Private Bank

Citi Global Wealth Investments

Asia Strategy

September 2, 2021

Ken Peng
Head – Asia Investment Strategy
+852 2868-8904
ken.peng@citi.com

Daniel Chan
Head – Asia Citi Investment Management
+852 2868-8577
daniel.lei.chan@citi.com

Jason Jin
Head – China Equity, Citi Investment Management
+852 2868-8577
jason.jin@citi.com

Cecilia Chen
+852 2298-6180
cecilia.y.chen@citi.com

Calvin Ha
+852 2868-8477
calvin.ha@citi.com

Is Common Prosperity Investable?

- The turn towards Common Prosperity started several years ago, but accelerated in 2021. This understandably caused many to worry whether China is still investable.
- Well, we believe it is. And we try to address several key investor fears about China in terms of the outlook for investor perception, competitiveness, innovation, access to capital and ESG standards.
- While we see continued efforts towards common prosperity, we also see it as conducive to expanding the middle class and to make economic growth more sustainable. Regulations of the tech industry are likely to move towards tightening globally, with China's now among the more stringent.
- Earnings are likely to be hardest hit in 2021, followed by gradual recovery. Valuations have adjusted downward substantially. Even though they're not at the absolute historical bottom, they already point to potentially strong 12-month returns.
- In this report, we address the following questions

Is Common Prosperity Investable?

On August 17, President Xi connected the dots between the myriad policy actions taken this year, and the government's commitment towards achieving "common prosperity". Some in the market interpreted Xi's policy goals as a systemic plan to take from the rich to give to the poor, which is understandable, but this is an oversimplified view of a complex and comprehensive development plan.

We look at what "common prosperity" means and what kind of policies might be implemented to get there. We also look at historical experience with past regulatory changes and how they have created more sustainable industries. We look more specifically into data security and the Variable Interest Entities (VIE) structure to gauge their impact. We also see other macro policies easing in coming months to support growth and financial markets.

We estimate that the negative impact on earnings may be strongest in 2021, then expectations would likely return to growth. At current valuations, medium to long term returns are likely already attractive.

Principle investor fears

It is broadly understood that China is embarking on a massive project to improve the conditions for labor and lower income households. This initiative aims to please a large portion of the population, which is key to maintaining stability in the current political economy, at the expense of the capital owning few. But there are a number of very pertinent questions of what this means for financial assets and investors, especially those outside of China.

Could further policies make China unattractive to Western institutional investors? this has already taken place. Equity risk premiums are higher. It could take longer for some western investors to feel comfortable again. But some of the policies taken are likely longer term positive, such as growing the middle income (see p4 and p13) and tackling monopolies (see p8). Core technologies continue to get support as well to improve competitiveness (see p10).

Could China's policies make firms less competitive and therefore less valuable? By raising the cost of compliance, margins are squeezed and valuations are already at historical lows as a result. There may be additional changes in taxation, but we see these as one-time adjustments that firms would be able to grow out of. In fact, tax discounts, lack of ESG awareness and de facto monopolies create dependence and inertia in business strategies. The immediate discount on valuations from recent abrupt policy changes could take time to recover, but they are likely to recover, once earnings expectations stabilize (see Other Potential Policies below).

Could there be less innovation? If regulations do not allow profits, no one would still want to innovate without getting paid. This makes intuitive sense, but the real question is "Does one $400bn company generate more innovation or 400 $1bn companies?" The practice of burning pre-IPO capital in price wars between two or three oligopolistic corporate groups isn't exactly innovation. The Keiretsui and Chaebol models of Japan and Korea were proven undesirable long time ago. Numerous recent policies aim at helping small business flourish. For the large platforms, their billion users remain and could help to scale up new businesses that they're forced to innovate now (see p6). For concerns over data privacy, there are examples from Europe and the US that did not sustainably damage innovation (see p11).

