For more, see Asia Exchanges Lead in ESG: HKEX, JPX, SGX.

Roadshow ESG Interrogations Alter OutcomesInvestors are asking ESG questions on IPO roadshows and managements better be prepared. And it isn't just about social responsibility. Lines of interrogation often include: 1) corporate governance, which matters to all investors irrespective of their motivation, and 2) ESG concerns presenting real risks with serious financial consequences, also relevant to all investors regardless of ideology.

Saudi AramcoESG questioning early in the Aramco roadshow fundamentally altered the IPO and resulted in a reduced valuation. International investors, especially in Europe, hounded management on all three pillars. Environmental, human rights, and government concerns all weighed in. Roadshows were cancelled, international tranches scrapped, and a smaller local deal priced.
For more, see Saudi Aramco and ESG: When Assets Become Liabilities.

ESG Concerns Affect Book Building and PricingESG includes Governance, and governance is relevant to every IPO, so it is easy to say ESG impacts interest and pricing. It is more than just governance though; bona fide ESG thinking is driving IPO outcomes. Influential IPO investors – pensions, sovereigns, endowments, foundations – are ESG-savvy, and if issuers get ESG wrong it will hurt the IPO as well as post-IPO stock performance.

The We Company The We Company is WeWork, rebranded (because that's what you do when things fall apart). WeWork's downfall – from US$47 billion (early estimate) unicorn to colossal IPO failure – is the result of many things, all connected to ESG. The tragedy is mostly a story of Governance (with some Social causes and effects), and how bad governance can, and will, kill an IPO.
For more, see WeWork Board and Softbank Battle CEO For Control and more by Vicki Bryan.

Pre-IPO ESG Data and Third-Party Research is Inadequate

The problem for IPO investors – or as I prefer to see it, the challenge to overcome – is the dearth of *readily-available* pre-IPO ESG intelligence, both raw ESG data from IPO issuers and third-party ESG data, research, ratings, etc. It is a problem of quantity, quality, or both. If pre-IPO ESG information isn't entirely non-existent, what little is available is usually lacking in breadth and depth.

Third-Party Pre-IPO ESG Research is ScarceFor ESG intelligence to be useful to IPO investors it must be available well before the book building stage. Unfortunately, you will rarely see pre-IPO ratings from the major third-party providers (e.g., MSCI, Bloomberg, Sustainalytics), and almost *never* before orders are due. Additionally, it is highly unlikely that most IPO issuers will ever be covered. This isn't a failure; it's just business strategy.

-

Coverage: For various reasons (target clients, related index products) the coverage universes of ESG ratings providers have a large-cap bias, but most IPOs are small and don't fit strategically.

- **Approach:** Their current ESG assessment models are highly automated and rely on a history of documents and formal regulatory filings, almost all of which are not filed before going public.
- **Resources:** Pre-IPO ESG assessment isn't automatable, requiring hands-on work where human resources are already stretched (e.g., MSCI averages 38 issuers and 68 issues per analyst).
- **Liabilities:** Lastly, pre-IPO ESG analysis requires flexibility and acceptance of varying degrees of "incompleteness" – better than nothing for investors, but a potential liability for big firms.

*Very Few IPOs are ESG-Rated*I analysed ESG coverage by major ESG ratings firms for 5,762 global IPOs over five years. Anywhere from 2% to 26% – of IPO stocks and market capitalisation respectively – are covered. This includes direct ratings from MSCI and Sustainalytics, and others through CSRHub/ESGHub, an ESG ratings aggregator. At first, 25.6% of market cap might seem good, but it shows a major large-cap bias.

Table: IPO Stocks With ESG Ratings by Major Firms

	STOCKS	STOCKS (%)	MKT CAP	MKT CAP (%)
ESG RATED	91	1.6%	177,831,030,000	25.6%
NOT RATED	5,671	98.4%	517,500,891,000	74.4%
TOTAL	5,762	100.0%	695,331,921,000	100.0%

Source: Alpppha Research, S&P CapIQ, MSCI, Sustainalytics, CSRHub. 5,762 global IPOs March 2015 through March 2020.

The average market capitalisation of ESG-rated IPO stocks is US$1,954.2 million while the average for non-rated IPOs is US$91.2 million (medians are US$1,001.0 million and US$25.9 million). That isn't good for the majority of IPO investors, since the majority of IPOs issues are on the small side. A full 98.2% of the 5,762 IPOs are smaller than the average ESG-rated IPO.

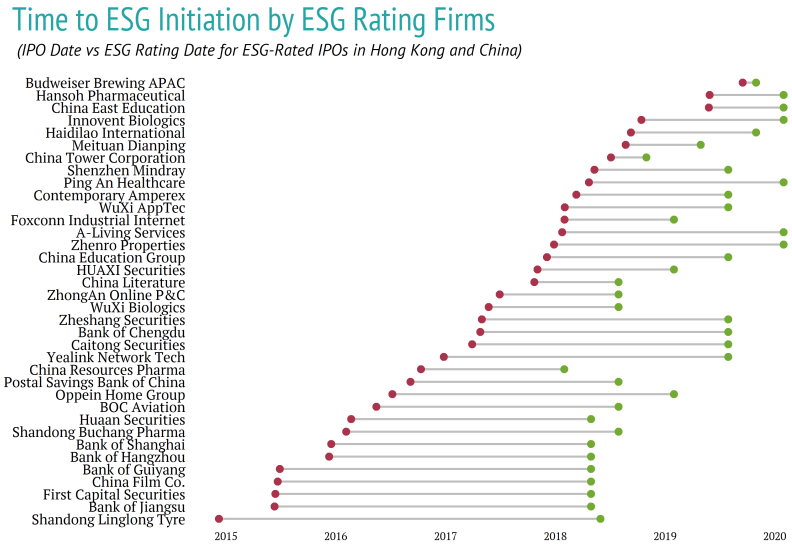
*Ratings Take a Year from IPO*Before I delve into this subject – i.e., time differences between IPO dates and ESG rating initiation dates – I want to point out something. These numbers are interesting but don't *always* mean what they appear to mean. For example, two years between IPO and ESG doesn't necessarily suggest the firm took two years to do the analysis. It might have decide to cover that stock a month ago.

In the chart below you will notice that certain days show a group of rating initiations. Clustering of initiations on a single day is even more pronounced for the entire data set. It's all MSCI on those days. It is clear that there is some element of coverage strategy at work, which is why I caution about reading too much into the time differences.

If, and that is a big if, an IPO company ultimately receives ESG coverage, the rating initiation date is on average 279.9 days after the IPO first trades; it's substantially longer from the initial offering date. That's a market capitalisation-weighted average delay; a simple average is 520.3 days. This is kind of moot for IPO investors, though, since they need ESG research before placing orders.

In very rare cases ESG ratings firms initiate ESG coverage before an IPO, not because they are trying to proactively provide pre-IPO ESG intelligence, but rather because they are rating a subsidiary-level debt issuer. Still, it's a good thing. Subsidiary-level ESG information can help with our pre-IPO equity research, but keep in mind that it isn't a perfect proxy (occasionally there are substantial disparities between subsidiary- and parent-level ESG profiles).

The chart below shows a 36-stock subset of ESG-rated IPOs (Hong Kong and China), but it provides a visual that puts ESG ratings time delays into perspective. The red circle is the IPO date, the green circle is the *earliest* ESG date; usually MSCI since it has the most ratings and is fastest to initiation. The table immediately following the chart shows regional and country counts for ESG-rated IPOs.



Source: Alpppha Research on Smartkarma, MSCI, Sustainalytics, CSRHub. Market-cap weighted average delay is 468 days.

Table: ESG-Rated IPO Stocks by Region and Country

RANK	REGION	COUNTRY	STOCKS	MARKET CAP	DAYS
1	North America	United States	21	36,419,770,000	597
2	Asia Pacific	Hong Kong	17	35,195,230,000	345
3	Asia Pacific	Japan	5	28,629,420,000	104
4	Middle East	Saudi Arabia	1	25,600,680,000	23
5	Asia Pacific	China	19	15,617,010,000	475
6	Europe	Germany	3	9,464,810,000	139
7	Asia Pacific	South Korea	4	5,975,530,000	124
8	Asia Pacific	India	7	5,784,360,000	772
9	Latin America	Brazil	5	5,053,470,000	339
10	Europe	Italy	1	2,688,810,000	213
11	Europe	Denmark	1	2,608,170,000	-161
12	Asia Pacific	Thailand	3	1,507,030,000	543
13	Europe	Netherlands	2	1,369,980,000	277
14	Africa	South Africa	1	1,168,050,000	868
15	Europe	Czech Republic	1	748,710,000	270

Source: Alpppha Research, S&P CapIQ, MSCI, Sustainalytics, CSRHub. ESG-rated IPOs March 2015 through March 2020. Saudi Arabia reflects one IPO (Saudi Aramco). For Denmark, a single stock (Ørsted A/S), the ESG rating was initiated 161 days prior to the IPO. I am fairly certain it reflects a subdisiary debt issue. Ørsted is a power utility, so that is likely.

IPO Issuer-Provided ESG Data is Hit-or-MissIPO issuers and their investment bankers are becoming more sensitive to investor interest in ESG, and are thus providing at least some semblance of ESG information in formal IPO filings and other documents (e.g., roadshow presentations). That's all good, but ESG data and information provided by IPO issuers and/or their underwriters is still lacking in several ways and for several reasons:

- **Priorities:** ESG is not their priority. They know ESG is a priority for big IPO investors so they go along with it, but there isn't the level of genuine buy-in required for quality ESG disclosures.
- **Partiality:** A common problem with ESG data is positive bias since ESG reporting is still largely unregulated. Imagine the degree of positive bias when a company is trying to sell itself.
- **Histories:** Assessing ESG trends, improvement and deterioration, is an important aspect of ESG research but is difficult for pre-IPO ESG analysis since most IPOs issuers are relatively young.
- **Relevance:** Well-intentioned IPO issuers sometimes provide the "wrong" ESG data, perhaps out of naiveté. They focus too much on SASB metrics when other issues are more critical for IPOs.
- **Messaging:** Communication is key. For financial and quantitative information, that is easy. It is harder for non-financial ESG information, especially if new to ESG and/or investor relations.
- **Exchanges:** Some exchanges require ESG-*related* disclosure for IPOs, but they are the minority (24 exchanges, 18% of global market cap) and data is very basic and governance-focused.

Pre-IPO ESG Data and Intelligence Exist if You're Willing to Dig

To summarise: 1) ESG factors impact IPO outcomes from deal interest and valuation to withdrawal in some cases, 2) the influence of issuers' pre-IPO ESG profiles and communication carries into the secondary market, and 3) much-needed ESG data is neither given to you by issuers nor purchasable from third-parties. So what do you do? Simple. MacGyver it. Roll your own. Do it yourself.

"MacGyver It"MacGyver was a 1980s television hero known for inventive problem solving using little more than a Swiss Army knife, duct tape, and matches to prevail in life-or-death situations. A verb in the Oxford Dictionary since 2015, to "MacGyver" means to "*make or repair (an object) in an improvised or inventive way, making use of whatever items are at hand.*"
"Roll Your Own""Roll Your Own" is a variant of poker and the etymology of engineering slang coined decades ago (in the 1950s) and repopularised recently by computer programmers. To "RYO" means to build something yourself because a solution to your particular problem doesn't exist, or you want something done in a very specific way.

The idea might sound daunting at first, but it's not that difficult. There is usually enough ESG data and related information out there to do a fairly reasonable pre-IPO ESG assessment. You just need to know what to look for,

and where to find it. That is the focus of a companion report to this one, which will be out soon and titled *"ESG and IPOs: Pre-IPO ESG Research with Central Retail as a Case Study."* Since it isn't yet published, I can't link to it, but that will be its title.

Disclosure & Certification

- I/We have no position(s) in the any of securities referenced in this insight
- Views expressed in this insight accurately reflects my/our personal opinion(s) about the referenced securities and issuers and/or other subject matter as appropriate.
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- I/We have not been commissioned to write this insight or hold any specific opinion on the securities referenced therein
- I/We have signed the Insight Provider Agreement and this insight does not violate any of the terms specified therein.

— Kyle Rudden (06 Mar 2020)

Travis Lundy

Pan-Asia Catalysts/ Events | Quiddity Advisors

Travis Lundy has 20+ years of experience in Asia doing alternative strategies in fixed income, equity derivatives, and activist/catalyst/event-driven and long-short equity strategies with most of that time spent managing money.

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Content Verticals

- Event-Driven, Quantitative Analysis

FamilyMart Co Ltd | Event-Driven

FamilyMart Tender Offer - Winnie and HunnyPot Redux

By Travis Lundy | 08 Jul 2020

EXECUTIVE SUMMARY

Today (Weds 8 July 2020) after the close, but before FamilyMart Co Ltd (8028 JP) released its earnings, the Nikkei reported that 50.1% owner Itochu Corp (8001 JP) had "decided" today to launch a takeover bid for Familymart to take it private. The Nikkei said...

> *The two companies will deepen their ties in procurement of food and consumer goods, as well as in areas such as customer data analysis and digital payments.*

At market price, the minority holding is worth ¥445bn. The Nikkei suggested it might take ¥500-600bn to buy out minorities.

The Background

Itochu held a stake in FamilyMart back in the 90s when large-scale retailer Seiyu owned the biggest stake. Seiyu decided to get out of the CVS business to help rescue its large-scale GMS business, and sold its stake in FamilyMart to Itochu in 1998 so that Itochu ended up with a 30.6% stake. Over the years Itochu had acquired a bit more, both directly and indirectly held, so that in spring of 2015, the company owned 36.9% when FamilyMart and UNY made a decision to integrate their businesses. Itochu owned a stake in UNY in the low single digits so that post-merger, they would have been diluted to the high 20s. That would have meant losing negative control so in February 2016, after the deal terms were announced, Itochu announced that over the following 7 months it would buy 6.4 million shares (or roughly 10.6% of the non-Itochu-held float) of FamilyMart in the market in order to hold 43.6% of FamilyMart so that when UNY Group Holdings and FamilyMart merged under a new Holdco called FamilyMart UNY Holdings, Itochu would again have negative control - at 33.4% of shares outstanding - of NEWCO.

The merger later in 2016 led to a Nikkei 225 inclusion (FamilyMart took over UNY's spot) which led to buying, and something of a short squeeze. Then in 2016-2017 they bought more, then in late 2017, Itochu started buying still more, creeping up to 41.45% of the company by early April 2018 when it was

announced that Itochu would conduct a partial tender offer to get to 50.1%. At around that time, FamilyMart announced it would sell a 40% stake in the UNY GMS business it had acquired when it bought UNY Holdings (where what it had really wanted was the 6000+ convenience stores in the Circle K and Sunkus chains) to Pan Pacific International Holdings (7532 JP) (then called Don Quixote), and form a partnership to re-do some existing UNY stores and help improve margins in others. Several months later in early autumn 2018, FamilyMart arranged to sell the remainder of Don Quixote and UD Holdings to Don Quixote, and to launch a Partial Tender Offer to buy 20% of Don Quixote. That Tender failed because the shares traded through terms quite quickly, and only briefly came back below on "bad earnings" after the end of that Tender Offer, but Don Quixote still ended up with UNY and the results over the past 18 months have shown it was a fantastic buy. Those same 18 months have seen Don Quixote shares rise 40+% from the price FamilyMart had tried to pay, and FamilyMart has instead bought 9.7% of PPIH in the market as of 20 May 2020.

The Tender Offer

The Tender Offer has, as I write, been announced ¥2300/share, which is less than the top of that range. It is also less than the ¥2750/share implied by the purchase price in the Tender Offer in 2018 which got Itochu from 41.5% to 50.1%. I expect 'the market' will clamour for more, but the shareholder structure on this is no less "interesting" than it was in April 2018 when I wrote about the previous tender, saying Itochu Tender For FamilyMart - Winnie Sees a Hunny Pot But Greedy Bears Get Stuck.

Because this resembles a situation which would be addressed by the METI Fair M&A Guidelines from a year ago, there could be some noise for a majority of minority or other measures meant to support minority shareholder rights. That support will be limited for structural reasons, which is probably the reason why the minimum threshold for success is not two-thirds, but instead is an additional 50mm shares, which is 10%.

Additionally, the Target Opinion statement out says that while the price offers some investors a reasonable exit, the price is not sufficient for FamilyMart to be able to recommend to shareholders that they tender, so instead they ask shareholders to make their own decision.

Interestingly, the impact of the shareholder dynamic on price may not be what "smart" active investors think it is. And the results may not be what people think it normally would be. Once again, it is possible that greedy bears get stuck.

As always, there is more below the fold.

DETAIL

Conclusions First

- This deal is highly opportunistic.
- The funding structure and sourcing is interesting. I wonder if it will be used again in future.
- **The pricing is low. Very low.** The Enterprise Value at TOB Price against Next Year EBITDA is 5+x. It was 11x in the Tender Offer just two years ago.
- **That means the Financial Advisors did not do their job.** They said "fair" was a lower price at half the valuation. Plus this time 20% of the equity value of FamilyMart is in other shareholdings.
- **The FamilyMart Special Committee and/or Board DID do their job**, but I think less well than they could have. They could have pointed out the halving of the valuation.
- **The Shareholder Structure of FamilyMart is so convoluted that it makes a deal difficult. But not impossible. Shares can be found.**
- I expect this deal has a marginally higher probability of failure than of being bumped and becoming successful. But both failure and bump are a higher probability than they would normally be. If it is successful, I would expect the shares to trade just through terms early, then quickly higher, then pause, wait for the bump, maybe trade a bit higher, then deal at the bumped price or not.
- **I estimate non-index active float (institutional and retail) at roughly 60-70mm shares.** There is an additional 25mm shares long which offset the estimated 25mm shares which have been shorted. In order for all 85-95mm long shares to tender, all the shorts have to be bought back, OR some of the passive position will get tendered (because the shorts will see their stock borrow replaced by borrow from passive funds.
- **I do not see tremendous downside post-tender.** CVS may be out of fashion, but I do not believe that Itochu will not try to make things work better and smoother than before even if they only own 50.1%. That will mean Itochu will own more of the economics from PB and logistics, but so be it. Also, this event could be the trigger that allows investors to re-assess the value of FamilyMart, or indeed of a well-run CVS business.
- I think if the shares trade through terms, and there is no bump, it is unlikely this goes through... *unless there is a spoiler.*
- **THE NIKKEI COULD BE THE SPOILER.** If the Nikkei Inc says that FamilyMart will be deleted from the Nikkei 225 if the Itochu only buys 9.9%, the OPTIMAL TRADE by someone is to wait until the stock is trading just above terms, and nobody expects this deal to go through, then you borrow 9.9% of the shares outstanding and tender at a slightly

lower price. The deal would go through, Nikkei 225 trackers would then have to sell 105-120mm shares, and the speculator could buy back their short.

- If any questions, please do not hesitate to DM.

This insight is labelled Bullish because I expect the shares to trade at or through terms immediately after trading on Friday. Today they will go limit up.

Details

The details of the Tender Offer are as below.

Terms & Details	
Data	**Data in the Datapoint**
Deal Type	Tender Offer
Acquirer	Itochu Corp (8001 JP)
Target	FamilyMart Co Ltd (8028 JP)
Price	¥2300/share
Dividend	n/a
Minimum Threshold for Success	50,114,060 shares (9.9%)
Maximum Shares To Buy	252,557,288 shares (49.9%)
Amount to Spend	Up to ¥580.8bn
Schedule	
Announcement	8 July 2020
Tender Start Date	9 July 2020
Tender End Date	24 Aug 2020 (30 days)
Tender Settlement Date	28 Aug 2020
Two Step Takeover and Squeezeout	Yes if achieve two-thirds holding
M&A Fair Guidelines Adherence?	
Market Check	No*
Majority of Minority Condition	No**
Separate Advisors for Special Committee	Yes
Fairness Opinion Received by Special Committee	No
Overall Grade on M&A Fair Guidelines?	Weak adherence. No market check, no fairness opinion

* No market check but it is claimed that the TOB period is seen as similar to one, allowing someone else to come in** No Majority of Minority Condition, but p60-61 of the announcement document suggests that because 20.04% of the shares out are held by TSE-listed ETFs and another 10+% of the shares out are held by other passive funds, the 9.9% minimum threshold is effectively the equivalent of a threshold which is 50% of the non-passive minority (because passive funds are deemed unlikely to tender).Both arguments are somewhat spurious, but the second has some effective validity even if little theoretical validity (passive funds can lend their shares).

The Shareholder Structure

The shareholder structure of FamilyMart has been "tight" for years. It is, based on market data, investor filings, company filings, and the yukashoken hokokusho which was published at the end of May 2020 reasonably well-defined (this kind of accuracy is rarely available in other markets).

We can break it down as follows:

- Itochu owns 50.1% and wants to buy the other 49.9% which actually grosses up to be about 54.8% because there is also about 4.9% short positioning.
- To get to 66.7% to force out minorities, Itochu would need to buy 82.9mm shares out of the roughly 251.3mm shares not held by Itochu.
- Corporate and financial crossholders (24.3mm shares or more) might tender even at a price deemed to be low. But if management does not recommend it (as they have not), this becomes a trifle trickier.
- If they tender, Itochu would need another 59mm to tender to get to 66.7%.
- If more than 168.5mm shares decide not to tender, this does not get to 66.667%. My estimates suggest passive is slightly more than that, so the only way that one could get over the hurdle of 66.7% would be to have some investors borrow shares and tender them.
- **The 9.9% minimum condition:** This is presented on p60-61 of the announcement document (Japanese) *something* like a majority-of-minority condition in that 30+% of the shares out are held by passive investors who normally would not tender. If we assume Itochu can really only get to 70% because if everyone who 'can' tender does so, they get 20% (because the other 30% won't tender), then getting to 60% is roughly a majority of minority. HOWEVER, this is a weak case because investors can tender borrowed shares.

The Shareholding Situation of FamilyMart (8028 JP)

Shareholder	comment	Shares Held	Pct of Shs Out	Might Tender	Short Tender?
Domestic Financial Institutions	**2020 Feb yuho**	**158,202,100**	**31.3%**		
Financial Cross-Holders	*2020 Feb yuho*	*7,221,556*	*1.4%*	**7.2**	
Nippon Life	2020 Feb yuho	3,980,000	0.8%		
Aioi Nissay Dowa Insurance	co filings	1,844,860	0.4%		
Tokio Marine & Nichido Fire Ins	co filings	873,668	0.2%		
Sompo Japan	co filings	523,028	0.1%		
Passive Fund Managers	*calculated*	*131,711,285*	*26.0%*		
Nikkei 225	estimated	104,776,432	20.7%		**40.0**
TOPIX	estimated	22,000,000	4.3%		**4.0**
JPX Nikkei 400	estimated	1,898,021	0.4%		
Other	estimated	3,036,833	0.6%		**1.0**
Active Domestic Fund Managers	calculated	19,269,259	3.8%		
Brokers	**2020 Feb yuho**	**13,714,200**	**2.7%**		
Corporate Holders	**2020 Feb yuho**	**271,149,900**	**53.6%**		
Itochu	2020 Feb yuho	254,083,364	50.2%		
NTT Docomo	2020 Mar Docomo yuho	7,251,200	1.4%	**7.3**	
Others	calculated	9,815,336	1.9%	**9.8**	
Foreign Investors	**2020 Feb yuho**	**46,024,400**	**9.1%**		
Passive Fund Managers	*estimated*	*37,053,871*	*7.3%*		**10.0**
Active Fund Managers	*calculated*	*8,956,129*	*1.8%*		
Individuals	*2020 Feb yuho*	*14,400*	*0.0%*		
SHORT INTEREST	**Market Sources**	**-25,000,000**	**-4.9%**		**(25.0)**
Long Created from Short Interest	calculated	25,000,000	4.9%		
Individuals, Treasury, Directors, etc	**2020 Feb yuho**	**17,048,200**	**3.4%**		
Individual Investors	calculated	15,538,368	3.1%		
Directors	2020 Feb yuho	58,200	0.0%		
Treasury Shares	2020 Feb yuho	741,180	0.1%		
Odd Lots	2020 Feb yuho	710,452	0.1%		
TOTAL Shares Outstanding	**2020 Feb yuho**	**506,138,800**	**100.0%**	**24.3**	**30.0**

Is This Tender Offer Fairly Priced?

Many investors will be hard-pressed to say that the deal is fair. Indeed, the Opinion Statement released by the Target (FamilyMart) says...

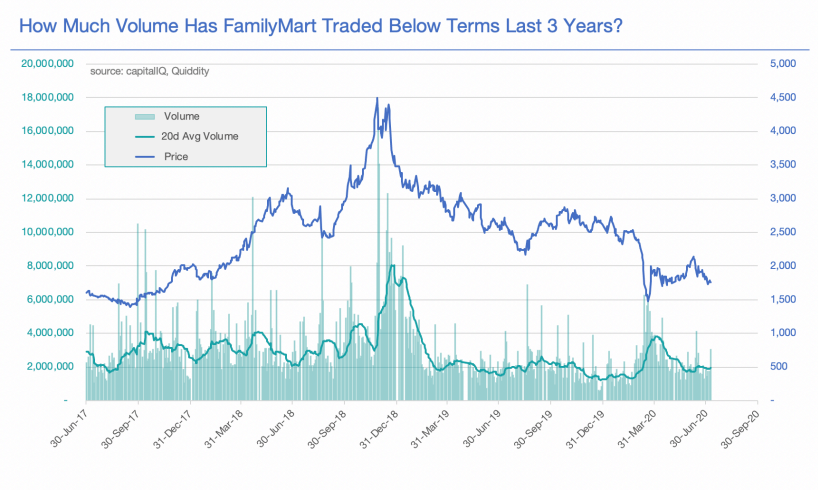
> *なお、 当社は、昨今、当社の属する小売業界を取り巻く競争環境が゛激化するなか、当社が゛変化に機動的に対応 し厳しい競争に勝ち残っていくためには、伊藤忠商事と当社の経営資源等の相互活用をより一層促進し、 かつ伊藤忠商事と当社が゛ク゛ループ゜一体となって迅速に意思決定を進めていくことが゛不可欠で゛あるとの認 識を伊藤忠商事と当社が゛共有したことから、賛同する旨の意見を表明しておりますが゛、本公開買付けの 買付け等の価格で゛ある 2,300 円は、当社の一般株主に投資回収機会を提供する観点で゛は一定の合理性が゛ あり、妥当性を欠くものとは認められないものの, 一般株主に対し本公開買付けへの応募を積極的に推 奨できる水準の価格に達しているとまでは認められないことから、株主の皆様に対して本公開買付けへ の応募を推奨することまではできず、本公開買付けに応募するか否かは株主の皆様のご判断に委ねるこ ととしております。*
>
> *As the retail marketplace is seeing ever stronger competitive tensions, in order to better respond to changes and survive the competition, it is necessary for ITOCHU and FamilyMart to work together. We share this opinion and note that it is important to be able to make decisions quickly and therefore we support the the tender offer, however, while the the tender offer price of JPY 2300 is one which offers certain shareholders a reasonable chance to exit their investment, the price is set at a level at which it is not possible for us [the directors] to actively encourage shareholders to tender, so we leave the decision to tender or not to the shareholders.*

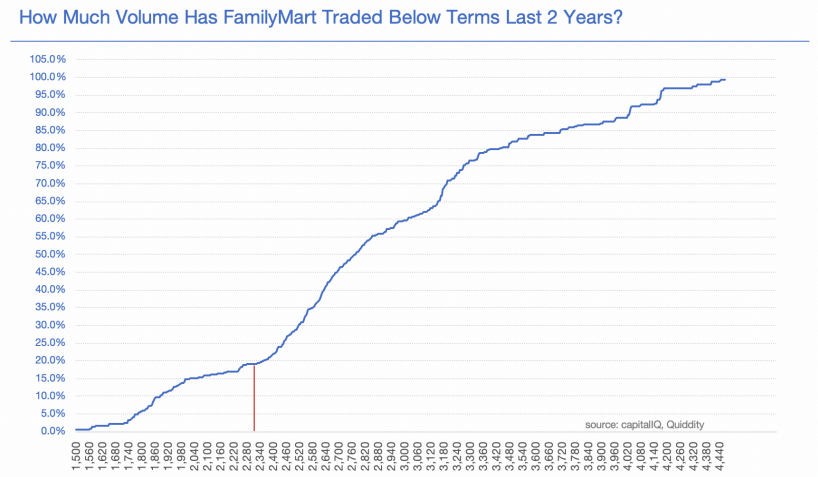
FamilyMart can't get there.

Lots of others won't be able to either.

Historically, the shares have traded well through terms. In the last 22+ months since the end of the last Tender Offer, 232mm shares have traded below terms, which is about 19.0% of all volume traded since the previous Tender Offer Results were announced in late August 2018.

- However, 206mm of those shares have traded since 6 March 2020.
  - 98% of the volume traded between the end of the Tender Offer and the 6 March 2020 was traded above ¥2300/share.





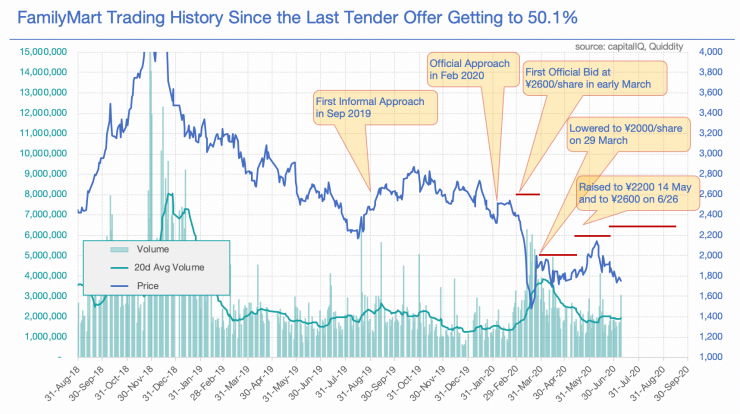
So What Do The IFAs Say?

> The IFAs say that the shares are worth less now than they were two years ago at the last Tender Offer (which was executed at ¥11,000, which split-adjusted comes to ¥2,750).

- At the time, full-year EBITDA was forecast to Feb 2019 to be ¥132.7bn and ¥140bn to Feb 2020.
- This time the next 9 months of EBITDA are forecast to be ¥188bn and the following year is forecast to be at ¥246bn. That's up 75% for "Year2" since last time.
- ***Maybe it is in the EV?***
    - When the last deal was announced in April 2018, the recent end of year debt, cash, and minority interest along with the Tender Offer Price Market Cap was worth an Enterprise Value of ¥1.57trln. The forward EV/EBITDA at terms was 12.6x.

- THIS TIME? Tender Offer Enterprise Value is worth ¥1.37trln. Also since then, Familymart has exchanged a bunch of suburban and rural real estate in its "long-term investments" with a 50% stake in Taiwan FamilyMart worth ¥100bn and a ¥150bn stake in Pan Pacific International Holdings (7532 JP). Adjusted EV would be closer to ¥1.12trln.

So this time the "fair" EV/EBITDA multiple is 5.5x for Year 2 (despite a discount rate of <4%) **whereas last time it was 11x Year2 EBITDA.**
And this time you get ¥250bn of desirable and growing positions in securities. Hmmm...



And when Itochu started looking at this deal again, after the shares had fallen almost 20% from the last tender offer (and half off their post-tender peak), the shares were trading back up ¥2400-2600. They would have figured they needed to pay a premium - say 20%? Consensus OP forecasts for FY2021 (end Feb 2021) are down 3% since then, but FY2022 is up 7% since then. Coronavirus problems are not impacting forward sentiment. But the Offer Price which would have been say ¥2800-3000 (despite MUCH higher EBITDA) ended up being ¥2300.
This is opportunistic by Itochu. Very opportunistic.

Fair Value Reference Prices from Financial Advisors

Valuation Reports Dated 7 July 2020

	BUYER ADVISOR(Nomura Securities)		TARGET ADVISOR(Merrill Lynch)		TARGET SpecCommittee Advisor(PwC)	
	Low	High	Low	High	Low	High
Market Price Reference	¥1,766	¥2,068	¥1,766	¥2,068	¥1,766	¥2,068
Comparable Companies	¥946	¥1,951	¥1,824	¥2,922	¥1,694	¥2,168
DCF Method	¥1,701	¥2,749	¥2,054	¥3,432	¥2,472	¥3,040
Avg DCF	¥2,225		¥2,743			

Valuation Reports of the Tender Offer in July 2018 (split-adjusted)						
	BUYER ADVISOR(Nomura Securities)		TARGET ADVISOR(SMBC Nikko)		n/a	
Comparable Companies	¥757	¥2,771				
DCF Method	¥1,676	¥3,469	¥2,010	¥3,233		
Avg DCF	¥2,573		¥2,621			
DCF Inputs This Time (Last Time no inputs were provided)						
Discount Rt Jpn	n/a	n/a	3.25%	4.00%	3.31%	3.91%
Discount Rt Taiwan			3.25%	4.00%		
EBITDA Multiple	n/a	n/a				
Terminal Growth Jpn	n/a	n/a	- 0.25%	+ 0.25%	0%	
Terminal Growth Twn			1.50%	2.00%	0%	
Comps			Lawson, 7&i, Nitori, PPIH, Welcia, Tsuruha		Lawson & 7&i PERs	
Fairness Opinion	No		No		No	

Management Assumptions for Revenue, OP, EBITDA, and Free Cash Flow for Next Several Yearswhich form the basis for the DCF

	2021 (9m)	2022	2023	2024	2025
Revenue	348.2	483.0	528.3	556.2	561.9
Operating Profit	48.0	68.8	72.4	72.4	77.9
EBITDA	188.2	246.6	252.0	254.3	260.6
Free Cash Flow	34.5	64.0	48.0	69.6	80.5

all numbers in JPY billions

Looking at Business Model Risk

In one of Michael Causton's recent insights on cashless payments called Japan Payment Wars: NTT Docomo and Merpay/Origami to Attempt Catch up with PayPay and Rakuten he showed a grid of "main providers", of customers and systems, and many of those in the left-hand column are retailers - online and brick & mortar. They team up with telephone companies, and create an ecosystem of payments, advertising, loyalty point systems, telecom services, etc. FamilyMart, despite being early to the game among CVS with T-points, has a pretty sparse line. It needs more.

FamilyMart has 16,600+ stores in Japan under management and another 8,000 outside Japan. It has invested in PPIH which itself has hundreds of stores plus almost 200 stores of the UNY and UD Retail type, each with much larger catchment populations than your average CVS. And PPIH is making those stores work. Itochu has upstream, and logistics, PPIH has the sales technology, and FamilyMart has Kanemi, logistics, and second-to-last-mile placement for online partnership (I believe the second-to-last mile location is VERY important in the years ahead because of a dearth of delivery drivers and ever-increasing delivery volume, the "last mile" problem gets expensive.

It becomes a lot less expensive if you deliver everything to a convenience store. Various delivery platforms would be willing to pay to deliver to a locker at a CVS rather than deliver to a doorstep, and various CVS brands would be willing to pay the delivery platform to drop it at their locker - they might be able to entice the customer to buy something as they visit.

FamilyMart and Itochu just need more. More spending per store per day in the CVS. More Private Brand content. Probably a drugstore chain.

Itochu needs more integration amongst its targets, not less. But the combination of CVS, urban and semi-urban higher-turnover stores, and an SKU/service set which appeals to an ageing demographic (see UNY & FamilyMart: Scale & Synergy Means Own the "Love Call" UnderDog? from early 2015 for more on the long-term demographics of the CVS purchasing basket) should all be good. And Itochu is aggressively investing in upstream, both in Japan and abroad.

If you think that is worth 4.5x EBITDA after you distribute the shareholdings, then I am guessing the business model is not for you.

Other people will not want to sell FamilyMart at 4.5x FY2022 plus ¥500/share of shareholdings in PPIH and FamilyMart Taiwan.

Itochu already controls the board. They already set strategic direction. Itochu is not about to spend US$5bn of cash and debt to not win. They see incremental value to owning the whole thing here.

Thinking About Trade Risk

As the situation is currently proposed...

- Itochu wants to buy the other 49.9% of FamilyMart, but will settle for only buying 9.9%.
  - If they get 9.9% a deal is done and those who tender will sell ALL their shares.
  - If Itochu don't get 9.9%, all bets are off. Nothing done. Except there will be a lot of new owners at higher prices. That price will not be unreasonably expensive. One could imagine there is not much gap risk to the downside as investors reset their expectations.
- **WILL ITOCHU BUMP THE PRICE OR NOT?**
  - I think it depends. If it takes ¥2500 to get it done, it would seem wise - for either 10% or all 49.9%. If it takes ¥3500, I doubt it.
- **WILL ITOCHU RELAX THE CONDITIONS?**
  - If the shares trade slightly through terms but the cross-holders are willing to sell into the Tender Offer, then I expect Itochu might look at relaxing the terms to let them sell. They would say, "*We will relax the terms to ensure that those who wish to sell may do so.*" If the cross-holders sell that would be ~5% of shares out.

- **WHAT WILL INVESTORS DO?**
  - I expect shorts will buy back their shorts at ¥2300 or slightly higher if they can. They don't want to be short a bump-a-thon. That would be 20-25mm shares according to a couple sources.
  - I expect event traders will buy up to, and through terms, and agitate for a bump.
  - I expect some long-only investors and some retail will sell into the event investor buying, and I expect the rest of them may sit tight. This situation may be less liquid than people expect.
  - I expect index traders will speculate on what will replace FamilyMart in the Nikkei 225.
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  WHAT ARE THE ODDS?
  - If the shares trade slightly through terms, I see a relatively high likelihood of a bump in price.
  - If the shares trade sharply higher through terms, then trade back down a bit on low volume, there may be games played. Someone could short sell in the market, the shares go down, then short sell more into the Tender Offer making it go through, then buy back the shares from the index sell-down. This is risky though if someone shorts a large position but the shares do not delist.
  - If the shares trade below terms, somebody borrowing all the shares possible from the ETF community (Nikkei, TOPIX, etc) could short tender to make this successful and to get Itochu to 66.7%.
    - If you short tender, you had better be sure this gets to 66.7%. If you are short a size-able position and Itochu buys 12%, your short will be much larger vs float than before.

Is there a chance this does not go through at all? Yes, I think the odds of that happening are quite reasonable. Much higher than I would normally think.

	Itochu Doesn't Get 9.9%	Itochu Gets 10%	Itochu Gets 17%
Deal or No Deal?	No deal	Sellers Sell Everything, Those who abstain, keep their shares.	Sellers sell, Itochu Buys, and everyone who did not sell gets squeezed out anyway.
Future	Still 49.9% Listed	Active Management Voting Shares Drops from 100mm to 35mm, then index selldowns lift it slightly (~30mm shs over 18mos)	Squeezeout
Future Owners	All Those Who Bought Higher - at say ¥2300/share - or those who did not sell	Those who did not sell, but a lot fewer of them.	Itochu & Partners
Supply/Demand Dynamics	Unchanged, but holders of active float will likely be event funds and fewer active long only investors and fewer retail	**Dramatically tighter.**	VERY LARGE INDEX SELLDOWN INTO DELISTING
Future Squeeze-ability	Same as now	Much greater chance of market squeeze. Daily index trading will show liquidity, but real world liquidity will be limited.	Squeezeout. It's all over.
Nikkei 225 Trade	No Trade	??? - Not clear what Nikkei would do if Itochu went from 50% to 60%. They could delete it but they do not have to do so.	Nikkei 225 Deletion and New Add
TOPIX & MSCI Trade	No Trade	MSCI & FTSE could do a short-dated weight reduction (probably 10mm shares for sale), TOPIX could be considerably delayed.	Everybody sells. There will be a $2-3bn selldown in the weeks following the Tender Offer.

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— Travis Lundy (08 Jul 2020)

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Content Verticals

- Equity Bottom-Up

Thematic (Sector/Industry)

Road to 5G: How to Make Money in 5G

By Mitchell Kim | 31 Jul 2020

EXECUTIVE SUMMARY

- **In this report, we highlight the best money making ideas by identifying the winners and the losers of the sectors in the 5G value chain.** For investors looking for 5G thematic ideas, we provide a snapshot of the sectors in the 5G value chain. To distill our ideas, we focus on three positive factors: 1) does 5G generate new customers or revenue sources? 2) does it lead to market share changes? And 3) are the sectors in the upward cycle still in play?
- **The sectors we like in the 5G context are Internet technology platforms, smartphones/devices, 5G infrastructure vendors, PCB and small cell technology providers, and selective telecom operators.** We are bullish on Southeast Asian telcos but bearish on North Asian telcos.
- **Our contrarian buys in the telecom sector are Advanced Info Service (ADVANC TB) and Globe Telecom (GLO PM).** They operate in markets with low fixed broadband penetration and weak incumbent fixed broadband operators. 5G FWA (fixed wireless access) will allow these operators to expand fixed broadband penetration and also gain market share.
- **Avoid North Asia telecom operators.** North Asian telecom stocks languished because they did not generate sufficient returns on 3G and 4G. 5G is no different.
- **5G provides low priced smartphone maker Xiaomi Corp (1810 HK) another opportunity to gain market share as did 4G**, but it will not lead to total handset shipment growth for top brands, in our view.
- **The best time to take a position in telecom equipment vendors is pre-launch and in the first two years of the new generation technology launch.** Zte Corp H (763 HK) is trading below its 10-year mean P/E.

What's Original?

We set out in this report to be different from others by avoiding a menu of stocks and the size of the markets in the 5G ecosystem and, instead, recommend several key thematic ideas distilled by analyzing

more in-depth the drivers of three key sectors to determine where the market is overly bullish or overlooking the opportunities or where the 5G factor has not yet been priced-in.

- We analyzed the stock price performances of these sectors to review how they behaved during the 4G deployment to ascertain how they may react to 5G.
- We conducted a proprietary analysis of the size of the potential revenue from billions of IoT connections that the industry is touting in the long term.
- We provide a RoIC analysis of the Chinese telecom operators' 3G/4G investments to better understand why the Chinese telecom operators invest less in 5G than the figures promoted by the governments or the industry research firms.
- We compare our Capex forecasts with the industry projection to assess the opportunities and risks.

DETAIL

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1. Investment Rationale - The Three Pillars

We provide an investment perspective by addressing the three key questions:

1. Does 5G drive new demands and revenue opportunities?
2. Does 5G change the competitive landscape?
3. Which sectors are positioned to capitalize on the merits of 5G and the timing? We wanted to be practical in our recommendations by applying the litmus test against the lessons from the past and translate industry pundits projections to actual revenue dollars to assess whether the market is overly bullish or bearish.

Our key thoughts:

- **The sectors we like in the 5G context are Internet technology platforms, smartphones/devices, 5G infrastructure vendors, PCB and small cell technology providers, and selective telecom operators.** We are bearish on North Asia mobile operators.
- **5G will have a bigger impact as a cheaper and better substitute for fixed broadband than as a revolutionary new mobile service.** ***Our contrarian buys are Advanced Info Service (ADVANC TB) and Globe Telecom (GLO PM).*** They operate in markets with low fixed broadband penetration and weak incumbent competitors. 5G FWA (fixed wireless access) provides these operators the means to accelerate the fixed

broadband penetration and also gain market share. (For upside potential, see Section 1.4.1: Southeast Asia Fixed Broadband Market Penetration Rate Sensitivity Analysis.) We also like Indosat Tbk PT (ISAT IJ) but Indonesia's 5G plan is currently unclear because of the government's undefined spectrum plan.

- **Avoid North Asia telecom operators**: China Mobile (941 HK), China Telecom Corp Ltd (H) (728 HK), China Unicom Hong Kong (762 HK), SK Telecom (017670 KS), KT Corp (030200 KS), and LG Uplus Corp (032640 KS). Our analysis shows that North Asian telecom operators did not generate sufficient returns on 3G and 4G investments. This is likely to be the case for 5G unless a new revenue stream could be found. Industry pundits project that demands for industrial application will generate significant new revenues, but our IoT connection revenue sensitivity analysis (see Section 3.10: IoT Connection Projections) shows that the revenue impact is still modest even if the telecom operators serve the optimistic number of connections in the long term.

- **5G gives Xiaomi Corp (1810 HK) another opportunity to gain market share as a low price smartphone leader as it did with 4G**, but it will not lead to total handset shipment growth for top brands -- Samsung Electronics (005930 KS) and Apple Inc (AAPL US) , in our view.

- **The best time to take a position in telecom equipment vendors is pre-launch and in the first two years of the new generation technology launch**. 5G was launched at the end of 2019 in China and the peak Capex cycle for China should be mid-2021. There is still time to take a position in ZTE. **ZTE Corp H (763 HK)** is trading below its 10-year mean P/E, while noting the US sanction overhang.

- **We also believe PCB and small cell manufacturers as well as data center/cloud service providers are attractive ideas**. However, we do not cover these sectors in depth in this report other than to highlight their participation in the 5G ecosystem. Shennan Circuits (002916 CH), Comba Telecom Systems Holdings (2342 HK), and data center names are worth another look. In particular, we believe Comba is in a good position as the bulk of the long-term 5G coverage will be made using small cells.

- **We remain cautious on the optical fiber sector and China Tower (788 HK).** The consensus view is that 5G will require 60-100% more base station construction than 4G for nationwide coverage and exponential data usage growth will lead to surging demand for optical fiber. However, severe price competition in the optical fiber industry due to over-supply and extensive fiber backhaul already owned by telecom operators as well as 90%+ fiber to the home (FTTH) coverage undermines that theme. They have been steadily investing in upgrading their backbone due to 4G already (more than 50% of Capex of Chinese telcos were allocated to non-mobile network investments over the last five years.) Already 9.5 million base stations in China are interconnected by the fiber backhaul. For China Tower, high growth in

base stations does not mean corresponding demand for towers, and the small cell space rental will be at a fraction of the lease rate for macro base stations.

We summarize our views on each sector in the ecosystem in Figure 1:

Sector	Near-term (6-12 months)	Long-term (12-36 months)	Stocks
Telecom operators	Negative – high capex with little visibility on incremental revenue. Avoid North Asia and favor Southeast Asia for fixed wireless access using 5G.	Positive for low fixed broadband penetrated markets; Neutral for North Asia.	Positive – AIS, Globe, PT Indosat Negative – Chinese and Korean telecom operators
Tower companies	Positive – more towers needed for nationwide 5G coverage, but small cell site rental revenues are significantly smaller than towers.	Negative – demand for more towers declines after a full 5G coverage	China Tower (788 HK), Bharti Infratel (BHIN IN), Sarana Menara Nusantara (TOWR IJ), Tower Bersama Infrastructure (TBIG IJ)
Network optimization/ small cell providers	Positive – demand for outside plant tower construction will continue till the end of 2020. Network optimization demand remains brisk but will subside by the year-end. Small cell demand to rise in 2021 and beyond.	Negative – typically, positive sentiment on these stocks subsides once the nationwide network buildout is complete. However, small cell buildout is expected to continue over the long term.	China Communications Construction (1800 HK), Comba Telecom Systems Holdings (2342 HK)
Fiber Optics	Negative – much of the Chinese fiber buildout has been complete with an FTTH ratio of over 95%. Most of the Chinese telcos' capex will focus on building out 5G network over the next few years. Oversupply pressure on pricing.	Negative – Demand in China will depend on data usage related to 5G, but no catalyst for demand from telecom services is expected for the foreseeable future.	Yangtze Optical Fibre And H (6869 HK), Hengtong Optic Electric (600487 CH)
Data Centers	Neutral – demand for data centers in the near-term will be limited as 5G applications still evolving.	Positive – demand for data centers in the long term looks strong as not only subscribers but also a machine to machine connections will consumer data traffic. Datacenter revenues climbed with 3G and 4G in 2009/10 and 2013/14. They will likely see another lift with 5G.	Gds Holdings (Adr) (GDS US), Beijing Sinnet Technology A (300383 CH), 21Vianet Group (VNET US)
PCB/HDI	Positive – demand of PCB/HDI for 5G network equipment is high especially during the build-out stage.	Negative – from 5G perspective, demand will subside once nationwide buildout is complete. However, PCB/HDI are needed for 5G devices in the long term.	Shennan Circuits (002916 CH), Shengyi Technology (600183 CH), Unimicron Technology (3037 TT)
Equipment vendors	Positive – ZTE and Huawei are major players and dominant vendors for China. However, both are caught in a political standoff between the US and China. Ericsson has small contracts with Chinese telcos but Nokia is less present.	Negative – typically euphoria builds before the network deployment. Unless telecom operators realize significant incremental 5G revenues, 5G capex will unlikely to rise beyond expectation.	Zte Corp H (763 HK), Huawei (Not listed), Fiberhome Telecom Tech Co A (600498 CH), Ericsson (Lm) Tel-Sp Adr (ERIC US), Nokia OYJ (NOK US)
Chip makers & Technology	Neutral – demand for 5G chips for devices will certainly rise over time. Currently, there is not enough 5G devices available. Qualcomm owns CDMA technology, a core technology for 5G.	Positive – Demand for not only mobile devices but also for FWA (Fixed Wireless Access) for home and commercial applications will drive demand.	Qualcomm Inc (QCOM US), Advanced Micro Devices (AMD US), Intel Corp (INTC US)

Devices	Demand for 5G mobile handsets will remain muted until the benefits are realized by consumers. FWA devices could see a surge in demand from operators but the volume is unlikely to significant.	Long-term demand for 5G mobile devices will accelerate over the next two years as operators deploy standalone (SA) network. Samsung and Apple shares did not see a significant lift with the 4G deployment. Upgraded models (selling price) had a greater impact.	Samsung Electronics (005930 KS), Apple Inc (AAPL US), Xiaomi Corp (1810 HK)
Internet Platforms	Neutral – no near-term demand surge expected.	Positive – new verticals as well as existing platforms will benefit from ultra-fast speed of 1Gbps. New applications such as AI, AR, autonomous driving, and telemedicine could see the birth of new verticals.	Tencent Holdings (700 HK), NetEase Inc (NTES US), Alibaba Group (BABA US) , JD.com Inc (ADR) (JD US), iQIYI Inc (IQ US), LINE Corp (ADR) (LN US), Facebook Inc A (FB US), Whatsapp, YouTube, Tik Tok

Figure 1: Summary View of Each Sector

1.1 5G Value Chain

We broadly define the following sectors and their participants as either a direct or indirect play in 5G:

- Telecom
- Tower companies
- Network optimization/small cell providers
- Fiber optics manufacturers
- PCB and HDI players
- Equipment vendors
- Chipmakers
- Device makers
- Technology companies

The four sectors usually move first as they are involved in a network pre-build out as shown in Figure 2. The five other sectors typically benefit next and followed by Internet platforms and small cell vendors.