Would Chinese companies continue to have access to capital, especially from outside China? Interestingly, investors did not panic as much as the headlines might suggest. In fact, Northbound equity connect flows into the onshore A-share market stayed positive in July and increased further in August. Global flows to Chinese ETFs turned strongly positive in late August. This is partly due to relatively limited margin leverage, at least compared to 2015. And partly because valuations have attracted new investors. The Chinese authorities support raising equity financing abroad, they just want to ensure they have regulatory authority over the issuers (see p4 and p12).

China is falling hard by ESG standards, would this make China uninvestable for investors who increasingly favour companies with high ESG scores? The standard that China is falling behind is Governance, as national policy makes corporate governance for shareholders difficult to predict. But on the Environment and Social aspects, the scores for Chinese firms should be surging collectively. As we discuss below, Chinese firms are racing to set up ESG foundations. These are not donations, but rather funds that the firms would set aside to invest in the society at large, including green, education, training, rural development, etc. These could be commercially viable projects and could face challenges that western ESG foundations face today. Setting aside these funds are likely to hit earnings, as they're set up, but would contribute to a more sustainable business (see p5).

What is Common Prosperity?

It is rebalancing the distribution of economic gains more towards labor and less towards capital. The urgency has increased as China's economic growth is slowing. It does not mean abandoning market based development. But it could mean more taxes from wealthy individuals and businesses, which is likely common among many developed markets (DM) in coming years. And finally, even after these adjustments, China would solidly remain the second largest economy and likely continue to see investor inflows.

Why rebalancing is needed and why now?

Common prosperity is about rebalancing the distribution of economic gains towards labor

It has gained urgency, as China's growth slows, and more people are feeling less gains with more costs

Though large in absolute size, China's middle income group only account for 29% of the population, while nearly 70% are below

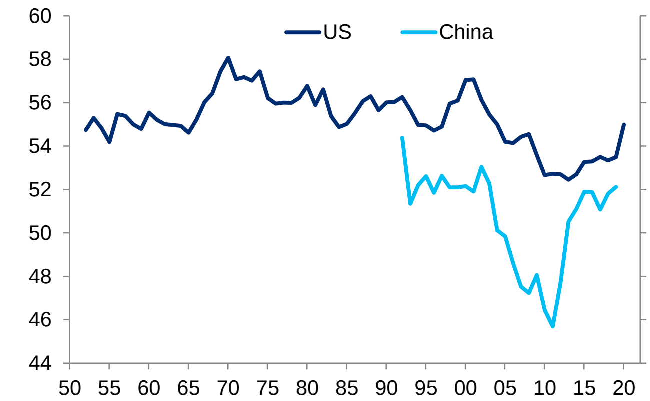
Household income, particularly those from wages, have been falling as a share of GDP or overall household income. This trend accelerated after WTO entry that stimulated massive investment and urbanization, during which income shifted towards capital. But since the global financial crisis, China had pushed towards worker rights and compensation, which accelerated during President Xi's government and labor had reclaimed some lost ground (**Figure 1**). By 2019, the labor share of GDP in China is not much lower than that of the US. China's income inequality, as measured by the GINI coefficient, also fell to below that of the US (**Figure 2**).

So what's the rush? When growth was much faster, distribution was less important since most people were enjoying visible improvements in living standards. As China's overall economic growth slows, the distribution of income is becoming more important, as the low and middle income population see less material improvements. In US's case, real wages have stalled since the 1980s and labor compensation share of income had been falling since the 1970s (**Figure 1**, the rebound in 2020 was due to GDP decline).

This may be more sustainable in a system where voters can voice their discontent via elections, but even then the Biden administration is clearly pivoting to state driven efforts to narrow the gap. In China's system, the need for repair appears more urgent.