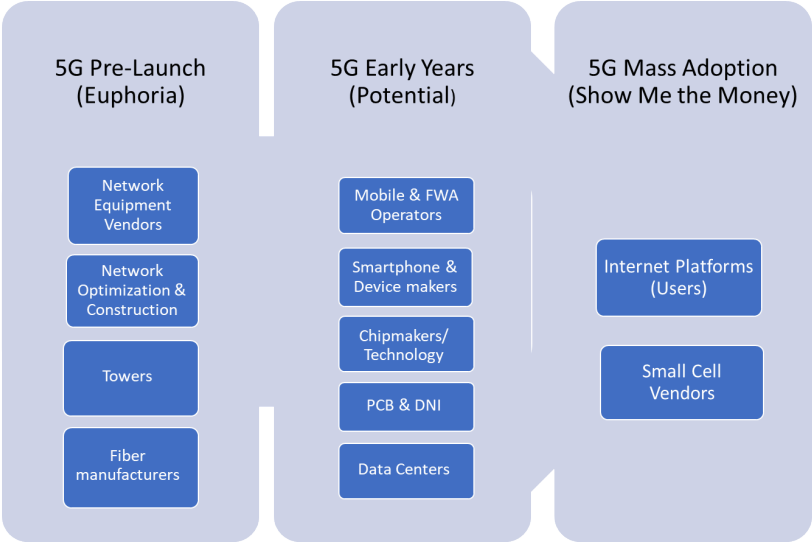


Figure 2: 5G Value Chain. Source: Mitchell Kim

2. Four Sectors in Focus: Internet, Devices, Vendors, Telcos

2.1 Technology service sector - The biggest long-term winner again

In this report, we will not cover this sector extensively as the existing names are already well known. However, we highlight that this sector is expected to be the largest beneficiary of the new generation of technology in the long-term, which we define as 12-36 months. While 4G services provided little lift to telecom stocks broadly, Internet platforms such as Netflix, iQiyi, Tencent, Alibaba, Facebook, SNAP, Line, and numerous others across multiple verticals were able to capitalize on the power of the new technology. Tencent enjoyed explosive growth as more attractive graphics and the ability to play games on smartphones among other factors driving demand. Alibaba's e-commerce transaction growth was rejuvenated in 2016 as online shoppers migrated from the PC to mobile platforms.

From the stock valuation perspective, the telecom market cap during the 4G era remained virtually unchanged while those of the Internet platforms have expanded many folds. This trend is not likely to change with 5G, in our view. The value realization will likely remain with 5G applications and internet platforms rather than the telecom service operators, even though the telecom sector will have to bear the burden of the network investments. Unless investors can see concrete 5G revenue possibilities to justify 5G

investments, 5G will fail to be a catalyst for the telecom service sector. If so, lower 5G Capex spending will be better for the telecom sector valuation, in our view.

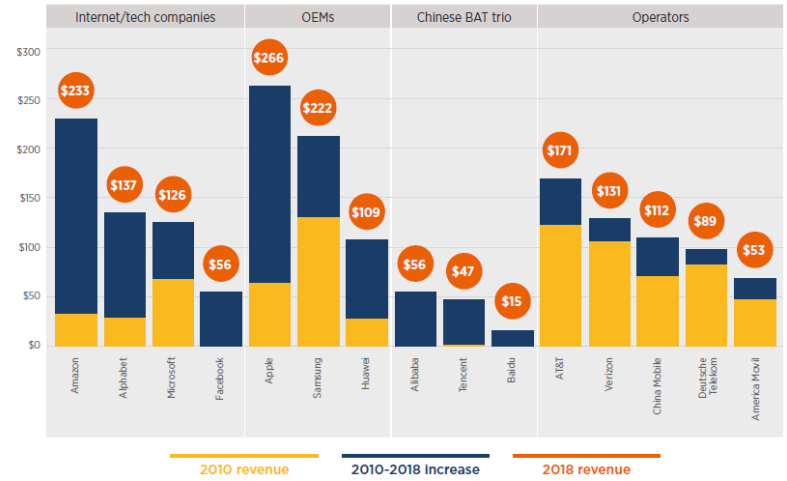


Figure 3: Telecom Operators Have Struggle to Reap the Benefits of Their Network Investments While the Internet/Tech Giants' Grew Exponentially in the Last Decade Source: GSMA Intelligence
Note: Annual figures based on fiscal year reporting periods. Revenue increase at 2018 constant forex.

We remain positive on Internet platforms as they will reap the benefits of a 5G upgrade, in our view, but we believe the positive operational impact on the Internet stocks will be evident only be in the long-term. Over time we expect to see more applications leveraging not only the power of 5G but also incorporate VR/AR across many sectors. We expect to see a greater number of internet users, as well as the intensity of usage as 5G, will provide augment the current fixed broadband coverage in a more cost-effective way.

Among the Internet platforms, games and video platforms are the direct beneficiaries and e-commerce, indirect, in our view. Tencent will benefit as online/mobile games addressable market will expand with VR/AR (Virtual Reality/Augmented Reality) incorporated into the next generation of online games as well as eSports. Similarly, Alibaba and JD.com are positioned to benefit from an enhanced medium for user shopping experience with the new technology. We note that with 4G, an increasing number of new buyers entered Alibaba's ecosystem through its video platform, Youku Tudou, and the bulk of the online shopping transaction occurs through video bloggers. Such experience will be enhanced with VR/AR devices, in our view.

2.2 5G devices makers – Not compelling except for market share gainers

Contrary to the common view, we do not believe the smartphone sector is a significant beneficiary of 5G. 5G upgrade will not lead to significant handset shipment growth, in our view. Therefore, investors looking at smartphone device manufacturers as a 5G thematic play could be in for a disappointment. However, 5G could lead to a powerful market share gain story for some of the leading Chinese smartphone makers. **Among the group, we believe Xiaomi could surprise on the upside on handsets sold.**

While the mobile network generation upgrades shorten the handset replacement cycle – thus, this perception could lead some investors to believe there will be a surge in the overall handset demand – the overall handset shipment will see limited growth, in our view. This has not been the case for 4G (handset shipment growth slowed as shown in Figure 4) and such network upgrade has not translated into share price gains. This is because the demand for the replacement devices is offset by the decline in new subscriber handset demand as most of the global mobile markets are becoming saturated. Without new non-handset devices driving the revenue growth of consumer device manufacturers, we believe the upside is limited for these players even as telecom operators roll out the new 5G networks globally over the next 12-24 months.

But there is an upside for players with potential for market share gain. Xiaomi is attractive as a market share gain story. While it is difficult for Samsung or Apple to provide upside surprise on the total smartphone shipment as they are positioned in the premium device segment, as the lower-cost provider, Xiaomi could use 5G as a springboard to gain market share. Xiaomi did just that with 4G (the company was not listed in 2014, the year China Mobile launched its 4G service.) The market share story is a powerful catalyst, in our view.

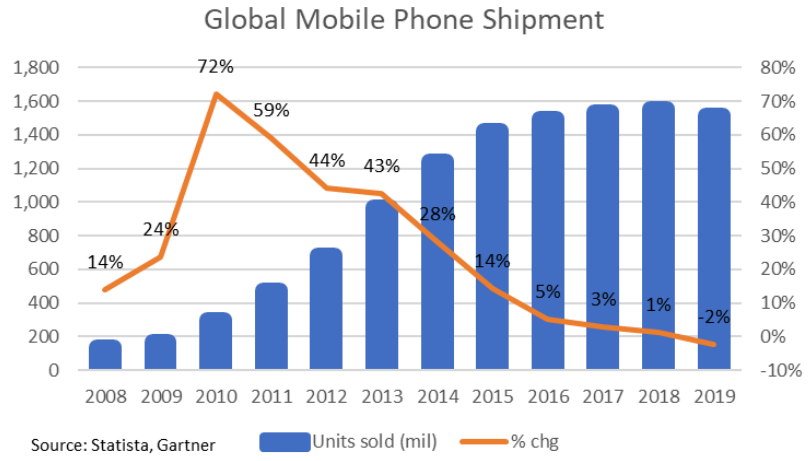


Figure 4: Mobile handset shipment continued to slowed despite the 4G launch in 2014

One potentially upside case for device manufacturers is in the development of new industrial application devices, such as telemedicine devices, autonomous driving chipsets and software systems, and telemetry devices. However, we believe it is more prudent to wait for early signs of these developments rather than taking a leap of faith.

We believe telecom operators will face greater challenges trying to persuade consumers to switch from 4G to 5G. Whereas 4G was able to offer a clear value proposition to those consumers seeking faster connection and download speed compared to the frustrating slow speed of 3G, 5G will offer a less compelling value proposition, in our view. Currently, the major differences between 4G and 5G for the consumers are faster speed and low latency, both are difficult to discern by most consumers. If so, consumers will have less incentive to switch to 5G, and consequently, demand for 5G devices will be more subdued than in the case of 4G, at least in the near-term.

If history is any indication, 5G handset unit sales volume will likely have a minimal positive impact on the stock price of device manufacturers unless the device makers introduce new innovative devices such as AR/VR that contribute to a renewed growth or there is a shift in market share (similar to how wearables provided a catalyst for Apple in the first case.) We currently have limited visibility on either of these scenarios. For this reason, we prefer the market share gain story of Xiaomi (Huawei also will likely gain market share but the company is not listed and it currently faces a greater political risk.)

Global handset Shipment Volume and Market Share											
Shipment by Vendor (mil units)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**1Q20**
Samsung	281	314	385	444	393	320	306	321	295	296	58
Huawei	24	41	47	53	70	104	133	151	203	241	49

Apple	47	89	130	151	191	226	216	215	209	193	28
Xiaomi			7	19	61	71	53	92	122	126	28
OPPO							85	112	119	119	23
Others	1,245	1,331	1,177	1,140	1,163	703	702	533	607	566	90
Total	**1,597**	**1,775**	**1,746**	**1,807**	**1,879**	**1,424**	**1,495**	**1,424**	**1,555**	**1,541**	**275**
Market Share	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**1Q20**
Samsung	18%	18%	22%	25%	21%	23%	20%	23%	19%	19%	21%
Huawei	1%	2%	3%	3%	4%	7%	9%	11%	13%	16%	18%
Apple	3%	5%	7%	8%	10%	16%	14%	15%	13%	13%	10%
Xiaomi	0%	0%	0%	1%	3%	***5%***	***4%***	***6%***	***8%***	8%	10%
OPPO	0%	0%	0%	0%	0%	0%	6%	8%	8%	8%	8%
Others	78%	75%	67%	63%	62%	49%	47%	37%	39%	37%	33%

Figure 5: Global handset shipment volume and market share. Source: IDC, Gartner Group *Smartphones only from 2015 (excludes feature phones)

Out of the three smartphone names highlighted in this section, we believe 5G will have the biggest impact on Xiaomi. While there is a limited shipment volume upside for premium smartphone makers, for a mid-price maker like Xiaomi, an increase in the unit shipment will be a catalyst since it indicates the company winning market share.

In the case of Xiaomi, 4G provided an opportunity to gain market share in the competitive smartphone market (see Figure 5.) Xiaomi went from less than 10 million handsets (feature and 3G) to 100 million units shipped in 2018, laying the foundation for the company going public. Xiaomi's smartphone unit sales paused in 2016 but its market share gains continued in 2017 and 2018. In 2019, the company saw only 2.7% YoY growth in smartphone sales and its share price declined 17% for the year 2019. However, we believe 5G will be a catalyst for the mid-price smartphone maker, Xiaomi, and therefore such underperformance provides a buying opportunity, in our view. Already we are seeing rejuvenated growth in 1Q20, which led to a stronger performance YTD in 2020, but we believe there is more upside as the company continues to gain market share through 5G.

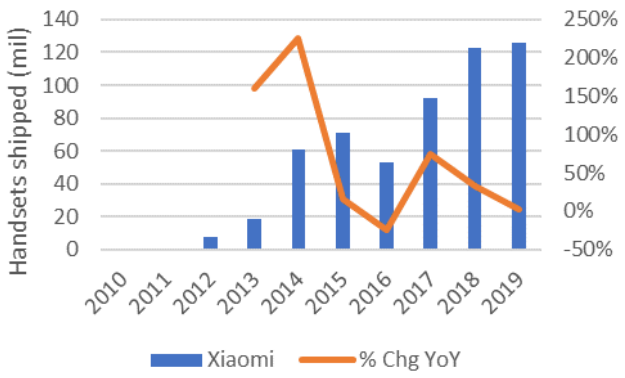


Figure 6: Xiaomi Annual Share Performance. Source: IDC, Gartner Group, Company Data

The stock had been under pressure since the IPO in July 2018 due to the company missing the market's lofty expectations. However, the stock is up 40% YTD in 2020 due to stronger revenue growth of 27% YoY in the March quarter 2020 and the June announced share buyback plan of up to 10% of its outstanding shares, equivalent to USD4.3 billion.

Year	Price	Annual % Change	Cumulative Return %
2020 YTD	15.10	40.07	-10.12
2019	10.78	-16.56	-35.83
2018	12.92	-23.10	-23.10
7/9/18 IPO	16.80	IPO	

Figure 7: Xiaomi Annual Share Performance. Source: Factset

A closer look at Samsung share price performance indicates no visible impact from the 4G upgrade cycle in 2014 onwards (Figures 8 & 9) The stock only outperformed in 2016, 2017, and in 2019 for most of the past decade, and the key stock price driver of those two years was mostly due to increased demand for its semiconductors and display products and less so from mobile phone sales. Certainly, consumers upgrading to 4G had helped to shorten the replacement cycle, but it was insufficient to sustain the overall growth. Samsung's annual mobile handset unit sales fell year after year since hitting the peak in 2013. We believe 5G will have minimal impact on Samsung shares.

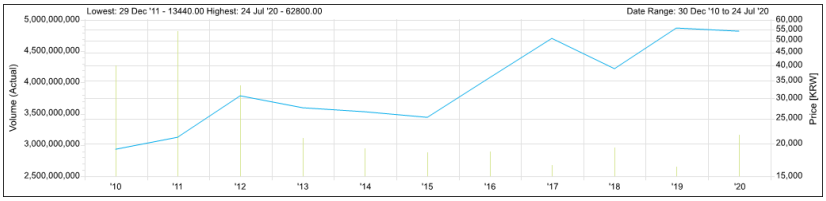


Figure 8: Samsung annual share price performance. Source: Factset

Date	Price	% Change	Annual % Return	Cumulative Return %
07/24/20	54,200	-2.87	-1.49	-1.49
12/30/19	55,800	44.19	48.43	48.43
12/28/18	38,700	-24.06	-21.64	-21.64
12/28/17	50,960	41.40	43.92	43.92
12/29/16	36,040	43.02	45.32	45.32
12/30/15	25,200	-5.05	-3.46	-3.46
12/30/14	26,540	-3.28	-1.82	-1.82
12/30/13	27,440	-9.86	-8.93	-8.93
12/28/12	30,440	43.86	44.64	44.64
12/29/11	21,160	11.49	12.08	12.08
12/30/10	18,980			

Figure 9: Samsung Annual Share Price Return. Source: Factset

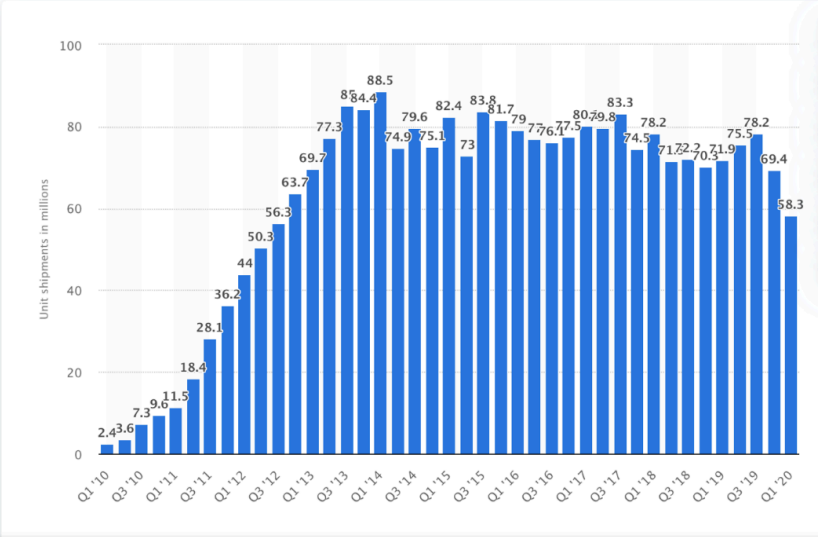


Figure 10: Samsung Smartphone Shipment Peaked in 1Q14. Source: Statista

Apple's stock drivers were not smartphone unit sales numbers since 2014. In fact, its shipment unit sales growth rate declined every year since 2015. Apple's share price appreciated more than 1.5x from 2010 to 2014 largely due to a unit sales volume and a revenue CAGR of 42%. We, therefore, attribute the share price gains partly to consumers using the 3G upgrade as an opportunity to replace their mobile handsets with the iPhone (introduction of iPad was also a catalyst.)

However, 4G was not a visible catalyst. Note that Apple stock price retreated in 2015 even though the unit sales volume growth was higher than 10%. In 2017, its share price outperformance continued, largely because of the company resumed growth and the great anticipation for ASP increase with the iPhone X introduction in November 2017. We note that the company's innovative products such as wearables and home devices (e.g., Apple Watch, Air Pods, Echo) have been the key driver. Overall, Apple's

iPhone sales revenue CAGR from 2012 to 2019 was just 8% (6% for unit volume CAGR). Rather, Apple's net profit growth was the driver (CAGR from 2010 to 2019 was 16.6%.)

With Apple focused on the high-end market, we believe 5G will not be a catalyst for the stock. Instead, we believe Apple will continue to focus on increasing its ASP and new products like Airpods and Apple Watch. **Considering this, Xiaomi is really the only potential market share winner that is listed, in our view**.

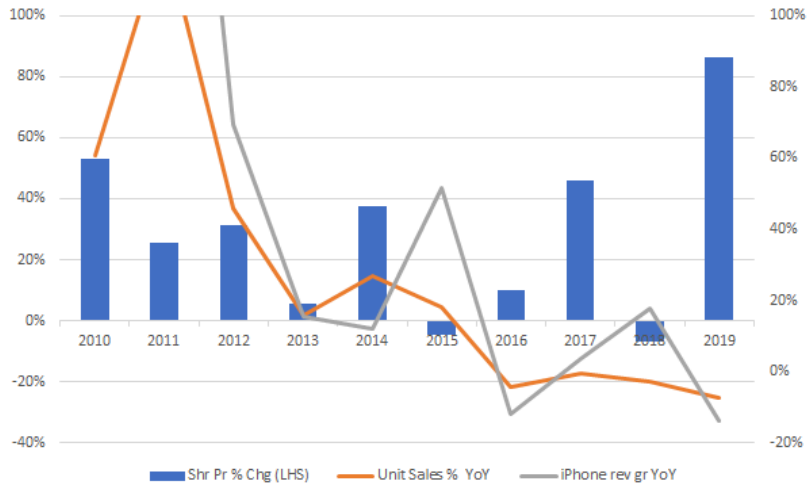


Fig 11: iPhone sales volume did not drive up Apple shares after 2014. Source: Factset, IDC, Gartner Group

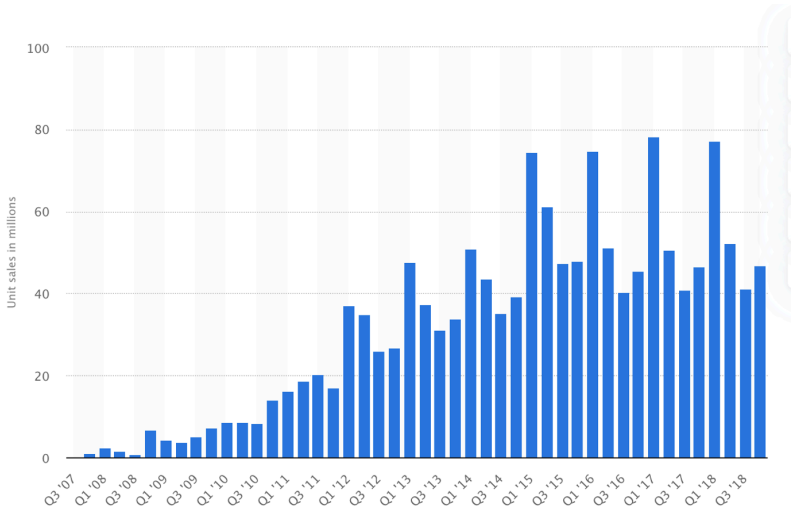


Figure 12: Apple's quarterly handset shipment (3Q07 to 3Q18). Source: Gartner Group, Statista

2.3 Infrastructure Vendors - The Window is Still Open

We are modestly positive on the 5G vendors in the near-term, but we believe the clock is ticking. These vendors typically are the early beneficiaries of a new generation network buildout prior to the service launch and in the first couple of years of commercial service as operators invest to expand the network coverage. However, once nationwide coverage is achieved, operators' Capex focus on adding capacity, and, therefore, their overall capex spending declines. Therefore, for these vendors, 2020 and 2021 are two crucial years of 5G revenue opportunities.

We are still at the early stage of 5G commercial launches in China and South Korea but we believe the vendors' revenue growth will accelerate in 2020 and 2021 before they start to decelerate in 2022. Chinese and Korean operators are expected to have nationwide 5G coverage by the end of 2020 and more robust coverage by 2021.

We favor ZTE and Ericsson as a 5G China play. Nokia has limited contracts with China, albeit, China has threatened to terminate all contracts with the two European vendors should any of the EU countries bar Huawei from supplying 5G infrastructure. ZTE has faced its share of backlash from the Trump administration, but the US focus appears to be on Huawei.

We note that Huawei is a private company and Fiberhome is a Shanghai-listed company that focuses more on ancillary and data network equipment. Huawei is also the second-largest smartphone company after Samsung with 65% of its revenues coming from smartphones. It is also the largest 5G infrastructure vendor along with Ericsson. The company has been cited as being a national security risk by President Trump's Executive Order enacted in May 2020. The UK and Canadian telecom operators have terminated their contracts with Huawei since then. As a result, we believe Ericsson and Nokia will continue to be beneficiaries in 2020.

Telecom Eq as % of Total Revenue	2019
Huawei	35%
ZTE	73%
Ericsson	68%
Nokia	78%
Fiberhome	63%

Figure 13: Telecom Eq as % of Total Revenue. Source: Factset

Our historical price analysis of Ericsson and ZTE support our view that pre-launch and the first two years are the best time to own the stocks. This is because a bulk of the revenues are generated during this period. Both ZTE and Ericsson shares reflect the positive 4G impact from 2013 to 2015 only to take a steep fall as revenues declined (Figures 14A and 14B.)

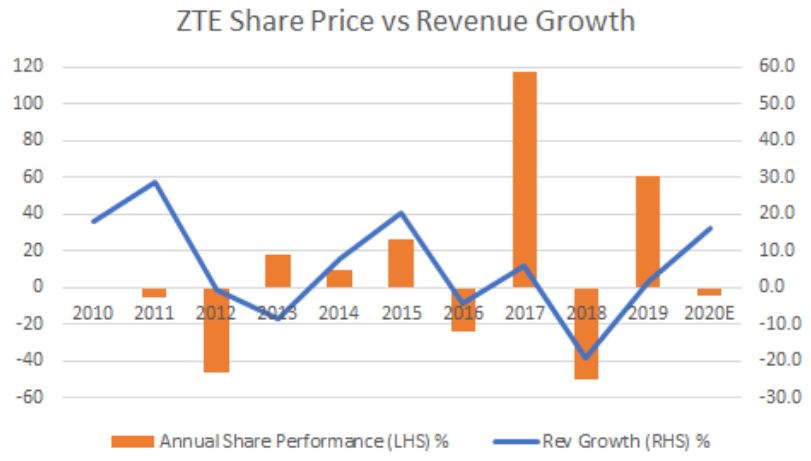


Figure 14A: ZTE Annual Share Price Performance vs Revenue Growth. Source: Factset

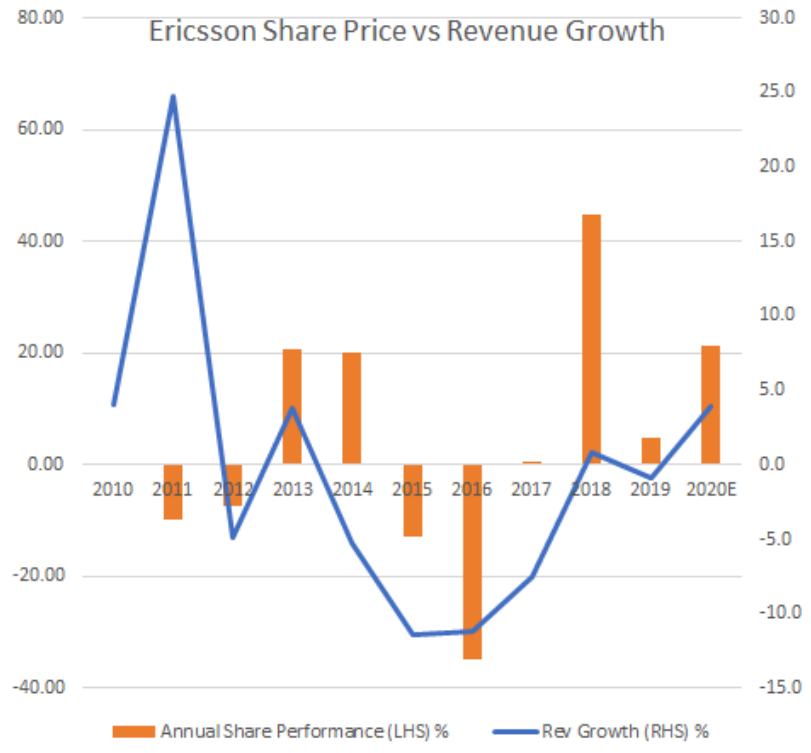


Figure 14B: Ericsson Annual Share Price Performance vs Revenue Growth. Source: Factset

2.3.1 ZTE: Our top pick

We believe ZTE is on a course to a rejuvenated growth in 2020, which will drive its share price barring any strong geopolitical setback. After ZTE share's 2x outperformance in 2009, 3G did not provide much more catalyst. The stock rose 20% in 2013 in anticipation of 4G deployment even though 2013 revenue growth was -8%. The 4G effect petered out in 2015, two years after the 4G launch by China Mobile. Share price doubled in 2017 as the company settle the suit with the US by pleading guilty and as revenue growth rebounded after a year of decline in 2016. ZTE again faced a US ban in early 2018 only to have it lifted by President Trump in June 2018, which led to a revenue rebound in 2019, in our view.

2.3.2 Ericsson

After a lackluster sales growth during the 3G era, the stock continued to languish until 2013 when sentiment improved as the market anticipated for the 4G buildout catalyst. However, the 4G effect petered out and revenues continued to decline from 2014 to 2016. 5G euphoria and the US ban on ZTE lifted the stock in 2018 but nearly flat in 2019. The stock however is a beneficiary of the US-China trade strain. The stock price appreciated in 2020 partly due to the ban imposed on Huawei by the US and UK, in our view.

2.4 Telecom Operators - Fixed Broadband is Sexy

The best 5G thematic long idea for the telecom operators is the fixed wireless access play, not mobile, in our view. We believe speed and low latency alone are not an attractive value proposition for consumers, not when 4G already provides satisfactory speed for most consumer applications. In contrast, there are many consumers in Southeast Asia with no access to fixed broadband at home and must rely on 3G or 4G handsets or CPE (Customer Premise Equipment). Fixed broadband is under-penetrated compared to the mobile penetration in these markets because extending fiber coverage for the less densely populated areas or those in a rugged topography have been are too costly for operators. 5G is a game-changer because it is more economical and faster speed than most broadband services other than FTTH, in our view.

We are positive on the fixed broadband markets with low penetration, namely, Thailand, the Philippines, and Indonesia. Of the three markets, we like Thailand and the Philippines as the key operators have already launched the FWA service. We keep Indonesia on the radar screen but the operators have yet to finalize their 5G plans and the regulators have yet to finalize the 5G spectrum plan.

Figure 15: AIS launched 5G FWA in July 2020. *Source: Company Data*

AIS (Advanced Info Services) and Globe Telecom stand out as attractive 5G long ideas. AIS is a leading mobile carrier in Thailand but is a distant third or fourth-largest fixed broadband behind the leader True (China Mobile has an 18% equity stake in True.) By using 5G as an FWA (Fixed Wireless Access) similar to how Verizon Communication in the US is using, we believe AIS has an opportunity to gain market share in the Thai fixed broadband market.

Globe is in a similar position competing against the incumbent PLDT. We believe Globe offers an interesting value proposition. Given that 5G FWA will be cheaper running a fiber, Globe could become a market disruptor. Keep in mind that the Philippines households on a basic income of $9-12 a day may not be able to afford fiber pricing plans, but they could share 5G wireless packages, which could be as low as PHP1,899 ($36) per month for 20 Mbit/s and PHP2,899 ($55) for 100 Mbit/s.

2.4.1 SE Asia Fixed Broadband Penetration Sensitivity Analysis

Based on our sensitivity analysis (Figure 16), AIS and Globe have a high upside: for every 10% incremental household penetration, Globe's revenue rises 27% and AIS 8%. In an optimistic case assuming a fixed broadband penetration rate rising to 90%, there is a 214% upside to Globe's revenue and 33% upside to AIS.

Sensitivity Analysis on Potential Upside to Fixed Wireless Access	
Philippines	
No of Households for every 10% penetration (000's)	2,422
ARPU PHP	1,373
Annual Revenue (PHP mil)	39,905
% of Globe total revenue	27%
Revenue '@ 90% penetration (PHP mil)	319,239

Globe Rev 2019 (PHP mil)	149,010
Upside to Revenue	214%
Thailand	
No of Households for every 10% penetration (000's)	2,149
ARPU THB	539
Annual Revenue per 10% Penetration (Thai Baht mil)	13,899
% of AIS total revenue	8%
Revenue '@ 90% penetration (Thai Baht mil)	59,767
AIS revenue 2019 (Thai Baht mil)	183,432
Upside to Revenue	33%

Figure 16: Sensitivity Analysis on Potential Upside to Fixed Wireless Access. *Source: Company data, Euromonitor, IDC*

	2019 Subscribers (000's)	Household Penetration (%)
Indonesia	10,447	14.5%
Thailand	10,100	47.0%
Philippines	2,161	8.9%
Taiwan	5,714	80.8%
South Korea	21,906	105.3%
China	397,726	92.3%

Figure 17: Asia Broadband Market Penetration Rates. *Source: ITU Euromonitor, Companies*

2.4.2 China & Korea 3G/4G RoIC Analysis - Fretting on Low Returns

We believe North Asian telcos face significant 5G risks because they are solely looking at 5G as a faster mobile solution. South Korea and China are two of the highest penetrated fixed broadband markets in the world with over 95% of the household subscribing to broadband, mostly FTTH. As we highlight in our 5G section, we believe the returns for 5G will be challenging without incremental revenues coming from the new industrial usage. We, therefore, take a cautious stance on all the telecom operators in the region: China Mobile, China Unicom, China Telecom, SK Telecom, KT, and LG U Plus.

We believe there is a risk of 5G being value destructive if incremental revenues are not generated, especially for the smaller operators. This was evident in China. Our analysis of RoIC by technology finds that only China Mobile's rate exceeded its cost of capital for 4G (Figure 18) and this is only because we are not accounting for the cannibalization effect. **For this reason, we remain cautious on the Chinese telco names.**

China 3G, 4G ROIC Analysis						
4G Return	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Operating Margin	36%	29%	27%	26%	28%	28%
Op Profit after Tax	15,718	27,141	53,547	67,714	75,703	70,738

ROIC - 4G	**9%**	**8%**	**11%**	**11%**	**10%**	**9%**
China Mobile	*10%*	*10%*	*15%*	*15%*	*14%*	*11%*
China Unicom	*3%*	*1%*	*1%*	*4%*	*4%*	*0%*
China Telecom	*2%*	*3%*	*5%*	*5%*	*5%*	*5%*
3G Return	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Operating Margin	46%	42%	40%	38%	36%	36%
Op Profit after Tax	4,296	11,098	18,137	36,153	36,430	26,764
ROIC - 3G	**5%**	**5%**	**6%**	**9%**	**8%**	**5%**
China Mobile	*6%*	*7%*	*7%*	*14%*	*12%*	*9%*
China Unicom	*1%*	*1%*	*3%*	*4%*	*4%*	*2%*
China Telecom	*5%*	*5%*	*6%*	*7%*	*7%*	*4%*

Figure 18: China 3G, 4G ROIC Analysis. *Source: Company data, MK estimates*

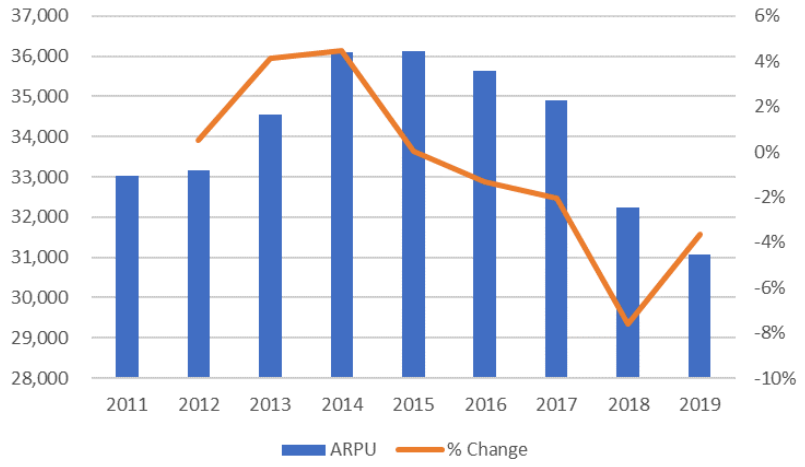


Figure 19: SKT ARPU declined even after the 4G launch. Source: Company data

South Korea fared no better. After investing in the 3G networks from 2010 to 2013, Korean operators also upgrade their network to 4G in 2014. Despite the upgrade to 4G and expending significant capital for handset subsidies, SK Telecom only saw an ARPU lift in 2013 and 2014 before the ARPU decline resumed.

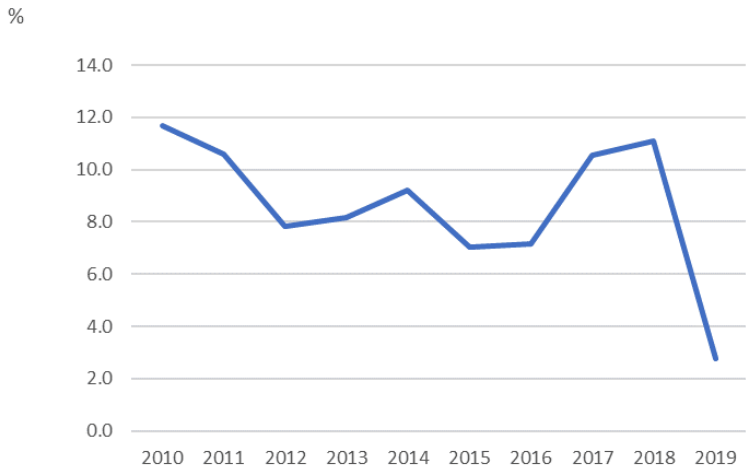


Figure 20: RoIC generally decline despite the 4G launch. Source: Factset

3. Background: All about 5G

3.1 What is 5G

5G is the fifth generation of mobile network technology that will enable an ultra-fast broadband transmission speed up to 10Gbps with as low latency below 1 millisecond. The new technology will enable new applications for consumers as well as for commercial use as shown in Figure 21.

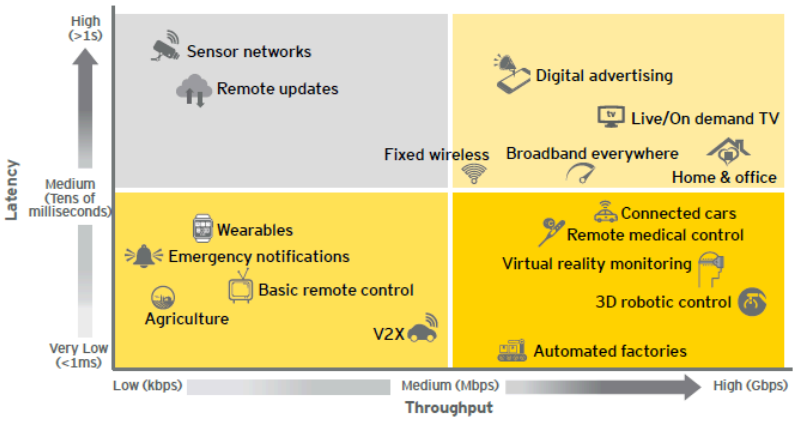


Figure 21: Potential new applications with 5G: speed and latency advantages. *Source: Ernst & Young, GSMA*

To offer 5G, a new spectrum, radio interface (RAN – Radio Access Network), and core network are required. In order to fully harness the 5GNR's performance – hence, to be in a position to offer new services that many are talking about including autonomous driving, smart city, smart factories, and telemedicine as examples -- new spectrum over 6GHz (milliwave) spectrums are required and the networks need to adhere to both the SA 5GNR and the 3GPP core network architecture for 5G Core (5GC) specifications.

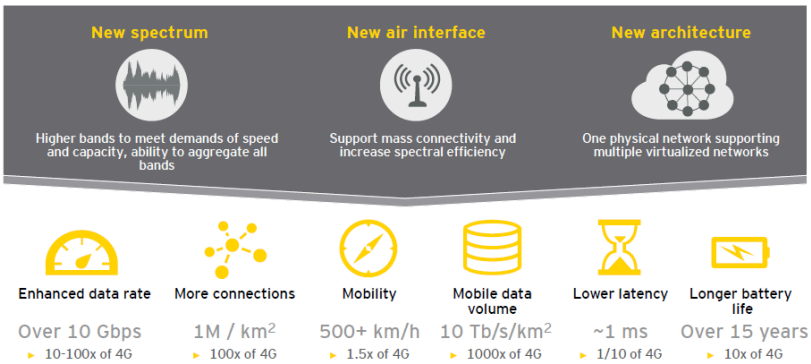


Figure 22: 5G: What you get and what you need to provide 5G. *Source: GSMA*

5G will offer significant technological advancement compared to 4G (Figure 22), but we are uncertain how much consumers are willing to pay for the new technology. Anecdotally, 4G did not lift the overall mobile service ARPU globally as operators hoped because of intense competition. We believe this will again be the case for 5G if operators do not offer a compelling value proposition to consumers. Speed and low latency will not be sufficient because current 4G subscribers find 4G to be adequate for existing applications. It is widely accepted that 5G could lead to an incremental revenue stream from commercial applications for telecom operators. While we are cautiously optimistic on this front, we believe any measurable revenue stream will not be visible for the next 24 months.

3.2 Current 5G performance comparison with 4G

Based on the latest performance comparisons measured in April 2020, operators globally are experiencing 2 to 20x 4G speeds (See Figure 23.)

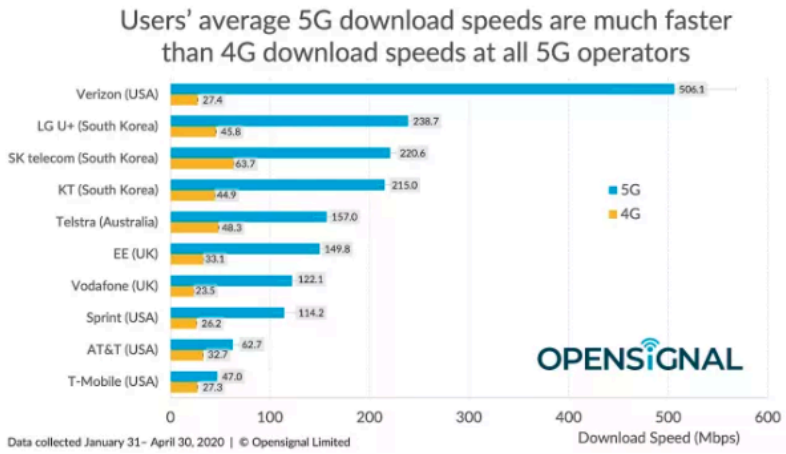


Figure 23: Speed comparison between 4G and 5G. *Source: Opensignal*

3.3 5G Device Status

Initially, smartphones will be the primary 5G devices, in our view. 5G smartphones currently are limited in types and are priced at a premium to 4G LTE smartphones. Currently, many of the Chinese 5G subscribers are those subscribing to the faster speed of 5G but still using 4G handsets.

5G smartphones are likely to offer 4K or 8K displays (although we would argue that the perceptible difference to the human eye is negligible). In the long-term, we may see smartphones supporting AR and 3D measurements. Qualcomm has already introduced a 3GPP-compliant Snapdragon X50 for 5G mobile phones. Samsung Galaxy S10 5G and LG V50 ThinQ 5G already uses the Snapdragon chips.

Currently, there are limited models of 5G handsets available. The availability of handsets is key to stimulating 5G service take-up. In the US, 8 different handsets were available for purchase at $700 to $1,000. (See Figure 24) In China, 20+ different models were available in 1H20: ZTE Axon 10 Pro 5G, Huawei Mate 20X 5G, Huawei Mate 30 series, Huawei Mate X (foldable), Honor V30 series, China Mobile Pioneer X1, VIVO iQOO Pro 5G, VIVO NEX 3 5G, Samsung Note 10+ 5G, Xiaomi Mi 9 Pro 5G, Xiaomi Mi 10 Lite, Mi Mix 3 5G, Huawei Nova 6 and OPPO Reno3 Pro. According to the 'China Mobile

2020 Terminal Product Plan', 5G smartphone unit sales are expected to exceed 150 million in 2020, with the device price dropping to 1,000-1500 yuan ($145 – $218) by the fourth quarter of 2020.

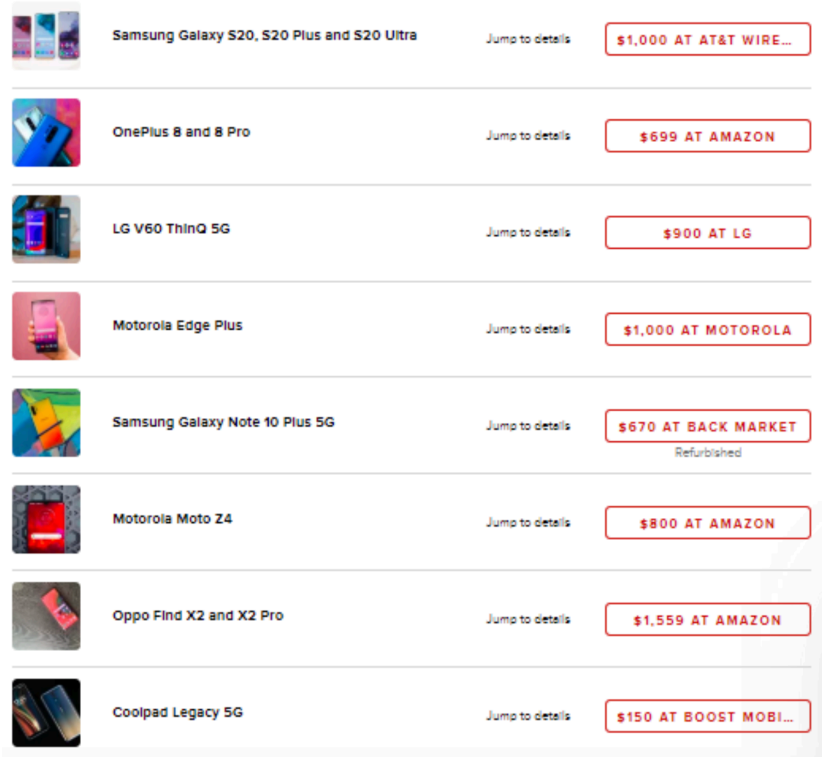


Figure 24: 5G Smartphones Offered in the US. Source: CNET

Besides the handsets, we expect industrial and home IoT devices to become more readily available. Currently, some personal hotspot router and CPE (customer premise equipment) are available mainly as an access device for FWA service operating under a different spectrum. (Fig 25)

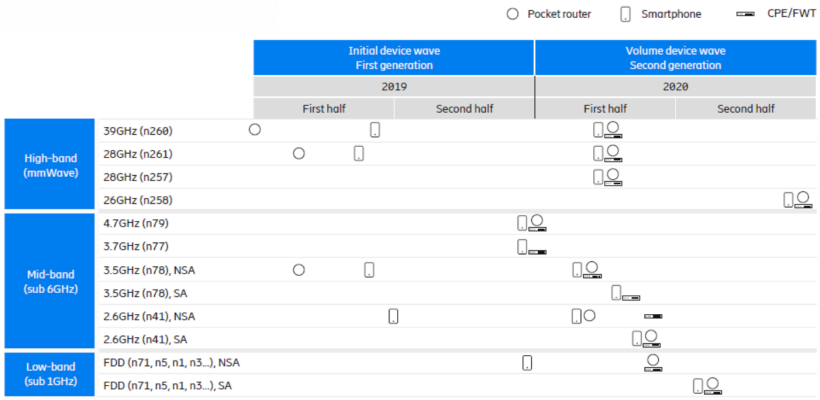


Figure 25: Current and Future Availability of Devices by Spectrum. Source: Ericsson mobility report

3.4 Path to 5G

The road to 5G will follow two different paths: Standalone (SA) and non-Standalone (NSA). Most telecom operators are following the NSA path first to further leverage their 4G LTE before seeking to deploy the SA version. The standalone, or 5G New Ratio (5GNR), will be based on a completely new network structure. 5GNR will be a new wireless radio interface to support substantial improvements in network throughput, efficiency, and capacity. The global mobile communication standards organization 3GPP released the 5GNR for NSA in December 2017, and for SA in June 2018. Because of the superior data throughput, in some countries, telecom operators will use 5G to augment or introduced as a cost-effective FWA (Fixed Wireless Access) service for broadband purposes (Verizon has embraced 5G FWA in the US.)

We believe 5G networks will evolve just as 4G networks have done. Initially, most telecom operators will launch the NSA version to minimize the investments and maximize the coverage using the 4G macrocells. However, in due time, some as early as 2021, operators will deploy a SA version to be able to offer commercial applications. The main domains of the 5G network are: 1) RAN, 2) transport and mobile core, 3) control & observability, and 4) management orchestration. Figure 26 illustrates the difference in the network architecture of 4G vs. 5G using KT's network architecture.

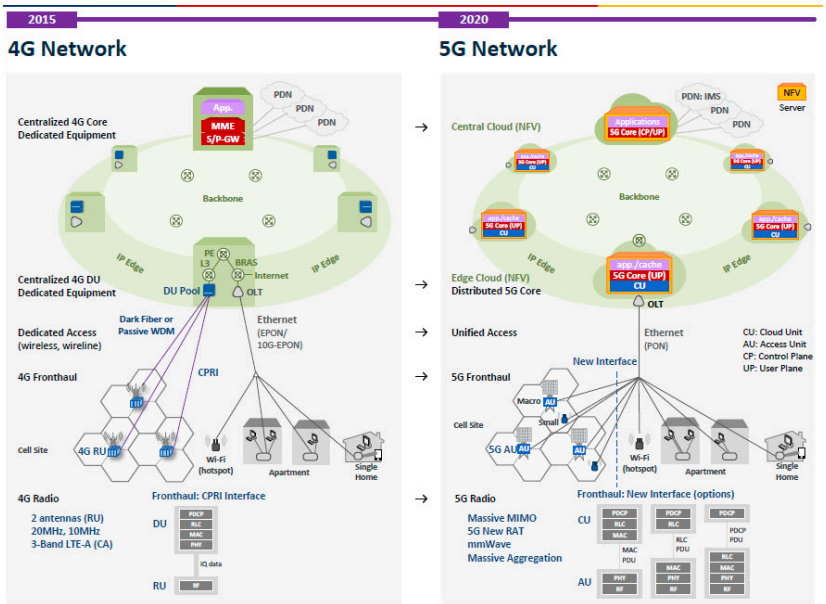


Figure 26: Difference in 4G vs 5G network architecture: KT Corp example. Source: Netmanias, KT Corp

3.5 Status of 5G deployment

As of February 2020, NSA 5G networks have been deployed in 378 cities across 34 countries. South Korea, China, and the US are the top three countries based on the number of cities covered.

Figure 27: 129 operators in 12,920 cities offer 5G commercially around the world. *Source: Ookla*

- **China** launched commercial 5G service in November 2019 and has more than 100 million 5G subscribers at the end of June 2020 -- representing 7% of total mobile subscribers -- with only China Mobile and China Telecom reporting 5G subscriber numbers. According to MIIT (Ministry of Industry and Information Technology), 86 million 5H handsets have been shipped in China. Operators have informed us that majority of their 5G subscribers are still using 4G LTE handsets to take advantage of faster speed and greater data usage bucket plans. Chinese operators built 257,000 5G base stations in the first half of 2020, per MIIT, bringing to the total 5G base stations to 410,000. Chinese operators are targeting to reach 550,000 base stations by the end of the year to have a nationwide coverage (full coverage of all prefecture of 330 cities), with China Unicom and China Telecom building out 110,000 and 140,000 base stations, respectively, which they will share, and China Mobile building out 300,000.
- **South Korean** operators launched commercial 5G services in April 2019, and their 5G networks currently cover 85 of the 100 cities. They have already installed 115,000 5G base stations across the country. The government pledged investments of $26 billion to establish a "fully-fledged 5G environment" by 2022. There are more than 7 million subscribers as of May 2020.
- **In Thailand**, AIS, the largest Thai mobile operator, announced its USD1.2 billion 5G investment plan for 2020 to cover 13% of the Thai population. This is an accelerated coverage plan due to the need for 5G in part to respond to COVID-19. AIS has launched 5G services covering 158 hospitals in Bangkok and other cities to provide telemedicine and for the operation of robots to minimize contact between doctors and patients. Robots are used for interactive communications with patients and used to deliver food and medicine to patients.

- **In the Philippines**, Globe Telecom launched 5G FWA service in June 2019 and is looking to launch the mobile 5G in the coming weeks. PLDT has decided to delay the launch from mid-2020 to either 4Q20 or 1Q21. Clearly, Globe Telecom has been handed a clear head start, and we believe the company will leverage its 5G networks to gain market share and further penetrate the fixed broadband market, which could provide a sizable incremental revenue opportunity.
- **In Indonesia**, it is unclear when 5G will be launched. The key challenge is the insufficient spectrum, and the government has yet to clarify its spectrum allocation plans. The Communication and Information Minister Johnny G Plate said that the country only has 737MHz of spectrum available for mobile when 2042MHz is needed to provide 5G. The government will look to free the 3.3GHz-3.4GHz band for 5G and auction the milliwave spectrum, possibly starting with 28GHz, according to Jakarta Globe. Another challenge for Indonesia has been the unfavorable physical network buildout environment. There are 6,000 inhabited islands across 1.9 million sq km, which makes the backhaul buildout difficult and costly. However, in 2019, the Indonesian government invested a USD1.5 billion in a Palapa Ring – a 35,000-km fiber ring across the country.
- **Singapore** plans to launch initially in 2021 and cover half of the island with 5G networks by the end of 2022 and nationwide by 2025. Both Singtel and the joint venture of Starhub and M1 have selected Nokia/Ericsson for nationwide coverage, while TPG selected Huawei for smaller coverage. The key hurdle to launching nationwide coverage earlier is the limitation of the spectrum in the 3.5GHz band, which is currently used for satellite communications by other countries including Malaysia.