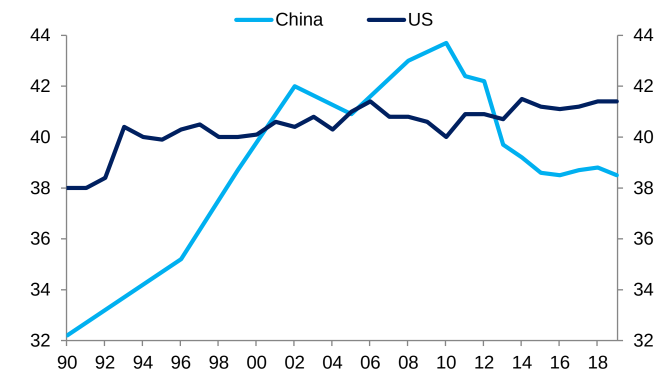
As a result, an "olive shaped society" has become the objective, where the middle income group is much larger than the low and high end. However, the middle income group in China (annual income of CNY100K – 500K) accounted for just 29% of the population, while those below accounted for 68%, and the other 3% above (Li Shi, Yang Xiuna et. al. "Middle Income and Common Prosperity", China Development Research Foundation (CDRF), 2020).

Figure 1: Compensation of Employees as % of GDP had fallen sharply in China during the boom years after WTO entry, but has rebounded during Xi's administration. The ratio in the US had been falling since the 1970s



Source: Haver Analytics, as of 2020

Figure 2: Income inequality, as measured by the GINI coefficient, has moderated in China over the past decade, while it continued to rise steadily in the US



Note: the Gini coefficient, sometimes called the Gini index or Gini ratio, is a measure of statistical dispersion intended to represent the income inequality or wealth inequality within a nation or any other group of people. Source: World Bank, Haver Analytics, as of 2019

But this does not mean abandoning capitalism

Every official noted that common prosperity is not wealth equality, adding that equality means common poverty and that is not the objective. The CDRF paper noted above estimates that with 5% average growth through 2035, the middle income group would grow to 40.7% of population. At 4% growth, it would only rise to 35.4%. And at 3% growth, the share would be stuck at 29%. Clearly, having relatively robust growth is key to having something worthy to redistribute. And this growth can only come from continued market based development.

Relatively fast economic growth and capital market development are two critical elements of common prosperity and international competitiveness

An even bigger reason for sticking with market based development is having a globally accepted reserve currency. Breaking free of USD dominance is a key element to China's path towards international competitiveness. The leadership, including Xi, recognizes that strong capital markets is critical in this endeavor.

In the recently released 14th Five Year Plan to Develop the Shanghai International Financial Center, ambitious targets were set for transaction volume and direct financing. More importantly, goals were set for foreign ownership of bonds, and "Shanghai pricing" for commodities. Fintech was also a main area of development, which may seem unconvincing given the Ant experience, but setting up a robust regulatory framework can be an important pre-condition for sustained development.

Attracting foreign institutional investors has clearly gotten a setback in recent months. But it remains a goal, as authorities continue to create more tools for risk management that had been a pain point for foreign investors, such as rolling out index futures in HK. The wealth management industry remains an attraction for foreign institutions, especially if the private pension and insurance businesses are more open for entry.

Other potential policies

We see four areas of potential policies to promote common prosperity. Potential new policies and are likely to be more gradual and much less dramatic.

- **Taxation:** China is unlikely to pursue Northern European style "high tax, high welfare" system, because it's simply unaffordable. And those economies have low vibrancy as a result. As such, additional revenue is not expected to come from personal income. Instead, the additional funding needed for secondary distribution could come from the following areas. Many of these changes are long overdue and

Taxes on wealth (property, estate) are long overdue

Tertiary distribution is more like a strongly enforced ESG initiative

are important revenue sources for developed market (DM) governments, and should be positive for China's development.

- **Removing corporate income tax discount** for some firms, like the internet platforms. This could lift effective income tax rate from about 15% to 20-25% and would represent a one-time hit to EPS growth.

- **Estate tax:** This has long been discussed, but no actions have been taken, presumably due to many policymakers' self interest. But this would affect very few people and would encourage greater philanthropy and ESG spending if wealth inheritance and gifts are taxed. It is also very common in developed markets.

- **Property tax:** This had been trialed in Shanghai and Chongqing for the past ten years. During these years, the property market in these two cities continued to develop strongly, with significant price gains. First properties are not taxed. Second property and beyond are taxed based on size. As such, it could be designed to be less disruptive to the market. And would also provide a significant source of income for local governments when land sales are dwindling due to tight control over developer financing.

- **State Owned Enterprises (SOE) reform:** SOE dividends are a major source of income for the government. Lifting SOE efficiency and profitability and dividend payout is a way to increase revenue. In addition, more dividends may be ear marked or explicitly directed to areas of social significance, such as the social security fund.

- **Regulation**: In addition to regulations on anti-trust, fintech and data security, there are likely to be more labor related regulations. China's supreme court and the Ministry of Human Resources and Social Security jointly published 10 cases defending labor rights, focusing on overtime practice, such as the right to refuse, proper compensation and job security. The press has focused on Alibaba and the internet industry, as they often require overtime commitment for the "privilege" of working at these firms. But this is likely a much wider problem. Again, these may represent higher cost of labor, but also opens up potential for more leisure consumption.

- **ESG as a form of "tertiary distribution"**: Many firms plan to set aside significant funding for initiatives to promote common prosperity. These are effectively ESG foundations within companies, rather than donations.

  - Firms—not the government—can manage the pace, target and size of deployment. The projects can have marketing or commercial value. In effect, it is a rush to catch up in funding for ESG initiatives that are already prevalent at many western corporates. So far, companies have targeted green energy, rural development, advanced manufacturing, SME assistance, education, vocational training, etc. These should be a positive for suppliers in relevant activities, such as EV supply chain, agricultural equipment, software, cloud, etc.

  - ESG trends have been gaining pace in recent years in China and is likely to accelerate, as the goals of common prosperity are highly consistent with ESG objectives. The number of A-share listed firms that regularly release ESG reports have more than doubled to 1021 in 2020 from ten years ago. Within these reporting firms, those with high scores have outperformed those with low scores in the past year.

- **Stronger welfare:** The aim is to bring the higher end of the low income group into middle income through various policies. These would include better basic welfare, stronger labor protection, subsidies for childcare (especially the third one), subsidies for education and training for graduates and migrant workers, etc.

Past Cases of Reform: Some Historical Perspectives

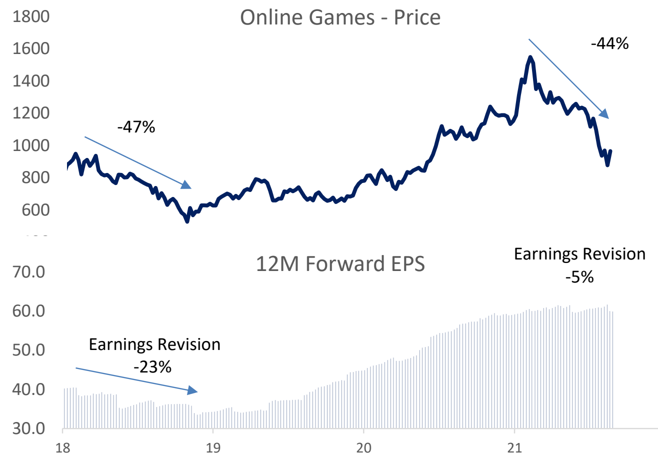
Online gaming regulation in 2018

In 2018, China suspended the approval of licenses for new games and tightened content regulations. Top two companies in the industry, for example, accounted for almost 70% of China's online gaming market. Their combined online gaming revenue growth fell from 36% in 2017 to 7% in 2018.

Their share prices dropped 47%, as consensus forward earnings were revised down by 23%, and their forward P/E multiple corrected from 30x to 20x. While earnings revisions turned the corner only in 2Q2019, the stock price bottomed half a year before that, followed by further rebound in 2019-2020.