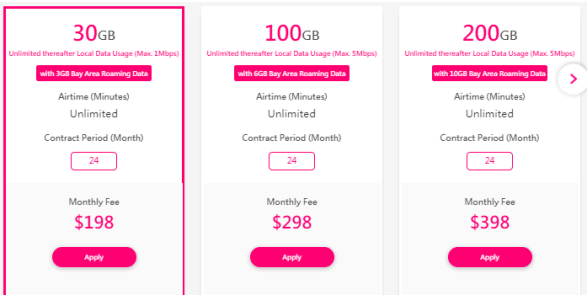
3.6 5G Pricing Plans in China and South Korea

Initial 5G monthly plan prices in China, Hong Kong and South Korea were set at a lower price than existing 4G (although no contract is required for 4G) in China. SK Telecom's 4G tariff is more expensive than its 5G plans even though the 4G plans include tethering and family sharing up to 30 - 40GB. While there is potential for price increase in the future, we have yet to see prices rising without a solid value proposition. The initial pricing plans support our view that 5G aimed at mobile consumers will not lead to ARPU increase. We believe that early 5G subscribers will subscribe to 5G plans that may be higher than the weight average ARPU but the migration does not lead to ARPU enhancement because they tend to be early adopters and hence are most likely already high ARPU generating subscribers. To realize incremental revenues from 5G, operators will need a commercial revenue stream, in our view.

	Operator	Monthly Price (local)*	Price (USD)	Data Package GB/ Mo	Min Speed (Mbps)
China	All Three Operators	128	18.03	30	500
	All Three Operators	598	84.23	300	1,000
	China Tel 4G*	130	18.31	20	100
South Korea	SK Telecom				
	5G Slim	55,000	45.86	9	
	5G Standard	75,000	62.53	200	
	5G Prime	89,000	74.21	Unlimited	
	4G	100,000	83.38	Unlimited**	

**with a 24-month contract, China Tel 4G is for no-contract prepaid*
*** 30GB tethering, 40GB sharing*

Figure 28: 5G pricing in China and South Korea. *Source: Company Data*



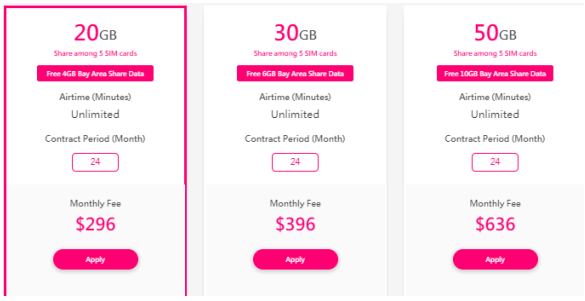


Figure 29: China Mobile (HK) 5G Plans (top) and China Mobile (HK) 4G Plans (bottom). *Source: Company website*

3.7 Infrastructure Vendors – Huawei Stunted by the US

Currently, nine system vendors provide 5G radio hardware and 5G systems to carriers: Altiostar, Cisco Systems, Datang Telecom/Fiberhome, Ericsson, Huawei, Nokia, Qualcomm, Samsung, and ZTE.

Huawei is one of the most active equipment vendors. Huawei has been awarded 91 commercial 5G contracts and shipped over 600,000 5G Massive MIMO Active Antenna Units (AAUs) as of February 2020. However, Huawei and ZTE continue to feel the adverse effect of the strained relationship between the US and China. Following the US's extension of the executive order to 2021 in May 2020, the Canadian telecom company decided against Huawei in June 2020, followed by the UK banning Huawei's 5G equipment on July 14, 2020. China is considering an action against Ericsson and Nokia in the event EU bans Huawei. See Figure 30 for a comprehensive list of markets awarded to each vendor.

5G Markets by Vendor	
Huawei	89 commercial contracts including China, South Korea, Switzerland, Finland (excludes the UK, Canada due to the recent termination of contract)
Safaricom	Kenya
Telefonica Deutschland	Germany (along with Nokia)
	Cambodia
United Arab Emirates Telecom du	United Arab Emirates
Maxis	Malaysia
Vodafone Qatar	Qatar
Stc Bahrain (Viva)	Bahrain
Ericsson	93 contracts (40 live networks) across 22 countries
O2 UK	
Bell Canada	Canada
Telus	(Nokia and Ericsson)
Telefonica Deutschland	Germany
China Mobile	China
MTS	Russia
Sinch	Sweden
Orange	EU
Rogers Communications	Canada
Cyfrowy Polsat (Poland)	Poland
Telecom Italia (TLIT.MI)	Italy, Brazil
Deutsche Telekom (DTEGn.DE)	Global
Tele Greenland	Greenland
Telenor	Norway
RINA Wireless	US
U.S Cellular	US
GCI	US
Singtel	Singapore
Saudi Telecom Company, Batelco, Etisalat, Ooredoo	Bahrain UAE Qatar
MTN	South Africa
T-Mobile US,	US
AT&T	US
Sprint	US
Verizon	US
Swisscom	Switzerland
Vodafone	Spain, Britain, Ireland, and Germany
Nokia	73 commercial contracts and 23 live networks
China Unicom	10% of the core network in China
Chunghwa Telecom	Taiwan
Orange Slovensko	Slovakia
Vodaphone Hutchison Australia	Australia
SETAR	Aruba
Telefonica Deutschland (O2Dn.DE)	Germany
Deutsche Bahn	Germany

Spark New Zealand (SPK.NZ)	New Zealand
DoCoMo Pacific	Guam
Iliad (ILD.PA)	EU
Softbank	Japan
T-mobile US	US
China Mobile	China (industrial use development)

Figure 30: 5G Markets by Vendor. *Source: Reuters, Huawei, Ericsson, Nokia*

3.8 5G subscribers and Capex in China

We believe 5G migration will occur rapidly in North Asia, specifically China and South Korea, because of governments' desire to be technology leaders. For this reason, 5G subscriber growth and penetration are not a stock price driver for the network operators as was in the case for 4G in China and South Korea.

Our 5G subscriber forecast for China, benchmarking off 4G adoption rate, suggests that China's 5G subscriber number could reach 1.35 billion in 2025. This is not aggressive considering that China's 4G subscribers reached 1.29 billion in 2019, only five years after launching commercial 4G service. GSMA forecasts much lower 5G subs of 807 million by 2025, which assumes migration of 4G to 5G occurs only at half the rate seen in 3G to 4G.

On the contrary, compared to the muted subscriber forecasts by a various organizations such as GSMA Intelligence, the same organizations have lofty 5G capex projections for China. In fact, GSMA forecasts about 38% higher 5G capex for 2019 to 2025 than our forecasts (see Fig 31). This may be because some of these organizations have been benchmarking off of a research projection made by CAIST, a research arm of MIIT, in 2017. This could also be due to the difference in the definition of 5G vs non-5G capex since the overall capex forecasts for the Chinese telcos are much higher than GSMA's. (See our capex forecast.) We believe telecom operators will not spend more than 24-25% of their revenues on a sustainable basis. Our capex forecasts are based on the operators' past spending and the expected revenue generation. However, we note that we have not estimated significant IoT related revenues that the bulls are forecasting. (Chinese telecom operators already generate IoT related revenues. However, they are relatively small compared to mobile revenues.)

China 5G Capex Projections	CNY billion
Ernst & Young ('19-'25)	1,500
CAIST ('20 - '30)	2,800
GSMA ('19 - '25)	1,314
MK Forecast ('19 - '25)	952
as % of GSMA	72%
MK total China capex ('19 - '25)	2,240

Figure 31: China 5G Capex Projection Comparisons. Source: CAIST, Ernst & Young, GSMA Intelligence, Mitchell Kim's own forecast

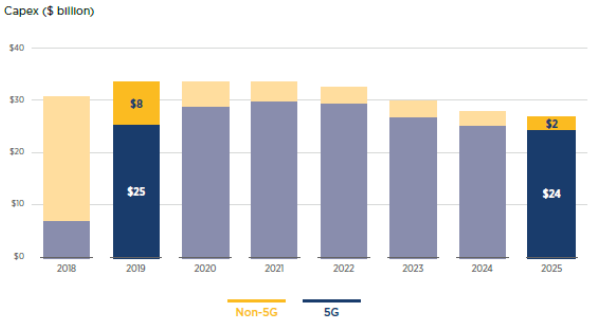


Figure 32: GSMA 5G Capex forecast. Source: GSMA Intelligence

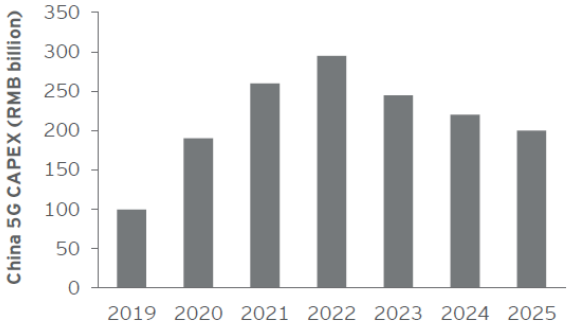


Figure 33: Ernst & Young 5G forecast. Source: EY Analysis

There are three reasons why we think 5G Capex spending will be less than consensus expectation, particularly in China:

1. Uncertain revenue realization will lead telecom operators to be more prudent with 5G Capex spending.
2. Network sharing will reduce overall network Capex spending
3. With slower commercial launch and ramp-up, vendors are starting to more aggressively bid for contracts.
4. 5G network prices will decline rapidly as we have seen with 3G and 4G.

This implies that equipment vendors are likely to see price pressure and hence the risk to future revenues increases. **If so, investor sentiment on network equipment providers such as ZTE and Ericsson will soften as revenue forecasts fall. For this reason, we are not bullish on network infrastructure players as a 5G thematic buy.**

3.8.1 Uncertain incremental revenue

Because we believe incremental revenue generated from 5G remains uncertain, we believe telecom operators will be more prudent on 5G Capex spending (and likely for other Asian telcos) and therefore they will be

significantly lower than CAIST's projections made in 2017 after the initial nationwide coverage spending in 2020-2021. We believe the operators thereafter will take a more prudent approach in Capex spending – i.e., more aggressively invest only if there is concrete evidence of incremental revenue from enterprises. *We noted in our next section 3.9: IoT Connection Projections – Gigantic Numbers but Revenues Elusive* showing our rationale for why revenues from IoT connections may not reach current bullish expectations.

3.8.2 High Cost is Leading to 5G Network Sharing

There are already signs of the Chinese government sympathizing with operators' need to rationalize 5G network Capex spending. MIIT has nodded for China Telecom and China Unicom to share 5G network base stations. China Mobile and the fourth telecom licensee China Broadcasting Network (CBN) signed a network sharing and construction deal, giving the mobile market leader access to a valuable 700MHz spectrum and opening the door to its 2.6GHz network, funding, and expertise for the national cable TV operator. By using 700MHz, China Mobile will be able to complete a nationwide coverage with significantly fewer base stations than if the company had to use 2.5GHz or 3.5GHz band.

Network sharing is not limited to China. Japan, Singapore and Malaysian operators – KDDI/Softbank, Starhub/M1, and Maxis/Celcom – have agreed to share their 5G networks.

3.8.3 Cost per Base Station will Decline Rapidly like 3G/4G

Our analysis of historical Capex spending per base station for 3G and 4G, we find that 5G base station cost is declining at a faster rate (Figure 34). According to the Chinese telco IR, a recent 5G base station cost fell to CNY155,000 from CNY250,000 at the beginning of 2020. While this is negative for vendors, a possibility of lower Capex spending is always welcomed by telecom operators.

(CNY)	Year 1	Year 2	Year 3	Year 4	Year 5
3G	405,126	343,036	164,270	148,801	100,172
4G	410,889	155,000	208,158	202,439	182,500
5G	303,042	407,857	155,000		

Figure 34: Ave Cost per Base Station – China. *Source: China Mobile, China Unicom, China Telecom*

3.9 5G Applications

There are three areas for potential 5G use:eMBB (Enhanced Mobile Broadband), **uRLLC** (Ultra-Reliable Low Latency Communication), and **mMTC** (Massive Machine-type Communications). On the consumer side, most of the high bandwidth applications are video. Recent developments of 4K, 8K, 3D videos, expanded use of HD TV, streaming audio and video streaming services, and interactive video on smartphones, laptops, PC and Smart TVs are key uses for the consumers. Since 4G is already serving this demand, we believe this segment will not lead to significant revenue opportunities for the telecom operators and therefore it alone cannot justify the huge investment required to launch 5G services.

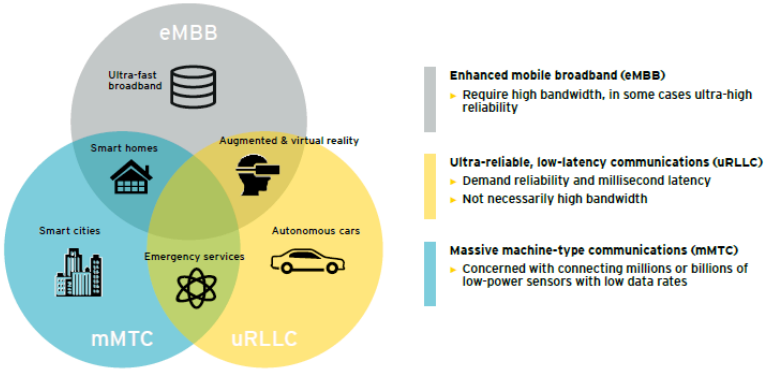
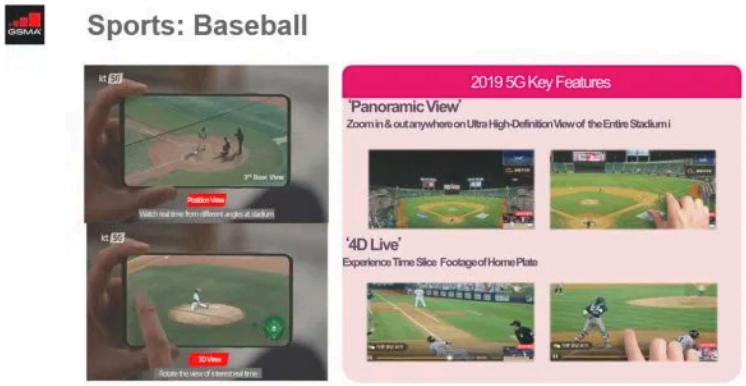
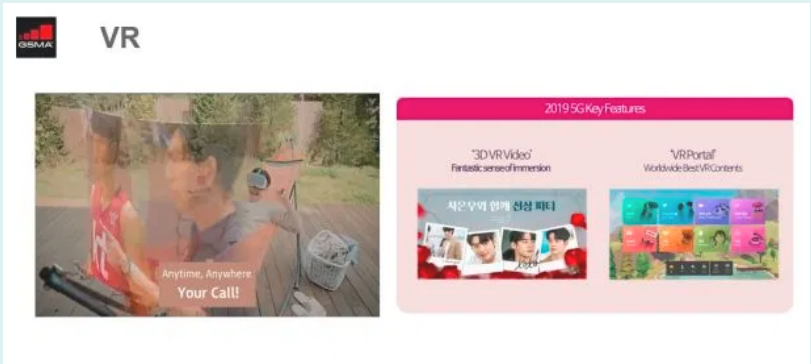


Figure 35: Three Areas of Potential 5G Use. *Source: Ernst Young, ITU, TM Forum*

Both telecom industry organizations and telecom operators believe video-related services are the key beneficiaries of 5G services for consumers. In the long-term, telecom operators may see incremental opportunities in mMTC and uRLLC. If telecom operators find a way to charge for each IoT connection, there could a significant revenue opportunity. However, it is difficult to factor-in such potential until evidence of industry customers' willingness to pay for IoT connection could be ascertained. In fact, IoT service was already being offered by many operators using either 4G LTE or NB-IoT (Narrowband- Internet of Things is a service provided using the capacity in the guard band for bursty data such as telemetry). IoT revenues have been very small and therefore has had only a nominal impact on telecom operators' revenues thus far. Figure 36 illustrates some of the key applications for 5G, according to GSMA, and Figure 37 shows China Mobile's 5G use vision.

Various Consumer Applications

	Uses 5G to provide advanced features such as 3D viewing and different perspective views of live match.
	Uses 5G to enjoy VR contents anywhere anytime.
	Uses 5G to provide realistic AR services such as the virtual zoo.

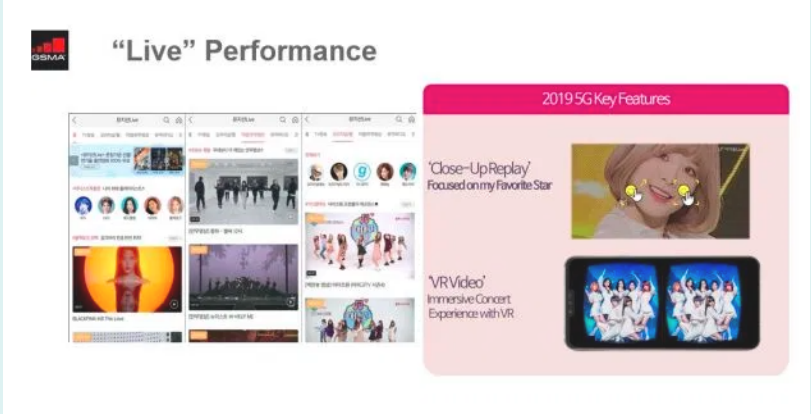
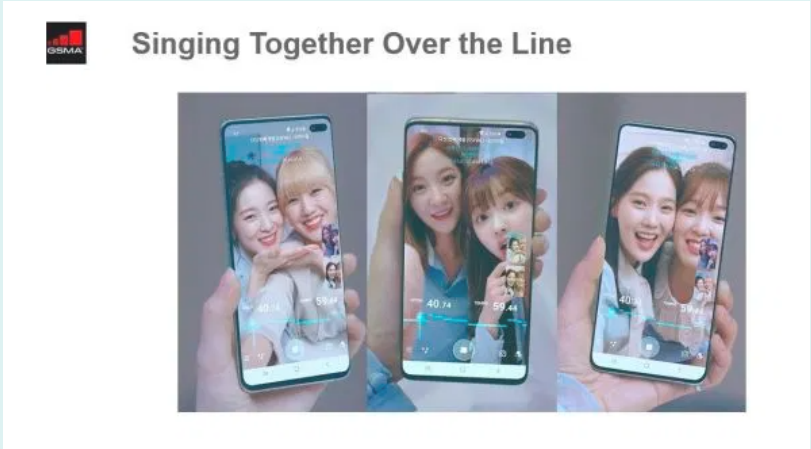
	Uses 5G to enable extremely high-quality performance / music videos.
	Uses 5G to process games on the cloud and stream to / receive input from users.
	Uses 5G to enable many people to enjoy Karaoke simultaneously online.

*Figure 36: **Various Consumer Applications.** Source: GSMA*

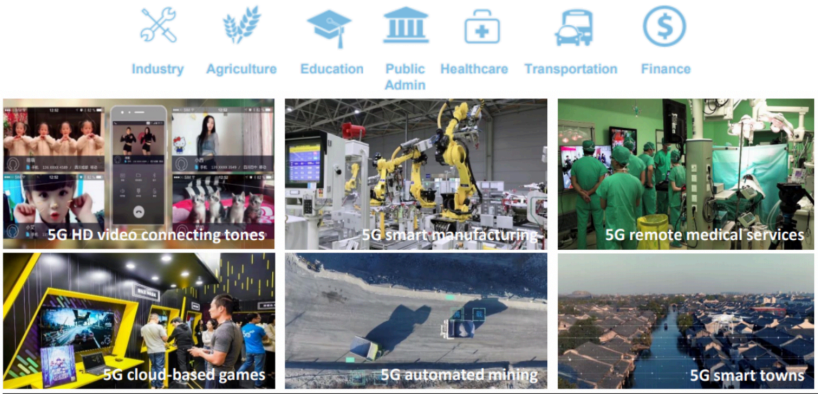


Figure 37: China Mobile's 5G Vision. Source: China Mobile

3.10 IoT Connection Projections – Gigantic Numbers but Revenues Elusive

While operators, vendors, industry research consultants and government authorities remain bullish on 5G, citing strong potential revenues in the long term from the huge number of IoT/machine connections as a justification for 5G investments, our *proprietary* IoT revenue (industrial) analysis on China shows that even in the optimistic case, the revenues may only be 3% of total revenues for the Chinese telecom operators. This is under the assumption that 70-80% of mMTC connections will be in China. **The story sounds compelling but when we crunched the numbers, the results are underwhelming, in our view.**

	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E
Connection (Mil)	768	1,231	1,656	2,015	2,475	2,960	3,557	4,275
Revenues (CNY mil)	11,143	13,755	16,644	18,234	21,273	24,173	27,595	31,502
Rev/Connection (CNY)	14.5	11.2	10.1	9.0	8.6	8.2	7.8	7.4
% of total connection		68%	75%	78%	80%	82%	85%	87%
Enterprise Connection (mil)		*1,800*	*2,200*	*2,600*	*3,100*	*3,600*	*4,200*	*4,900*
IoT Revenue	11,143	13,755	16,644	18,234	21,273	24,173	27,595	31,502
CM	7,528	8,845	10,702	12,764	14,466	15,712	17,109	18,901
CU	2,080	3,040	3,678	4,030	3,404	4,109	4,967	5,985
CT	1,535	1,870	2,263	1,440	3,404	4,351	5,519	6,615
IoT Connections	768	1,231	1,656	2,015	2,475	2,960	3,557	4,275
CM	551	884	1,188	1,411	1,683	1,924	2,206	2,565
CU	110	190	255	311	396	503	640	812
CT	107	157	212	294	396	533	711	898
Market Share of IoT Rev								
CM	68%	64%	64%	70%	68%	65%	62%	60%
CU	19%	22%	22%	22%	16%	17%	18%	19%
CT	14%	14%	14%	8%	16%	18%	20%	21%
IoT % of Total Service Revenue	1%	1%	2%	2%	2%	2%	3%	3%

CM	1%	1%	2%	2%	2%	2%	2%	3%
CU	1%	2%	2%	2%	2%	3%	3%	4%
CT	1%	1%	1%	1%	2%	2%	3%	4%

Figure 38: IoT Revenue Forecast. Source: GSMA Intelligence, Company Data, MK Estimates

Note: Enterprise connections are projections by GSMA Intelligence. We included enterprise (industrial) connections only as we assumed consumer application connections are included in consumer ARPU.

One of the justifications for 5G investment is the potential humongous demand coming from industrial use or mMTC. While there is no doubt the demand digital home and town will grow – perhaps even exponentially **– the math reveals that the impact on overall telco revenues is still lite.** Even if we used the GSMA projections for IoT connections in the long term (11 billion by 2025), our analysis estimates that IoT revenues will only make up 3% of total service revenues by 2025 in the case of Chinese telecom operators. For this reason, we find it hard to be excited about 5G for the telcos.

IoT services can be delivered over 4G LTE; 5G is not a requirement. In fact, Chinese telcos have been providing NB-IoT (Narrowband-IoT) service for several years. In 2019, they already serviced 1.2 billion IoT connections and generated CNY13.8 billion in revenues. That represents only CNY11 revenue per connection for 2019. Using these numbers as the baseline and GSMA IoT connection projection, we forecast that by 2025, the total IoT revenues to be CNY 31.5 billion, about 3% of total service revenues.

Chinese telecom operators have been offering IoT services for several years. Currently, operators like China Unicom are focused on mobile payments, travel services and smart wearables (Figure 39.) Chinese operators collectively generated CNY13.8 billion in IoT revenues from 1.2 billion connections.

IoT

- Cooperated with Alibaba & Tencent on smart door lock & smart watch, etc.
- Kicked off comprehensive cooperation with Alibaba, Tencent, JD.com & other strategic partners in mobile payment, travel services & smart wearable, etc. Number of connections ⬆10 mil with revenue ≈RMB100 mil

5G+AI

- Cooperated with JD.com on smart logistics, focusing on logistics warehousing, & jointly formulate China Unicom's "5G+ logistics product portfolio"
- Worked with Baidu focusing on 5G, Internet of Vehicles & AI, and set up a joint 5G laboratory to promote the commercialisation of L3 autonomous driving in specific scenarios; promoted AI in smart cultural tourism applications
- Partnered with Tencent to roll out a differentiated live broadcast platform cloud product for e-sports industry, which made debut in China Innovation Esports (CIE)
- Carried out in-depth cooperation with Alibaba in 5G smart applications e.g. new retail, new manufacturing, urban brain, smart construction, etc., & successfully launched related services

Figure 39: IoT and 5G Service Status of China Unicom. Source: Company presentation

	China Mobile	China Unicom	China Telecom
IoT connections (mil)	884	190	157
IoT revenue (CY mil)	8,845	3,040	1,870
IoT revenue per connection (CNY)	10.0	16.0	11.9

Figure 40: Chinese Operators' IoT Revenue 2019. *Source: Company Data*

We flag that unlike the consumer market where telecom operators generate revenues by charging a monthly bill per mobile or fixed-line subscriber, IoT is not typically charged on a per-connection basis. Instead, telecom operators usually have a master contract with clients to provide a system solution initially and then charge a maintenance fee thereafter. Therefore, the volume of IoT connection does not necessarily correspond to revenue growth linearly.