In 2021, China tightened limits for young online gamers and banned school night play, while also regulating many other facets of the internet businesses. Share prices fell by 44% on average. Negative earnings revisions are underway, but may be less severe than in 2018, given minors accounted for very small share of online game revenue. Forward PE ratio of the aforementioned companies has fallen to a low of 20, similar to the 2018 bottom.

Figure 3: Chinese online games companies average share price and consensus forward EPS estimates



Note: Data represents the market cap weighted averages of top two online gaming companies in China. Source: Bloomberg, as of 27 Aug 2021.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

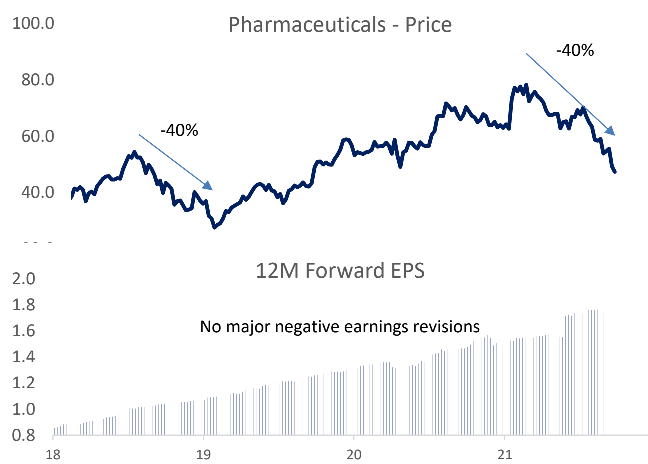
Drug procurement reform in 2018

In 2018, China announced a plan for centralized healthcare procurement reform to make drugs and services more affordable. Drugs' eligibility for the national insurance program depended on an open tendering process, in which the lowest prices won. 50-90% price cuts followed.

Taking the top three pharmaceutical companies in China, the price cuts mainly affected their old mature drugs, and did not materially hurt revenue and earnings. The market-cap-weighted share price the companies still corrected 40%, as valuations contracted for the industry, but was followed by two years of healthy growth.

In the past two years, China expanded the centralized procurement coverage to include more drugs, medical equipment, and healthcare services. While there was no negative earnings revisions so far, there are concerns that the terms of centralized procurement are expected to become harsher, due to the additional expenditure related to Covid-19 control. The aforementioned pharmaceutical companies corrected 40% YTD, with current valuations similar to the 2018 low.

Figure 4: Chinese pharmaceuticals companies average share price and consensus forward EPS estimates



Note: Data represents the market cap weighted averages of top three pharmaceutical companies in China.
Source: Bloomberg, as of 27 Aug 2021.
Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Anti-corruption campaign in 2012

In 2012, China launched a campaign against corruption and extravagance of government officials. The top three liquor companies accounted for over 90% of China's premium liquor market. Their products were priced beyond the reach of average consumers and often served as gifts and on state banquets. The anti-corruption campaign hit high-end consumption hard, and the earnings of those companies were revised down by 27% in 2013-14. Their share prices were down 52%, and the P/E multiple halved from 15x to 7x.

In the following years, private wealth took over government officials as the largest consumers of Chinese premium liquor brands. During 2014-2021, the top three premium liquor makers returned more than 50% per year driven by the resumption of earnings growth.

In 2021, the China State Administration for Market Regulation held a regular supervisory meeting with the liquor companies, where the companies were asked to keep price increases more gradual, with no new official regulations Given the strong end-market demand, no major earnings revisions are taking place. The 33% share price correction in the past quarter is mainly driven by valuation contraction

Figure 5: Chinese liquor companies average share price and consensus forward EPS estimates

Note: Data represents the market cap weighted averages of top three Chinese liquor companies. Source: Bloomberg, as of 27 Aug 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Overall market

In 2015, margin tightening burst a bubble, but related regulations on shadow financing curbed margin leverage risks since. RMB reform in August that year caused fears of insufficient reserves and devaluation. The combination took MSCI China down 43%, with 29% downward earnings revision. But that was followed by $1tn of inflows to China's onshore bond & equity markets.

In 2018, aside from the gaming and drug regulations, China also pursued firms and individuals who bought a lot of foreign assets. Property policy tightening, trade war, and Fed tightening also added to the dark mix that brought MSCI China down 32%, with 10% negative earnings revision. But that was followed by a boom in 2019-20.

In both cases, the index price bottomed well before earnings revisions. Coincidentally, the forward PE contraction was 33%, which is matched by this current episode from Feb to Aug 2021. During these past six months, the index is again down 32% from the highs, which has historically been followed by strong returns in 12-18 months.

Figure 6: MSCI China share price and consensus forward EPS estimates

Source: Bloomberg, as of 27 Aug 2021.
Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Anti-trust regulations are not only common, they often create opportunities for economic value and unlock an industry's true potential that were once suppressed by the monopoly holder. We look at the cases of John D. Rockefeller's Standard Oil and Stanley Ho's Macau gaming business.

Standard Oil and Stanley Ho are two great examples where breaking down the monopoly enabled stronger development of an industry

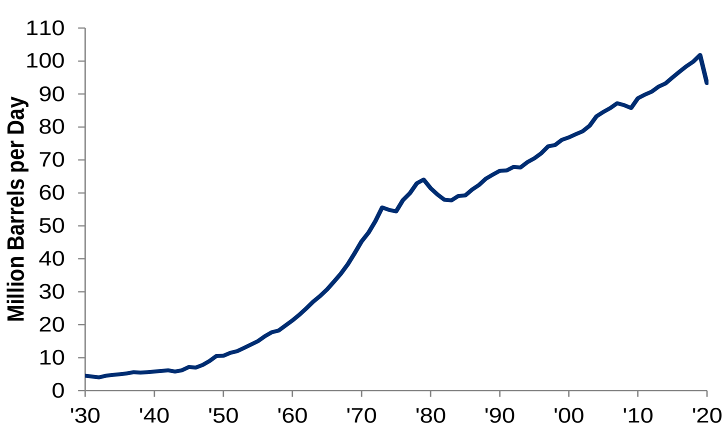
The first, and probably the most famous, case was Standard Oil. At its peak, John D Rockefeller's Standard Oil controlled 91% of oil production and 85% of final sales in the United States. In 1906, the US government filed an anti-monopoly case against Standard Oil. In 1911, Standard Oil was split into 34 separate entities and many of the oil giants today can be traced back to Standard Oil origin (**Figure 7**).

John D Rockefeller left the company in 1911. Yet, his wealth continued to flourish as he held onto his shares. At the time of his death in 1937, his net worth was estimated at $1.4 billion (first billionaire in the world), which was equivalent to 1.5% of the US GDP at that time. If someone's wealth equalled 1.5% of US GDP today, that person would be worth over $300 billion. Therefore, while it may not be intuitive, breaking down monopoly measures drive wealth.

Closer to home, another case was Macau gaming. In 1962, a group of investors won exclusive rights to Macau's gambling industry for 40 years. In 2001, those rights ended. This was a significantly positive development for the Macau economy, along with the growth of Mainland Chinese tourism to Macau. GDP in Macau grew by 18.3% per year for the 10 years after the monopoly ended, triple the 6.2% average pace during the 10 years before 2001. Moreover, the personal wealth of the key original investor also accelerated substantially after the breakup of the monopoly, as total business volume got much larger.