For APAC, GSMA Intelligence projects IoT connection to increase to 11 billion in 2025 from 3.5 billion in 2018 with industrial applications fueling growth (Figure 41.) China is projected to make up more than 70% of APAC IoT connections by 2025.

IoT connections could more than double in China to 8 billion by 2025 (see Figure 42). The question is how much revenue could be generated by the telcos and who would be willing to pay for them. If a hospital signs up to a 5G plan for telemedicine, would it be the same plan as the consumer's 5G plan? Will the hospital be willing to pay on a per GB usage? Uncertainty remains on how revenues will be generated. As our analysis shows in Figure 40, we estimate IoT revenues to make up just 3-4% of the Chinese telecom operators.

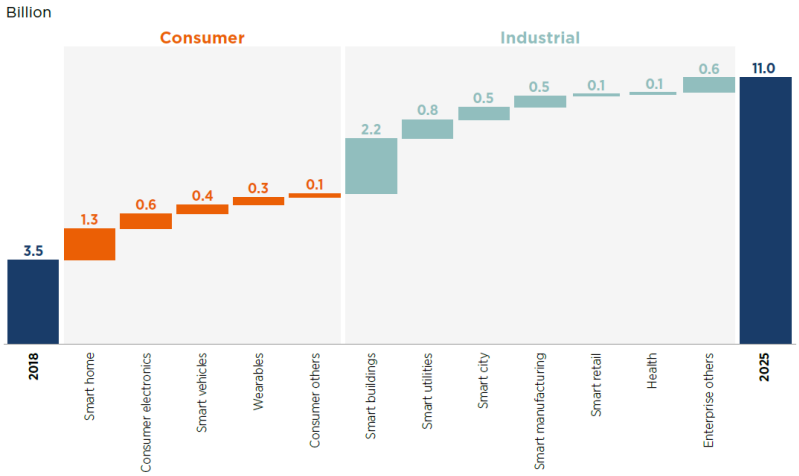


Figure 41: APAC IoT Connection Projection. *Source: GSMA Intelligence*

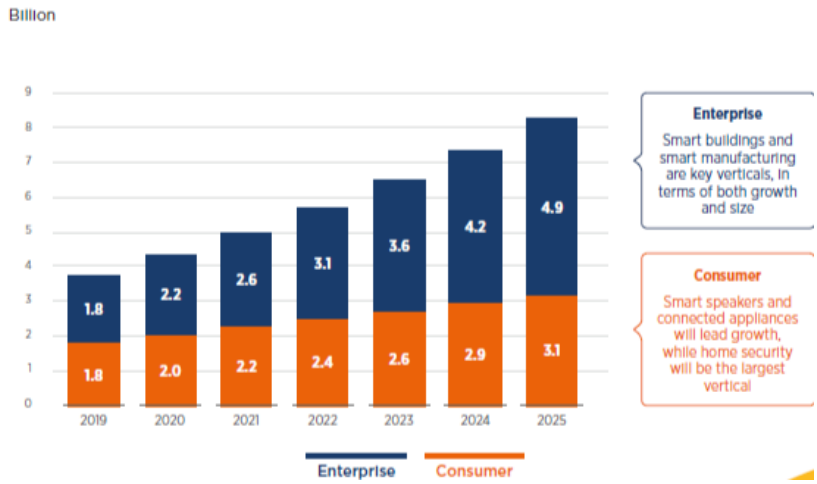


Figure 42: IoT Connection Projection for China. *Source: GSMA Intelligence*

4. Valuations

Our key thematic long ideas in APAC are AIS, Globe, Xiaomi and ZTE. Of these names, only Globe and ZTE are trading at below their 10-year historical forward P/E. However, we believe thematic ideas do not always correspond to value depending on how much of the positive factors including the thematic ideas we highlight in this report are priced-in.

We note that typically when AIS is in a positive sentiment cycle (mostly when the company is not entangled in the Thai regulatory red tape) the stock has traded above its historical average level (see Figure 43.) We also note that Xiaomi's forward P/E appears expensive because the company's growth has not been lackluster since the IPO in 2018. However, we believe Xiaomi's forward P/E could rerate if the company's market share gain story becomes evident (Figure 45.) ZTE is trading below its average level because of the anti-Chinese technology sentiment brought on by the US trade dispute, in our view. While there is a further political and regulatory risk on ZTE, we believe the stock could benefit from the China 5G build-out, at least in the short-term (Figure 47.)

Globe is currently trading below its historical forward P/E (Figure 44.) This is largely because of the resurging competitiveness of its incumbent competitor, PLDT. We note that Globe is in a solid position to leverage 5G to chip away at PLDT's fixed broadband market dominance.

We also highlight valuation comparables for all the stocks in the Asia 5G value chain. While we have not focused on all the stocks, we provide this data to provide a reference to investors. (Figure 48: Stocks in the value chain; Figure 49: Asian telecom valuation comps; Figure 50: Internet platform valuation comps.)

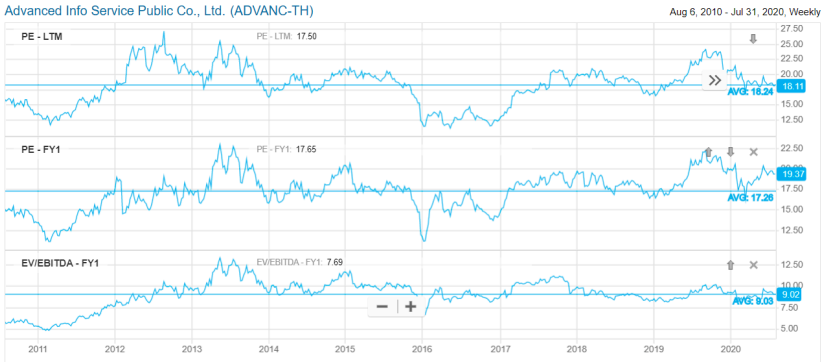


Figure 43: AIS valuation comparables. *Source: Factset*

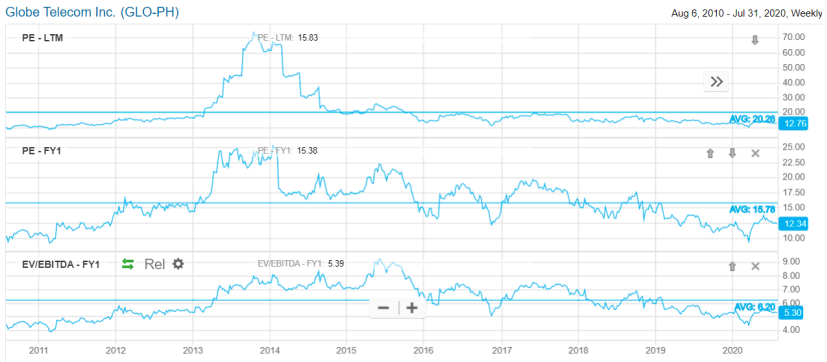


Figure 44: Globe valuation comparables. *Source: Factset*

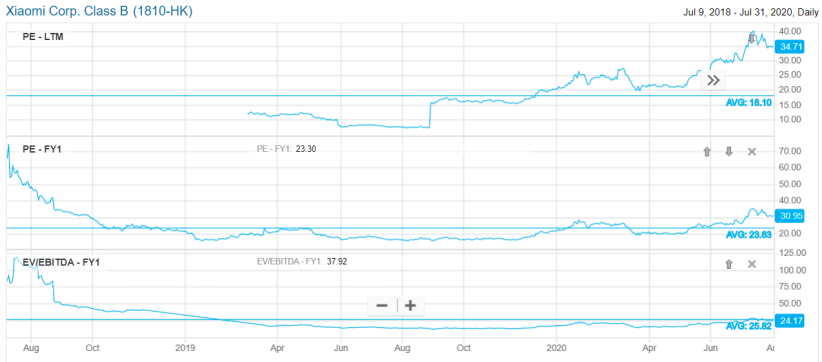


Figure 45: Xiaomi's Historical Valuations. *Source: Factset*

We bear in mind that Ericsson is trading above its 10-year historical average forward P/E, whereas ZTE is trading below. Valuations favor ZTE, in our view.

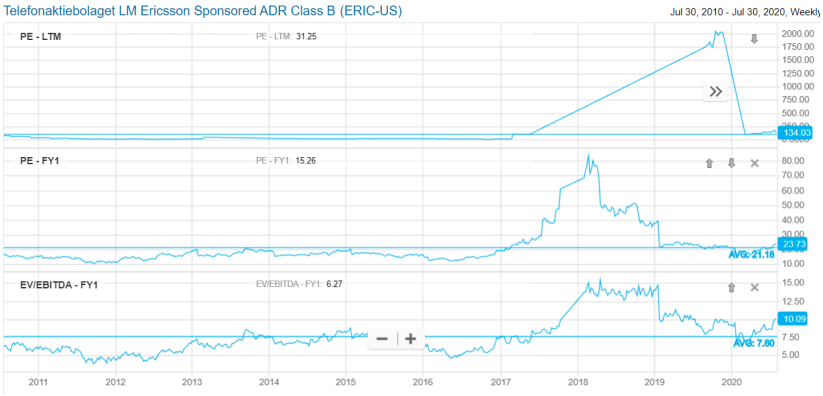


Figure 46: Ericsson Valuations Charts – Forward P/E. *Source: FactSet*

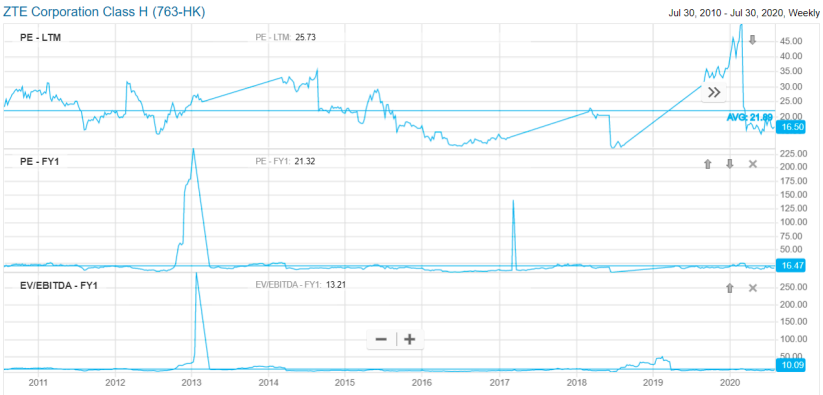


Figure 47: ZTE Historical Forward P/E. *Source: Factset*

Symbol	Name	Last (31/7/20)	% Chg	12Mo %Chg	EV/EBITDA	PE FY1	PE	EPS FY1	P/BV
ERIC	Ericsson	11.54	0.00	30.40	--	23.73	134.03	0.49	4.52
NOK	Nokia	4.45	0.00	-18.65	--	17.71	67.63	0.25	1.55
763-HKG	ZTE	2.96	0.22	-5.77	8.68	16.52	16.54	0.18	3.01
600498-SHG	Fiberhome	4.06	0.57	1.78	55.84	32.87	50.90	0.12	2.81
QCOM	QUALCOMM	107.19	0.00	43.28	--	27.53	45.33	3.89	39.67
INTC	Intel	47.99	0.00	-7.18	--	9.92	8.83	4.84	2.49
AMD	Advanced Micro Devices, Inc.	78.20	0.00	130.88	--	71.43	152.47	1.09	30.15
1810-HKG	Xiaomi Corp. Class B	1.91	0.40	65.94	22.22	34.71	0.06	30.95	4.22
005930-KRX	Samsung Electronics Co., Ltd.	48.66	-1.87	23.69	5.17	18.11	3.12	15.60	1.52
TOWR-JKT	PT Sarana Menara	0.08	0.00	43.38	15.97	22.07	23.91	0.00	6.12
TBIG-JKT	PT Tower Bersama	0.09	0.00	46.39	--	26.15	33.31	0.00	9.29
SUPR-JKT	PT Solusi Tunas	0.32	0.00	-18.83	--	--	16.71	0.00	1.68
788-HKG	China Tower Corp	0.18	-1.41	-32.02	5.85	31.59	41.54	0.01	1.20
002916-SHE	Shennan Circuit Co	22.06	1.30	82.90	--	40.55	39.15	0.54	9.80
002463-SHE	WUS PRINTED CIRCUIT (KUNSHAN)	3.44	0.75	46.69	--	26.86	32.29	0.13	7.59
600183-SHG	Shengyi Technology	4.12	1.20	49.97	31.36	34.44	39.95	0.12	9.35
4958-TAI	Zhen Ding Technology	4.60	-0.58	27.65	4.83	13.15	13.21	0.35	1.81

2342-HKG	Comba Telecom Systems	0.42	1.57	63.12	17.07	31.95	52.27	0.01	2.30
002384-SHE	Suzhou Dongshan Precision	4.20	7.30	80.95	38.75	31.62	66.27	0.13	5.38
603228-SHG	Shenzhen Kinwong Electronic Co	5.11	0.06	18.60	30.24	27.63	34.18	0.18	6.00
3037-TAI	Unimicron Technology Corp.	2.19	2.01	75.95	8.24	21.05	28.72	0.10	2.22
3044-TAI	Tripod Technology Corporation	4.33	2.62	32.51	4.40	12.40	11.24	0.35	2.08
6251-TAI	Dynamic Electronics Co., Ltd.	0.60	0.36	92.90	4.76	5.54	6.81	0.11	1.28
6869-HKG	Yangtze Optical Fibre	1.78	-0.29	-3.21	15.97	11.80	17.14	0.15	1.06
600487-SHG	Hengtong Optic-Electric Co.	2.37	0.71	0.96	24.48	18.61	27.50	0.13	2.29
552-HKG	China Communications Services	0.65	0.00	-8.59	1.91	9.74	10.12	0.07	0.96
VNET	21Vianet Group	22.01	0.00	198.64	18.18	-214.22	-52.54	-0.10	3.48
300383-SHE	Beijing Sinnet Technology	3.74	1.45	35.53	38.69	40.91	47.36	0.09	4.82
GDS	GDS Holdings	80.00	0.00	95.89	55.20	-542.54	-176.41	-0.15	8.42
Mean			**0.56**	**41.16**	**20.39**	**-3.51**	**27.30**	**2.06**	**6.11**
Median			**0.00**	**35.53**	**16.52**	**22.90**	**28.72**	**0.13**	**3.01**

Figure 48: Valuation Comparables for the Stocks in the Value Chain.
Source: Factset

Symbol	Name	Last (31/7/20)	% Chg	12Mo %Chg	PE FY1	EV/ EBITDA	PE	EPS FY1	P / BV
6888-KLS	Axiata Group Bhd.	0.75	0.00%	-38.08%	37.20	4.87	34.63	0.02	1.70
6012-KLS	Maxis Bhd.	1.25	0.00%	-8.37%	28.49	13.43	29.31	0.04	5.87
TEL-PHS	PLDT, Inc.	27.31	0.00%	22.14%	11.92	5.82	13.33	2.29	2.54
GLO-PHS	Globe Telecom Inc.	42.07	0.00%	-2.24%	12.34	5.45	12.76	3.41	3.57
DTAC-BKK	Total Access Communication Public Co., Ltd.	1.15	-3.48%	-38.84%	16.12	4.64	14.93	0.07	3.45
ADVANC-BKK	Advanced Info Service Public Co., Ltd.	5.88	0.00%	-15.50%	19.21	9.06	17.96	0.31	8.47
TRUE-BKK	True Corp. Public Co., Ltd.	0.11	-0.06%	-49.89%	-142.31	9.67	27.59	0.00	1.30
532454-BOM	Bharti Airtel Limited	7.43	0.60%	47.84%	882.19	--	-8.77	0.01	3.93
500325-BOM	Reliance Industries Limited	27.70	-1.63%	62.95%	31.29	16.58	32.96	0.89	2.93
532822-BOM	Vodafone Idea Ltd	0.11	4.07%	17.45%	-1.55	--	-0.31	-0.07	0.12
3045-TAI	Taiwan Mobile Co., Ltd.	3.57	-0.23%	1.99%	25.50	10.38	22.95	0.14	4.23
2412-TAI	Chunghwa Telecom Co., Ltd	3.73	0.68%	7.84%	26.85	11.09	25.96	0.14	2.37
4904-TAI	Far Eastone Telecommunications Co., Ltd.	2.15	0.08%	-6.70%	25.91	10.07	23.70	0.08	3.14
TLKM-JKT	PT Telekomunikasi Indonesia (Persero) Tbk. Class B	0.21	0.00%	-31.42%	14.32	5.39	16.51	0.01	3.22
ISAT-JKT	PT Indosat Tbk Class B	0.16	0.00%	-34.48%	-12.39	2.67	9.95	-0.01	1.15
EXCL-JKT	PT XL Axiata Tbk	0.17	0.00%	-27.27%	19.63	4.38	12.28	0.01	1.43
030200-KRX	KT Corporation	19.98	-0.10%	-14.18%	8.59	2.63	9.78	2.33	0.43
017670-KRX	SK Telecom Co., Ltd.	185.15	0.13%	-11.13%	12.49	5.08	19.79	14.82	0.72

032640-KRX	LG Uplus Corp	9.61	-1.81%	-12.50%	9.35	--	11.08	1.03	0.71
788-HKG	China Tower Corp. Ltd. Class H	0.18	-0.71%	-31.53%	31.81	--	41.84	0.01	1.21
762-HKG	China Unicom (Hong Kong) Limited	0.56	1.87%	-43.31%	9.78	--	10.36	0.06	0.37
728-HKG	China Telecom Corp. Ltd. Class H	0.30	0.87%	-34.28%	8.14	--	8.03	0.04	0.47
941-HKG	China Mobile Limited	6.95	1.41%	-19.42%	9.13	--	9.12	0.76	0.90
Mean				**-11.26**	**47.13**	**7.58**	**17.21**	**1.15**	**2.36**
Median				**-14.18**	**14.32**	**5.63**	**14.93**	**0.07**	**1.70**

Figure 49: Asian Telecom Valuation Comparables. Source: Factset

Symbol	Name	Last (31/7/2020)	% Chg	12Mo %Chg	PE FY1	EV/EBITDA	PE	EPS FY1	P/BV
3690-HKG	Meituan Dianping	194.20	-0.41%	199.92%	687.91	148.06	475.75	0.28	11.24
TME	Tencent Music Entertainment Group	15.82	0.00%	9.41%	44.53	10.44	46.58	0.36	4.47
NTES	NetEase, Inc. Sponsored ADR	451.22	0.00%	93.84%	24.96	13.14	18.16	18.08	6.61
BIDU	Baidu, Inc. ADR	118.00	0.00%	4.66%	18.16	19.74	115.67	6.50	1.77
BABA	Alibaba Group ADR	252.74	0.00%	45.17%	28.48	21.59	30.99	8.87	6.38
JD	JD.com, Inc. Sponsored ADR Class A	62.29	0.00%	104.77%	48.31	40.12	107.40	1.29	7.67
VIPS	Vipshop Holdings Ltd Sponsored ADR	21.79	0.00%	182.99%	16.98	17.31	26.57	1.28	4.58
YY	JOYY, Inc. Sponsored ADR Class A	75.39	0.00%	16.70%	21.54	6.98	65.37	3.50	1.27
MOMO	Momo Inc Sponsored ADR Class A	18.28	0.00%	-46.97%	9.25	2.50	8.24	1.98	2.35
NTES	NetEase, Inc. Sponsored ADR	451.22	0.00%	93.84%	24.96	13.14	18.16	18.08	6.61
700-HKG	Tencent Holdings Ltd.	542.50	1.40%	45.36%	41.20	27.94	48.20	13.17	12.11
IQ	iQIYI, Inc. Sponsored ADR Class A	20.66	0.00%	9.14%	-11.70	--	-9.25	-1.77	7.14
PDD	Pinduoduo, Inc. Sponsored ADR Class A	84.94	0.00%	286.97%	-98.14	--	-74.88	-0.87	27.82
Average				80.45	65.88	29.18	67.46	5.44	7.69
Median				45.36	24.96	17.31	30.99	1.98	6.61

Figure 50: Internet Platform Valuation Comparables. Source: Factset

5. Key Risks

For AIS and Globe, the key risks are the cost of 5G capex and the spectrum and regulatory intervention. AIS operates in a highly volatile and unpredictable regulatory environment where the government historically has shown a propensity to share in the profits of telecom operators via licenses and spectrum auctions. AIS has recently acquired a 5G spectrum in the auction, and therefore the risk of spectrum acquisition remains low for the foreseeable future. The economics of 5G FWA remains unproven at this time even though it will be cheaper than building an optical fiber network for fixed broadband. There is a risk of low margin and return if the network capacity equipment and device cost do not decline rapidly. AIS is also competing against Thailand's government authority, TOT, in the fixed broadband market. This is unique for Thailand and therefore is a risk.

Globe faces similar risks as AIS. However, considering the low penetration of fixed broadband in the Philippines, we believe the upside is greater than the downside risk. We believe Globe has sufficient spectrum to roll out 5G services in the near-term.

Xiaomi faces intense competition in the smartphone space, dominated by Samsung, Huawei, and Apple. Xiaomi recently has shown strength in its 5G smartphone line-up. If successful, Xiaomi could be an attractive market share gain story. Being a Chinese technology company, Xiaomi also faces geopolitical backlash from the US as Huawei and ZTE have faced (Huawei bears the brunt of it, in our view.) There is a possibility that adverse political tone in the US could change if Mr. Trump is voted out of the White House in November 2020. Otherwise, negative sentiment on the Chinese tech companies could persist.

For ZTE, poor US relationship is the largest risk. We believe 5G vendors have a one-year window to enjoy as telecom operators build out 5G over the next 12 to 18 months. Our thematic idea on ZTE is short-term focused on the reasons we laid out in the previous sections.

6. Conclusion

- Sectors we like as 5G thematic ideas are smartphones/devices, 5G infrastructure vendors, PCB and small cell technology providers, and only selectively telecom operators. We are bearish on North Asia mobile operators.
- Our contrarian telecom long ideas are AIS and Globe. The growth potential of 5G FWA is currently flying under the radar as most investors are focused on the mobile aspects of it. However, we believe 5G provides only fixed broadband upside, not mobile 5G. Unlike North Asia, Thailand and the Philippines have low fixed broadband

penetration. 5G FWA provides an opportunity for these mobile operators to capture new revenue streams which were not possible in the past because of the exorbitant cost of fiber coverage.

- We also highlight the window of opportunity for investing in device and infrastructure players. Our historical share price performance analysis supports our view that the best time to get into these stocks is in the pre-launch and in the first two years. We are already at the midpoint of this phase but there is still time to capture part of the upside, in our view.
- We also hope to add value by adding a realistic expectation to counter the industry's overly optimistic position on the long term revenue opportunity. We believe achieving the industry's projected revenues from industrial applications will be challenging. We invite investors to revisit such optimism by reviewing our proprietary IoT connection revenue analysis in this report.
- PCB, data center/cloud, and 5G small cells are also beneficiaries of 5G. However, we do not cover these sectors in depth in this report other than to highlight their position in the 5G ecosystem. Among the names, Shennan Circuits (PCB) and Comba (Small cells) are well-positioned to reap the benefits of 5G.
- We remain cautious about the fiber sector and China Tower. These are two sectors where thematic buy ideas appeared to be sound with the prevalent thought that 5G deployment will command significant fiber and base station build-out. Chinese operators already have more than 90% fiber to the home (FTTH) coverage. They have been steadily investing in upgrading their backbone due to 4G already (more than 50% of capex of Chinese telcos were allocated to non-mobile network investments over the last five years.) Moreover, Chinese telcos have over 9.5 million base stations. They are already connected by the fiber backhaul. In addition, optical suppliers have faced and will likely continue to face oversupply without consolidation. For China Tower, industry participants initially focused on the potential need for a significant number of new towers to deploy 5G because of the higher spectrum used. However, we believe the tower needs will be more limited as 5G will be more about the small cell deployment using the milliwave spectrum overlaid on the 4G macro coverage for the foreseeable future.

Disclosure & Certification

- I/We have no position(s) in the any of securities referenced in this insight
- Views expressed in this insight accurately reflects my/our personal opinion(s) about the referenced securities and issuers and/or other subject matter as appropriate.
- This insight does not contain and is not based on any non-public, material information.
- To the best of my/our knowledge, the views expressed in this insight comply with Singapore law as well as applicable law in the country from which it is posted
- I/We have not been commissioned to write this insight or hold any specific opinion on the securities referenced therein
- I/We have signed the Insight Provider Agreement and this insight does not violate any of the terms specified therein.

— Mitchell Kim (31 Jul 2020)

Nicolas Van Broekhoven

Insight Provider | CrossASEAN Research

Nicolas Van Broekhoven is a generalist investor with a preference for small and mid-cap companies and special situations. He grew up in Europe, went to university in the US, and lives in Singapore, which has given him a broad scope on the world and investing in general.

Areas of Expertise

- Primary Asset Class: Equities
- Geography: ASEAN
- Countries: Singapore
- Sectors: Generalist

Content Verticals

- Equity Bottom-Up

Sunpower Group | Equity Bottom-Up

Sunpower (SPWG SP): "I Missed It".NO, It Is Just Beginning. Strong 1H20 Results Forecasted Next Week

By Nicolas Van Broekhoven | 05 Aug 2020

EXECUTIVE SUMMARY

"I missed it". How often have we heard fund managers say this sentence once a stock makes an initial 10-20% upward move after being stagnant for a long time?

Yesterday's price action in Sunpower Group (SPWG SP) could be this inflection point. Please, don't think you have missed it. The discovery of Sunpower *still* needs to happen. YTD the stock is down 10%.

Given the fact that Sunpower is a domestic China story and Chinese equity markets have been hot, there is a disconnect. Not only is the GI division growing, but also the M&S division will see a 200bps increase in EBIT margins from 10.8% in FY19 to 12.8% in FY20.

We have been beating the drum how cheap Sunpower is for a few years now. Yet the stock has meandered between approximately 0.40-0.60 SGD.

> The core message is this: as per 1Q20, the company has invested approximately 1 billion USD in GI assets. The market cap of Sunpower today is 285 million USD. Proving Mr.Market the 1 billion USD in GI assets is worth *at least* 1 billion USD to equity holders is the next step.

As FY21-FY22 comes into focus the PE investors will convert their CB's and become fully vested in Sunpower. PE funds have timelines and they need to realize value for their LPs.

There are multiple ways to realize value at Sunpower:

1. Sell Sunpower to another party
2. Monetize asset base. This can be either M&S division sale or GI asset divestments
3. Bring in long-term strategic investor at a large premium to the current market price
4. List in mainland China or HK

Our Fair Value at Sunpower remains unchanged at 1 SGD, which leaves 82% upside.

DETAIL

Preview 1H20 results

Sunpower Group (SPWG SP) will announce its 1H20 results next week Wednesday aftermarket. A conference call is planned for the 13th of August. Please read our latest review of Sunpower after 1Q20 results here Sunpower (SPWG): Risk/Reward Rarely Been Better; Fair Value Remains at 1 SGD or 142% Upside.

We believe 1H20 will prove to be a strong set of results for the following reasons:

- V-shape recovery in China during 2Q
- M&S division has a record order book with record margins
- GI division should benefit from enterprises ramping up production to catch up from 1Q
- Costs were well managed in 1Q20, which should help operating leverage in 2Q
- Government assistance packages should help (for example no tollroad charges)
- Stocking up on cheap raw materials during 1Q20

CB Targets

Please recall the company saw the entry of two highly respected PE funds (DCP and CDH) over the past few years. *See previous insights for all the details.*

The crux of the matter is that Sunpower management agreed certain financial milestones to be achieved in FY20 and FY21.

Looking ahead we focus on the FY20/FY21 Net Profit targets* agreed between the CB investors (CDH/DCP) and Sunpower management.

Financial YE ends December in RMB	2018	2019	2020E	2021E
Net Profit RMB	268	352	**370***	**460***
Net Profit SGD	53.6	70	73.57	91.47
EPS in RMB (1,375 M fully diluted share count)	0.194	0.256	0.269	0.33
EPS in SGD	0.039	0.051	0.054	0.067
P/E @ 0.55 share price	14.87x	10.78x	**10.18x**	**8.27x**

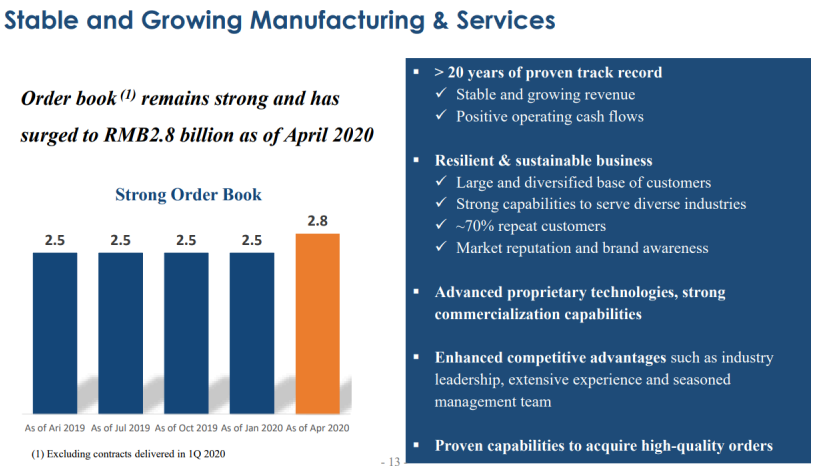
Important note: for the EPS calculations above we are using a fully diluted share count (1,375M vs 754.5M used on Reuters) as we are assuming full impact of convertible bonds + warrants.

During 1Q20 conference call management stated there was no reason to ask bondholders to extend the timeframe to reach these targets. In fact, Ma Ming sounded optimistic the company could outperform those FY20 targets if there was not another lockdown in China. So far, there has been no lockdown in China and most business metrics in the mainland show a continued recovery.

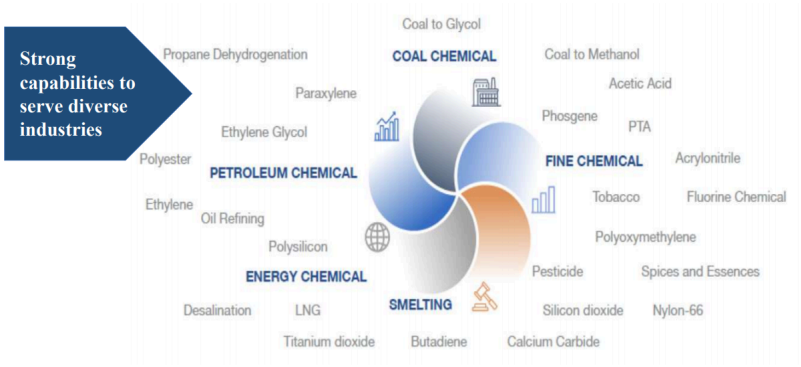
If we compare the FY20 CB target of 370M RMB profit with 352M RMB profit in FY19 this would mean only 5.11% growth. This seems too conservative and we think there is a high likelihood Sunpower beats their FY20 CB target by a mile.

M&S business

While most of my previous insights have focused on the GI business the M&S business has been churning out record revenues, profits, and order book. Margins have been improving as well.



Stable and Growing Manufacturing & Services



Below we have broken down the M&S segment from FY17-FY19 and given our forecast for FY20.

M&S Segment Sunpower (source: Sunpower annual reports)				
all in M RMB	**2017**	**2018**	**2019**	***2020E***
Revenue	1,813	2,526	2,449	*3,004*
EBIT	172	234	265	*385*
EBIT Margin	9.5%	9.3%	10.8%	*12.8%*

Notice, we are forecasting a large increase in EBIT margins by the end of FY20. We think EBIT margins increase by 200 bps from FY19 to FY20. Why? The company reported a 12.8% EBIT margin in 1Q20 and historically 1Q is the weakest quarter at the M&S division. Given the record order book, we assume the company can be picky in the work is accepts and these jobs will have high margins.

What would a similar business be worth if it traded on Shanghai?

Let's look at **Lanzhou LS Heavy Equipment, 603169 CH Equity.**

In FY19 the company achieved 3,400M RMB in revenue and generated 324M RMB in EBIT. Please compare this to the forecast for Sunpower's M&S division in FY20. The numbers are close.

Lanzhou LS Heavy Equipment is valued at 5.3 billion RMB or 1 billion USD. Sunpower (both GI and M&S) are valued at 285M USD. Something is not right...

My Thoughts

Sunpower remains a laggard play on SGX and 1H20 could be another catalyst to start a much delayed re-rating process.

Fair Value remains unchanged at 1 SGD.

Disclosure & Certification

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— Nicolas Van Broekhoven (05 Aug 2020)

Mio Kato

Japan/Asia Long-Short | LightStream Research

Mio Kato has over 15 years of experience looking at Japanese and Asian cyclically driven sectors such as Gaming, Factory Automation and Autos. He was previously with FrontPoint Partners LP, Arrowhawk Capital Partners, and Uzabase.

Areas of Expertise

- Primary Asset Class: Equities
- Geography: Asia Pacific
- Countries: Japan
- Sectors: Generalist

Content Verticals

- Equity Bottom-Up

Mercari Inc | Equity Bottom-Up

Mercari – Our Ten Bagger Call Is Actually Starting to Look Somewhat Sane

By Mio Kato | 06 Aug 2020

EXECUTIVE SUMMARY

This is what Mercari just did:

- Delivered a consolidated operating profit in 4Q (¥984m vs. consensus -¥3,477m)
- Hit their USD100m GMV a month target in the US which everyone, including us (and we like to think of ourselves as the biggest bulls on Mercari) had completely given up on.
- Delivered 40% YoY GMV growth in Japan while cutting promotion costs by one third QoQ.
- Proposed to change their board structure from 6 inside directors and 2 outside directors to 2 inside directors and 3 outside directors, including one female outside director.
- Unveiled a new data business which we have been excitedly touting for some time.

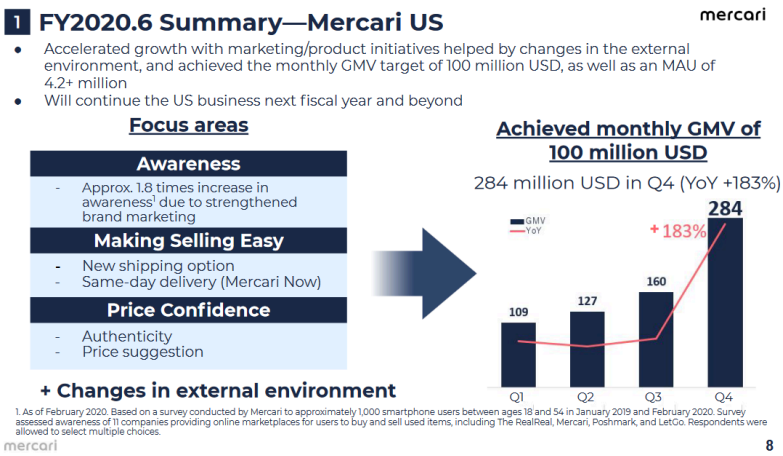
Yes, they benefitted from a COVID tailwind in both Japan and the US, but Mercari's results outshine domestic EC-type competitors and their success in the US is eye-opening for a Japanese internet company. We are feeling very happy about this being our top conviction call for the year.

DETAIL

The Game Changer

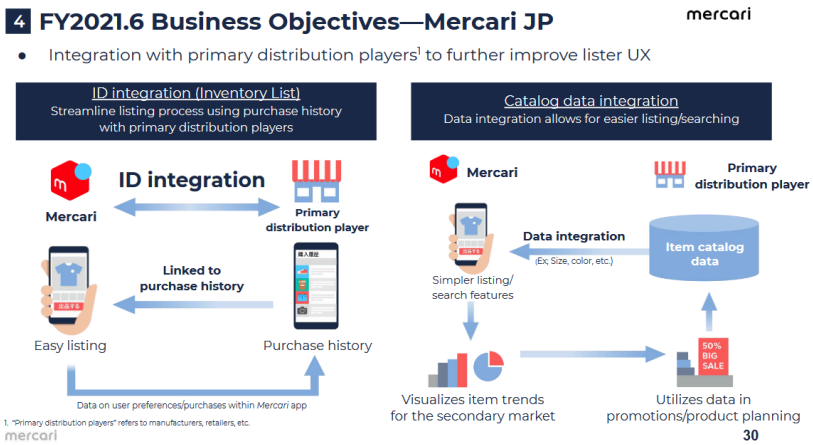
- Japanese non-manufacturing businesses do not have a history of succeeding overseas.
    - When Mercari was conducting its IPO we conveyed extreme scepticism about its overseas prospects.

- However, after speaking to the company we realised they were serious about handing the reigns to a senior foreign executive after trying and failing to do things the Japanese way. The company was also disciplined enough to shut down their UK operations to focus on the US and ensure its success.
- We evaluated this rationality and self-awareness highly then and still do.
- This has been the result.



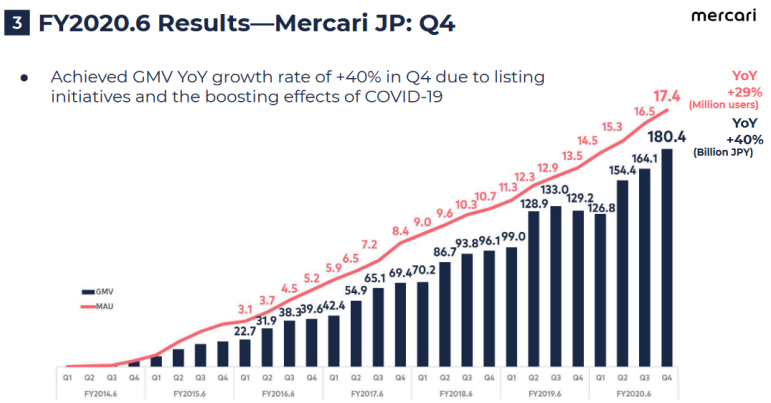
- This was not an easy achievement by any means, and it was not clear that this would succeed until it did.
  - Nevertheless, Mercari articulated a clear and rational plan in its presentations and through its communications, stuck to it, and eventually delivered results.
  - In particular, our reading of their plan suggested that the company invested both time and money in getting their service "right" for the US, instead of scrapping for every extra dollar of GMV in the short-term to reassure investors.
  - Ultimately this approach appears to have allowed them to strengthen their US business enough to truly capitalise on the opportunity that COVID laid before them.
  - That is disciplined and rational management.
- USD284m in GMV for a quarter is still small for the US but the rate of growth, even during COVID, suggests that the hard work has been done and Mercari has cracked how to build their business in the US.
  - The rest is just a matter of pushing through and continuing to scale.
  - The company also has its built-up know-how from the domestic Japanese operations to support US growth.
  - Importantly, this is not a one-way street and we believe Mercari engages in a true exchange of ideas between the regions to ensure diffusion of best practices.

- We believe this result should generate a complete re-rating of the stock.
  - Most Japanese companies can only succeed in Japan.
  - We believe this result provides very strong evidence that Mercari can succeed in the US.
  - If they can succeed in the US, they can succeed in other countries.
  - It is a big world.
- We have also suggested that C2C E-commerce can eventually eat the B2C E-commerce market.
  - This is because we feel that cultivating supply in C2C is difficult and time-consuming.
  - We also feel that once you have a network advantage on the supply-side, the barriers to entry are much higher than with other networks. Pricing knowledge, packing and delivery and trust are more important than usual and the business is effectively O2O from the onset.
  - We believe Mercari's newly articulated data strategy is a further arrow in that quiver offering manufacturers a very valuable incentive to favour Mercari over traditional E-commerce.
  - Are we willing to say that Mercari will eventually eat Amazon's lunch? No. But we aren't willing to say that they definitely can't. And how many companies are there which fall in that category?

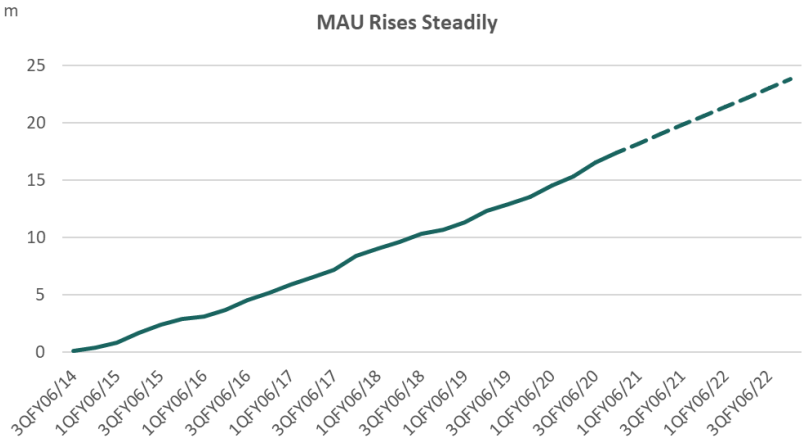


Japan Business Looking Spry

- Mercari's GMV growth bounced back to +40% YoY in Japan.

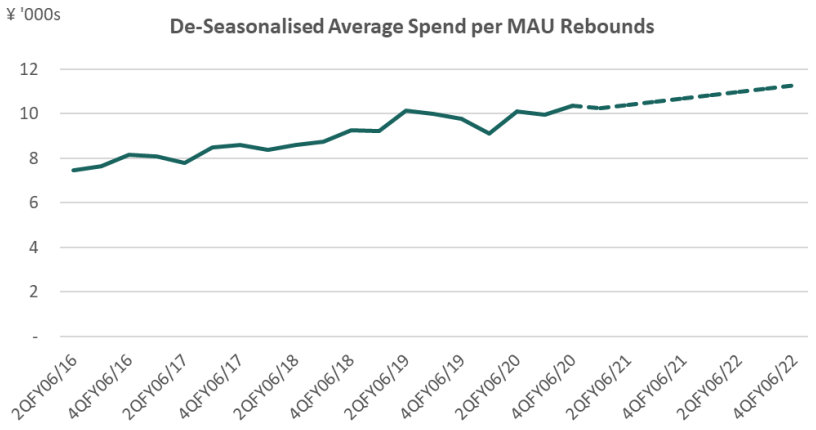


- We had been concerned about some slowdown, but we would note that MAU has been steady in its rise.



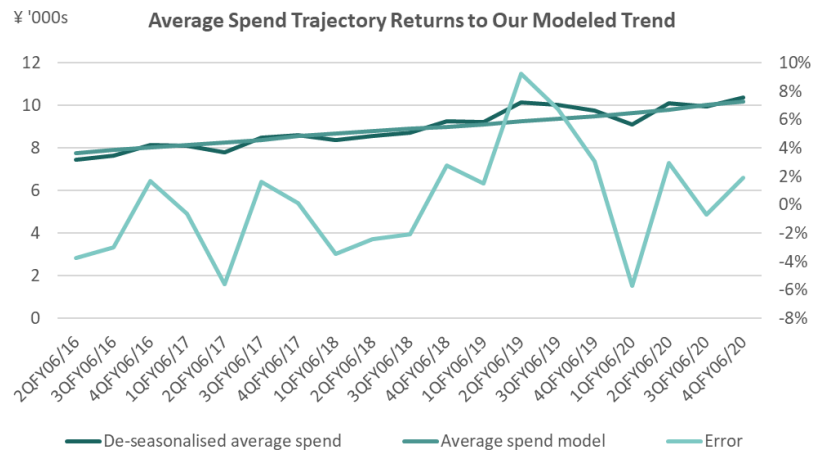
Source: Company disclosures, LSR

- What we had been concerned about was a pause in a previously steadily rising trend also apparent in average spend.



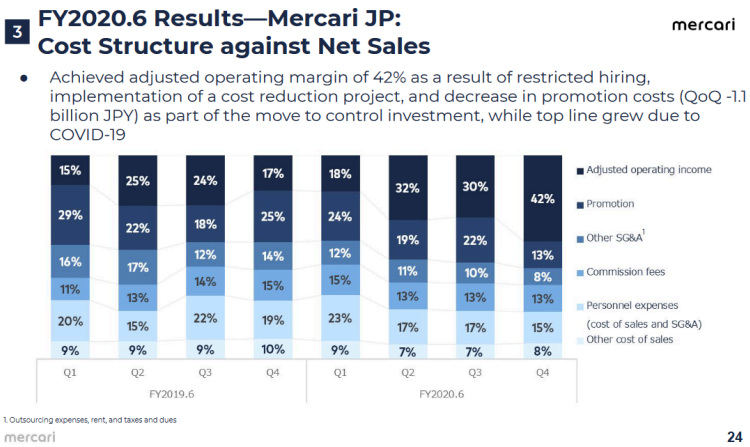
Source: Company disclosures, LSR

- This trend appears to now have returned towards our modeled trajectory and while it is probably inflated by COVID, even accounting for a slight correction going forward, we expect growth rates to move from about 40% towards just over 20% over the next two years.



Source: Company disclosures, LSR

- The current 42% OPM for Mercari JP could be difficult to sustain, but we believe a low to mid-30s margin is very achievable.



Can this go to ¥26,850?

- On 30th September 2019 we wrote:

> *"We believe Mercari's Japanese flea market operations could generate about ¥15.0-17.0bn in adjusted OP in FY06/20. A 20x multiple on that would imply ¥300-340bn which is in-line with Mercari's current EV of ¥322bn. We believe that Mercari is currently being valued for its domestic business with potentially a small discount for the loss-making US and Merpay businesses. This view may change if continued momentum is demonstrated in the US. An EV/Sales multiple of 6-7x would certainly not look particularly high relative to Mercari's growth prospects and relative to peers so we believe there could easily be 30-40% upside in the name.*
>
> *That is the short-term upside. Longer-term, however, if Mercari does indeed crack the US market it would position itself as the first Japanese software company to have the potential to become the true global leader within its space. It would likely enjoy strong support not just from overseas investors but also for domestic investors looking for not just growth, but global growth outside of manufacturing. There are a few other names which could potentially fall into this bucket such as Fast Retailing and Recruit Holdings but the list is not long.*
>
> *Given the attention paid to companies of that nature and the premium multiples investors pay for them, and the fact that Ebay is a USD32bn business with what we would argue is a weaker and more outdated business model, is there any reason why Mercari cannot become a 10 bagger? If they can execute in the US we do not think so, and while that remains a question mark at present, the underlying signs are good. We feel the risk-reward is best before that question has been answered clearly and given the combination of reasonable valuations and hints of momentum, we believe now is a good time to get involved."*

- In the end Mercari generated ¥18.3bn in adjusted OP in Japan and appears to have taken a very big step towards establishing credibility in the US.
- The stock is now at ¥4,660 and that puts it at a ¥648bn EV.
  - We believe that Mercari is on track to generate revenue of close to ¥100bn from the Japan flea market business in FY06/22.
  - The US business is much less certain and Mercari is targeting 50% GMV growth next year, but if they can compound GMV at about 100% a year, they could get close to ¥30bn in revenue for the US.
  - To get to a ten bagger it would need a 32x EV/Sales multiple even on those numbers, so that is still out of reach for the moment.
  - However, assuming a 10x EV/Sales multiple on the Japanese flea market business and assuming the market doubles that for the potential of the US/potential global expansion, that would get you to ¥2.6trn or an implied share price of ¥17,230. There is a lot of upside left here as long as the company can keep executing.

Disclosure & Certification

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— Mio Kato (06 Aug 2020)

Michael J. Howell

Cross-Asset Liquidity Strategist | CrossBorder Capital

CrossBorder Capital is an investment advisory firm specialising in macro-investing. Founded in 1996 with an international client base, CrossBorder focuses on monitoring and understanding global liquidity and capital flows.

Areas of Expertise

- Primary Asset Class: Multi-Asset
- Geography: Global
- Countries: Generalist
- Sectors: Generalist

Content Verticals

- Cross Asset Strategy, Macroeconomics

Cross Asset Strategy

What Drives Rising Gold Prices?

By Michael J. Howell | 11 Aug 2020

EXECUTIVE SUMMARY

- Gold is **not driven by real interest rates** as is widely claimed: the causation runs in reverse, with gold the driver
- Gold prices can be better predicted from a **liquidity-based trend**, with a **risk appetite/policy cycle** added on top
- Gold is currently 'fair value' on this model at US$2100/oz rising to **US$3000/oz** at end-2021
- A 2% inflation trend and a further fall in real interest rates are still needed to justify current gold price under the **alternative CPI/ real interest rate model**

DETAIL

Gold is soaring. It has surpassed its earlier all-time-high and seems set to keep breaking records. We previously suggested that **gold prices could hit US$2500/oz**. The target is getting closer. Many investors are excited because they associate falling real interest rates with higher gold prices. Not only does the statistical evidence point to liquidity rather than real interest rates as the causal factor, but with nominal policy rates already effectively at the zero-lower bound, much higher inflation is anyway needed to justify even today's gold price. We focus instead on the effect of the **liquidity trend** on gold, with cyclical swings explained by investors' risk appetite, Fed QE policy and accelerations and decelerations in the rate of inflation. This model suggests gold is currently 'fair-value' at US$2100/ oz and could even test US$3000/oz by late-2021.

The popular refrain is that **negative real interest rates** drive gold prices higher, but we find it hard to find any statistical causation in the data. There is certainly a strong coincidence, because high gold prices tend to occur alongside higher inflation, and, when rates lag rising inflation, real rates by definition will fall. Yet, the data more often shows reverse causation, where higher gold prices precede falling real rates.

Gold is primarily a **liquidity phenomenon**, where excess liquidity drives the gold price higher. This makes sense because **paper money** evolved as a substitute for gold. Hence, more paper money should mean that the exchange rate between paper and gold depreciates, i.e. more paper has to exchange for a given quantity of gold. The stock of gold that is potentially

available cannot change quickly, because gold discoveries are rare and the productivity of gold mining is itself slow-moving (only 200,000 tonnes have ever been mined), whereas the supply of paper money is abundant and highly elastic. This means that, conceptually, the 'real' gold price remains fixed, whereas the paper dollar depreciates. Notwithstanding, collectively we incorrectly have developed the habit of speaking the other way around, in terms of gold moving and the value of paper staying fixed, i.e. the gold price rises and falls.

In a **credit money economy**, where paper money is deemed legal tender to repay debts, the overall size of the **debt stock** must have some bearing on the future supply of paper money and, hence, via this channel on the future price of gold. We noted in a previous report (See: *Could Gold Be 40% Undervalued?* July, 2020) that compared to the prevailing US$75 trillion outstanding stock of US dollar debts, the gold price should, at least, reach $2500/oz if it is to get back into line with its long-term relationship to debt and to paper money.

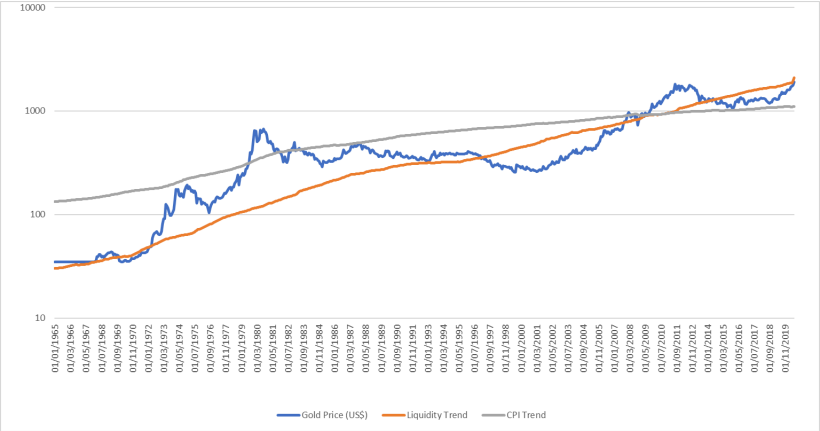
Chart 1: Gold Prices – Actual and Target, 1995-2021E (US$/oz)

Chart 1 reports the nominal US dollar gold price (per oz) and projects the price forwards to end-2021, using a **liquidity-based framework**. Gold looks well-supported around current prices and looks set to hit **US$3000/oz** late next year. An **alternative gold valuation model** based on real interest rates and CPI inflation is less upbeat. The latest CPI-trend suggests that gold is currently trading 17% expensive, and to reach the US$3000/oz level US real interest rates would have to drop to minus 1% at the 10-year tenor and the inflation trend to accelerate to 3½% over the next 12-months.

The Factors Driving Gold

The relationship between liquidity and gold is statistically robust and simply states that a **10% rise in US dollar liquidity leads to a 12% change in the level of gold prices**, some three months later. This is what we think of as *monetary inflation*, as distinct to *cost inflation*. Cost inflation combine with monetary inflation to drive high street inflation. In asset markets, monetary inflation matters more. Chart 2 fits two simple models based, respectively, on (1) **US domestic liquidity** (i.e. bank and shadow bank lending) and (2) the **US consumer price index** (CPI). These trends broadly capture the upward path of gold prices (here drawn in log terms). A log-linear trend is equivalent to a constant growth rate. It is clear that the liquidity trend better captures the upward drift in gold prices than does CPI.

Chart 2: Gold Price (US$/oz, log terms) with fitted Liquidity and CPI Trends, 1965-2020

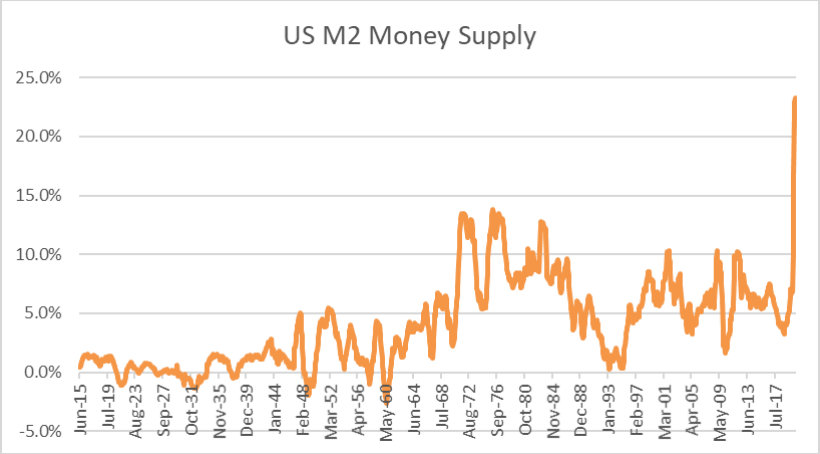


The **liquidity trend** captures most of the relationship, but we also find that **four other factors** are important in explaining the **cycle of gold prices** around this liquidity-based trend. First, each 1% point rise in the **future inflation** trend over the coming year adds 2% to the level of gold. Second, low **investor risk appetite** over the preceding 2-years is associated with higher gold prices. Third, the size of the **Fed balance sheet** and, fourth, the **outflow of EM and specific Chinese flight capital** in search of 'safe' havens.

What does this **liquidity model** currently tell us about the fair-value level of gold? Chart 2 shows that gold is well-supported around current prices by the prevailing trend in liquidity. The recent surge in US liquidity following the COVID-crisis, visibly captured by the growth rate of **US M2 money supply** in Chart 3, can explain by itself the recent acceleration in gold prices. Liquidity is currently surging at unprecedented annual growth rates and

these past periods have proved inflationary. There should be therefore more gold price gains to come. We estimate that the above cyclical factors could add a further 15% on top of this faster-liquidity trend, and so allow the gold price to test **US$3000/oz** by late 2021. But even without this 'extra' fillip, the prevailing liquidity trend looks sufficient to take the gold price to US$2500/oz.

Chart 3: US Liquidity – M2 Growth, 1915-2020 (%YoY, Monthly)



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— Michael J. Howell (11 Aug 2020)

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- Sectors: Generalist

Content Verticals

- Event-Driven, Quantitative Analysis

Quantitative Analysis

Nikkei225 Dividend Futures: Focus Shifts to 2021

By Brian Freitas | 20 Aug 2020

EXECUTIVE SUMMARY

With the bulk of the dividends for 2020 announced and guidance provided for the rest of the year by most constituent companies, the Nikkei225 2020 dividend futures have little upside and a bit more downside from the current trading level of 400 index points. From the time we published our last Insight highlighting that the dividend futures were trading near our bull case, the market is 10 points lower.

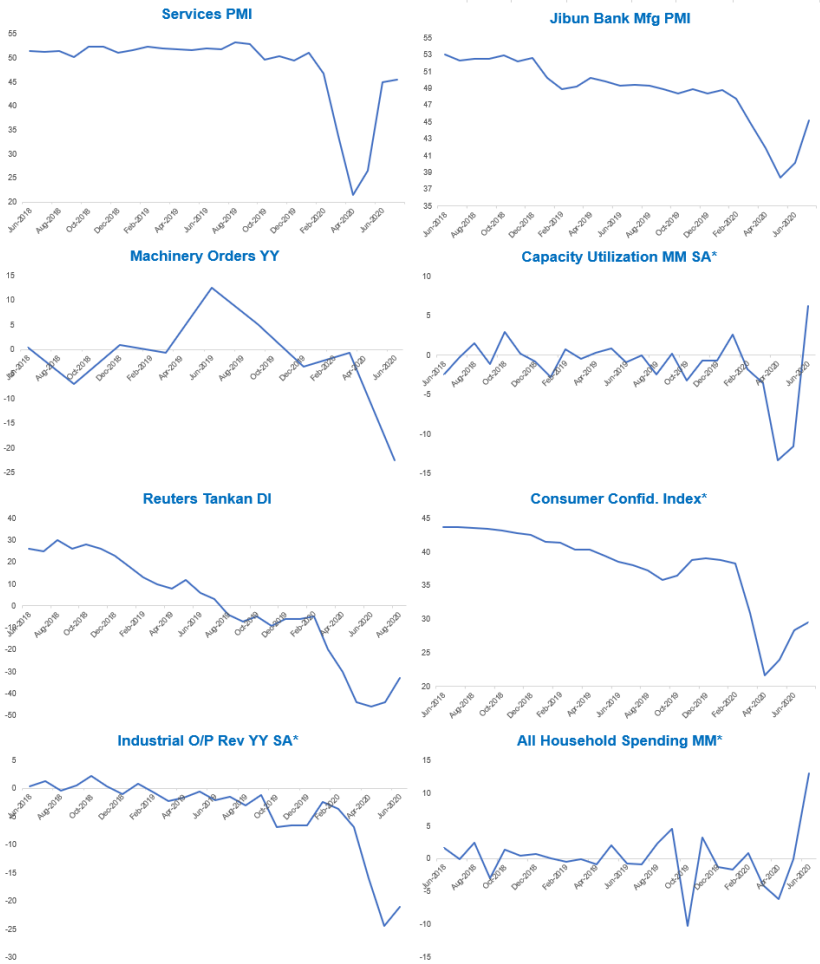
The 2020 dividend futures briefly rallied on hopes of a special dividend from FamilyMart Co Ltd (8028 JP), but has come off again. With companies having announced their quarterly results and guidance, the focus now shifts to the 2021 dividend futures.

At current levels, we do not see any significant opportunity on the 2021 div futures. However, we provide estimates for our bear case, base case and bull case scenarios that can be used to enter/exit positions on moves in the dividend futures due to large changes in the Nikkei 225 (NKY INDEX), in macroeconomic indicators, and/or hopes of a COVID-19 vaccine.

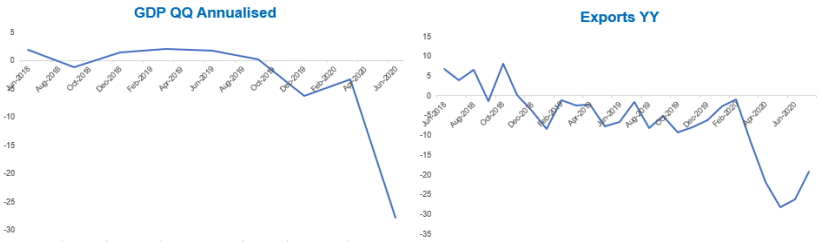
DETAIL

Japan Macro Environment

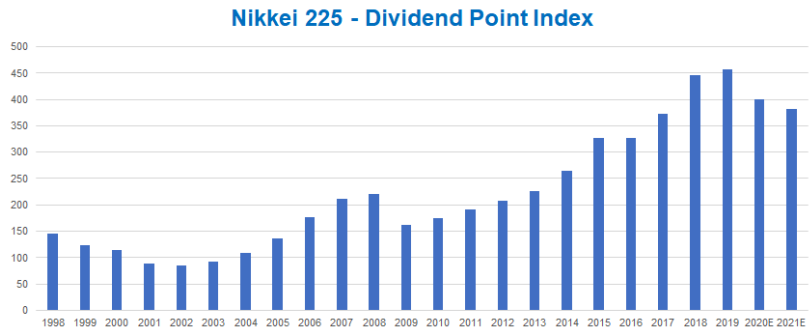
The Japan macro environment has deteriorated since March, but the last data shows a pick up or stabilization in quite a few indicators.



The last GDP print was a shocker, though similar prints have been seen in other countries as well. Exports have decreased as expected and that does not bode well for sectors that depend on overseas markets.



The market is currently pricing in a 12.6% drop in the Nikkei225 2020 dividends as compared to 2019 and a further 4.6% drop in the 2021 dividend futures.



Updates Since Our Last Insight

In our last Insight, we recommended selling the Nikkei225 2020 dividend futures since they were trading near our Bull case scenario. Since then the 2020 div futures have dropped 10 points to 400 while the Nikkei 225 (NKY INDEX) is trading at almost the same level.

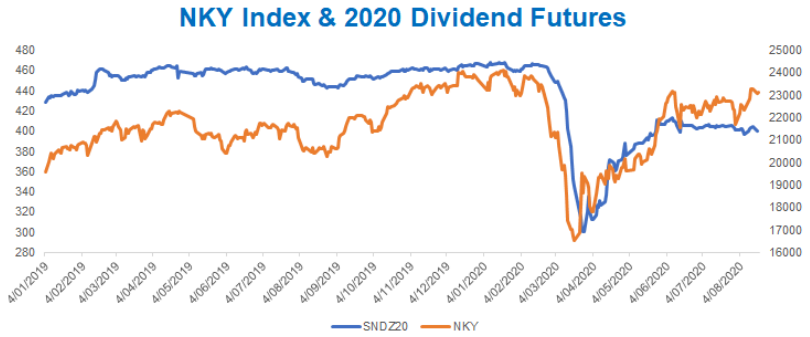
These are the scenarios that we had proposed back in March.

> Bear Case Scenario: Economic activity continues to stay depressed in Japan and globally for the next six months, essentially lowering earnings across the first nine months of the year.
> Base Case Scenario: Economic activity is lower till end June and picks up gradually over the next six months.
> Bull Case Scenario: Economic activity is lower till June and then surges over the next six months.

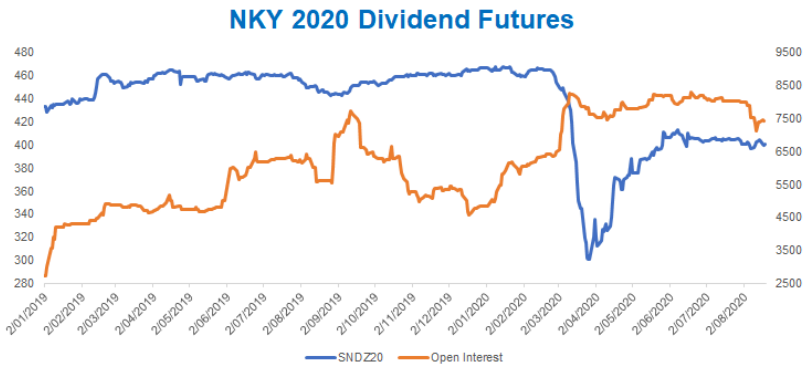
Open Interest has decreased on the 2020 div futures and increased marginally on the 2021 div futures.

Contract	Close	Expiry Date	Open Interest	Div Notional JPYm
SNDZ20	400.3	1/04/2021	7,440	29,782
SNDZ21	381.5	1/04/2022	7,650	29,185
SNDZ22	402.5	3/04/2023	1,263	5,084
SNDZ23	414.1	1/04/2024	451	1,868
SNDZ24	422.9	1/04/2025	30	127
SNDZ25	430.4	1/04/2026	9	39

With over half of of the 2020 dividends gone ex and a lot more guided, there has been little movement in the 2020 div futures.

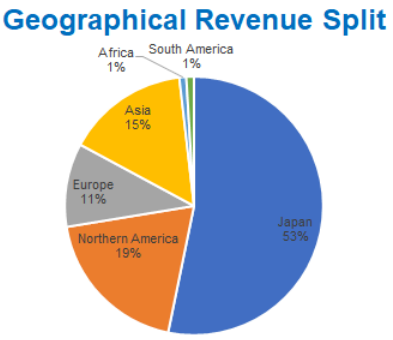


Open interest has dropped over the last couple of weeks as positions are reduced.

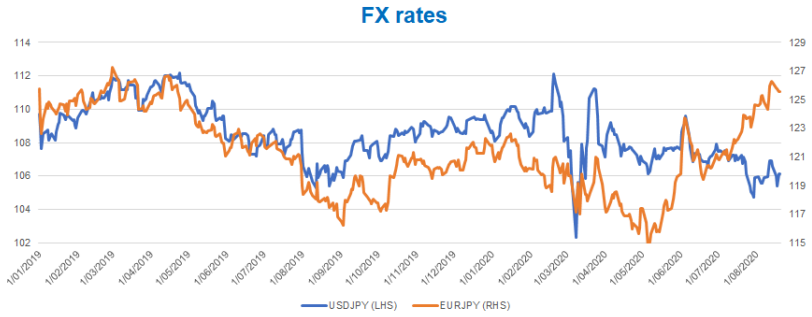


FX Moves

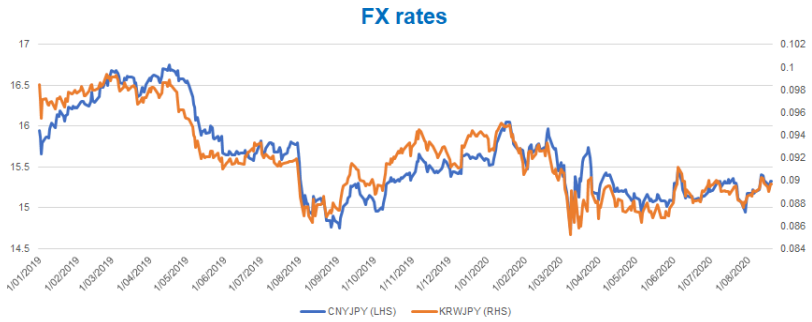
From our estimates, around 53% of of revenue for the Nikkei 225 (NKY INDEX) constituent companies is generated in Japan with the rest coming from US, Asia and Europe.



The JPY has strengthened against the USD (given the USD weakness) but has weakened significantly versus the EUR.



The JPY has also weakened versus the CNY and KRW over the last couple of months.



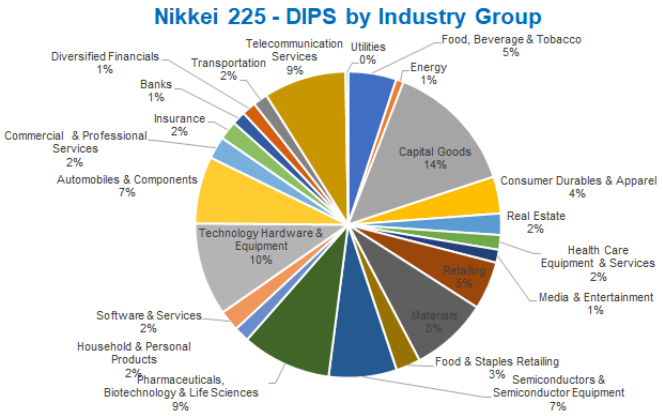
The weaker JPY should help the exporters in Asian and European markets, though the lower level of exports (supply chain issues etc.) will mitigate the impact of a weaker currency.

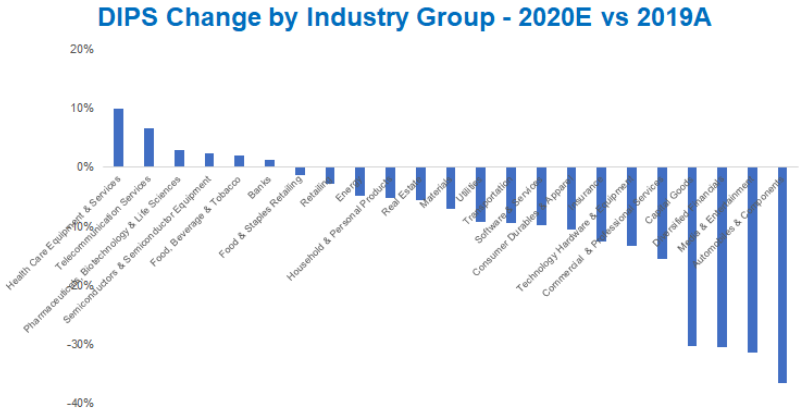
2020 Dividend Futures Outlook

Based on the dividends already gone ex, dividends that have been guided for the rest of the year and our estimates for dividends expected, we see a fair value of 398.51 for the 2020 dividend futures.

Recent company results for the quarter ending June 2020 show 110 index constituents earning a higher PBT as compared to Q4 2019, while only 50 index constituents showed a higher PBT as compared to the same period last year.

With the 2020 div futures trading at 400, there is little upside or downside from here.

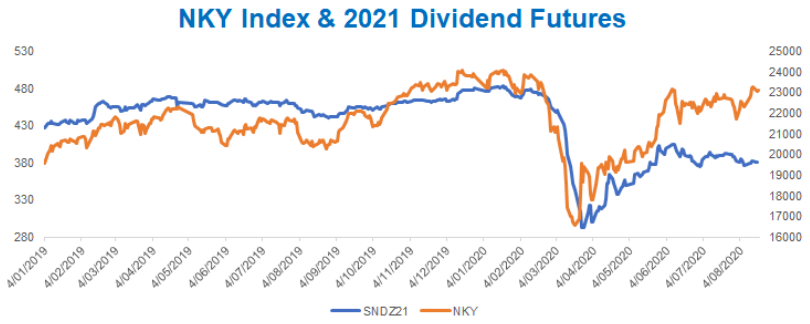




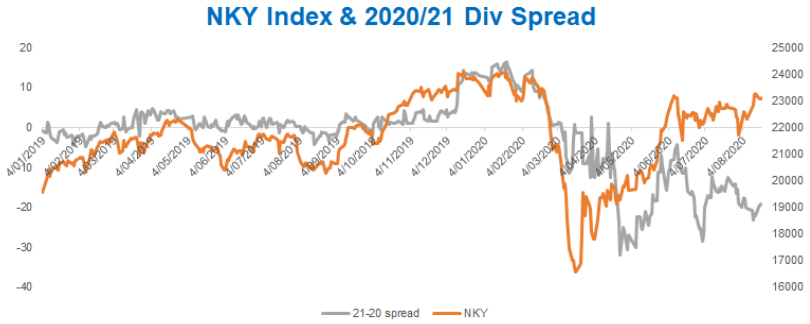
The risk to this estimate is the possibility (albeit a very small one) of FamilyMart Co Ltd (8028 JP) paying out a special dividend. The tender offer closes on 24 August and the company has indicated that it will not be paying out a special dividend.

2021 Dividend Futures Outlook

The 2021 div futures crashed along with the Nikkei 225 (NKY INDEX) in March and have bounced back from there.



The Nikkei225 2021 dividend futures are trading at 381.50 implying a drop of 18.8 index points (4.6%) from the 2020 div futures.



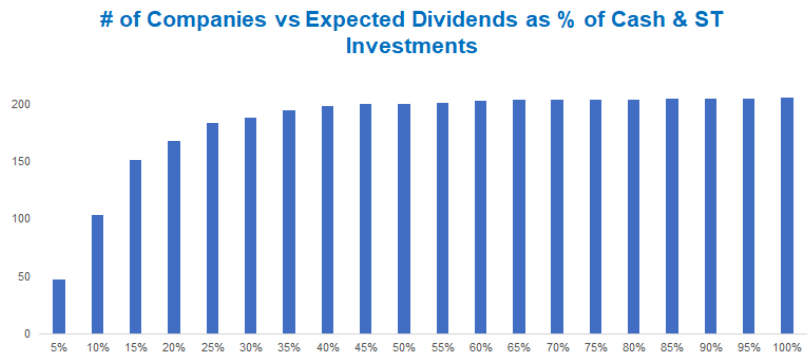
With companies providing little guidance over the next year, it is extremely difficult to try and come up with a fundamental fair value for the 2021 div futures. We expect companies will try and maintain the dividends going ex in March since most of them have a lot of cash on balance sheet, but could cut dividends later next year if economic conditions do not improve noticeably (survival over shareholder returns).

As usual, we provide three scenarios that could play out.

Bear Case Scenario: Economic activity continues to stay depressed in Japan and globally for the next year, essentially lowering earnings across the board.
Base Case Scenario: Economic activity is lower for the next three months and picks up gradually from there.

Bull Case Scenario: Economic activity is lower till September and then surges over the next six months as pent up demand is unleashed.

Most Nikkei225 index constituents have enough cash on balance sheet to continue to pay dividends even as net profits continue to drop. The question is whether they will continue to maintain dividends if the economic outlook continues to deteriorate or stagnate.



We feel that the companies will likely try to maintain dividends in March 2021 but future dividends could be seriously impacted if things do not turn around.

Using our three scenarios, we tabulate our fair value estimates for the 2021 dividend futures.

Scenario	Fair Value
Bear Case	363.918
Base Case	388.231
Bull Case	408.787

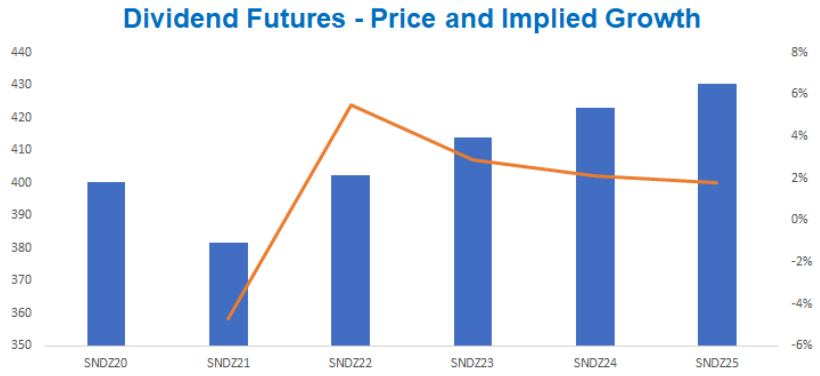
With the 2020/21 div spread trading at -19, there is not much incentive currently to buy or sell the 2021 div futures vs our fair value. With the 2020 div futures not likely to move much, the 2021 div futures will trade in line with the Nikkei 225 (NKY INDEX) (mark to model), changes in the direction of macro-economic indicators (mark to a semblance of reality), and on news of vaccines being tested and mass produced (mark to hope).

The bear case and bull case scenarios provide tramlines on levels around which positions can start to be built up, though there is always a big risk of overshooting on the downside as we saw back in March.

2022 Dividend Futures & Beyond Outlook

Very very fuzzy...

There is very little trading activity and open interest on the longer term futures but the div futures curve is pricing in dividend increases from 2022 onwards.



Movement in longer term dividends will be heavily influenced by structured product issuance and movement in the Nikkei 225 (NKY INDEX) along with how the COVID-19 situation plays out in Japan and globally.

The 2021/22 spread will be very interesting on big moves either to the upside or downside.

Conclusions

- The 2020 div futures are trading close to our estimated fair value of 398.51 and there is little to do here at the moment.
- There could be a 'surprise' if FamilyMart Co Ltd (8028 JP) announces a special dividend, though the company has said that they will not be paying out a special dividend.
- For the 2021 div futures, we have bear case, base case and bull case estimates of 363.92, 388.23 and 408.79 index points respectively.
- With the 2020/21 dividend spread trading at -19, there is very little upside/downside from our base case estimate.
- However, there will be trading opportunities as the market moves closer to our bear case or bull case estimates.
- The outlook is very fuzzy for 2022 and beyond. The market is pricing in dividend growth at the moment and the 21/22 spread could provide trading opportunities on a big move to the downside.

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— Brian Freitas (19 Aug 2020)

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