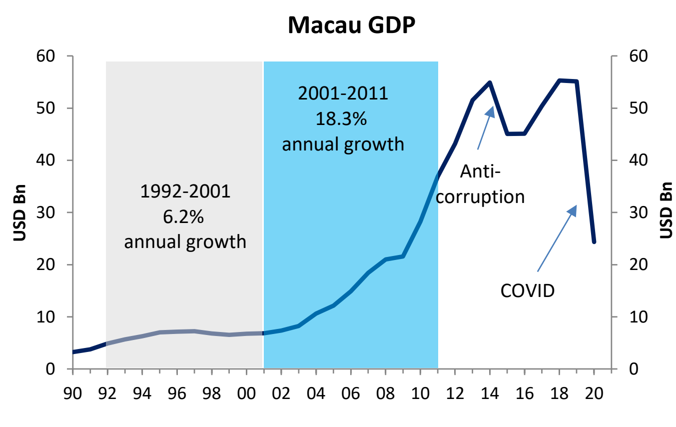
As we note below, China's internet industry stands to benefit from more creativity for business models of existing companies, more platform space for small businesses and start-ups, and potential for better capturing the demand of the growing middle class.

Figure 7: Global crude oil production levitated after Standard Oil was broken down



Source: Wikipedia, visualcapitalist.com, 2020

Figure 8: Macau's economy only levitated after gaming license monopoly ended



Source: World Bank, Haver Analytics, as of 2020

What kind of earnings growth rates and ROE are reasonable under the new regulatory regime?

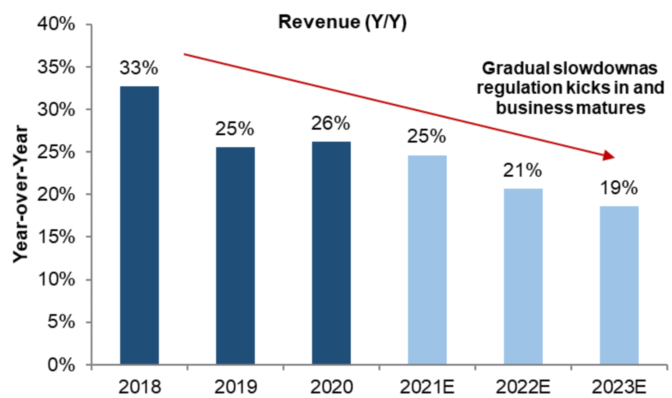
2021 may be the bottom of the earnings revisions, followed by gradual recovery

The Office of the Chief Investment Strategist (OCIS) studied a group of twenty large Chinese internet companies with a combined market cap of US$1.4trillion, representing over 80% of total market cap of Chinese internet universe. We believe that as the regulatory effects kick in, there is the potential that total revenue growth of the group may fall to 21% in 2020-2023 from 28% in 2017-2020 (**Figure 9**). We see this as consistent with the slowdown in online retail sales growth to 10-15%.

Rising compliance costs and potential tax increases may pressure net margins, but the impact is likely to be front-loaded mainly in 2021. The other side of regulations is reduced competition and less cash burn, which would also have a positive impact on net margins in the coming years.

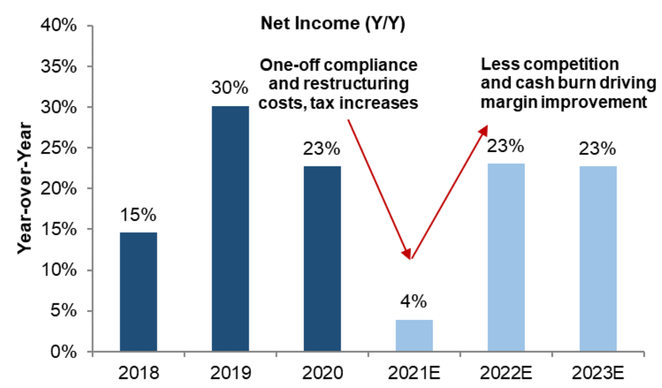
On balance, net income growth is expected to have an abrupt dip in the current year 2021, but return to a level that could be higher than many investors expect in the coming years (**Figure 10**). ROE is expected to decline into the next year, but could normalize at mid-teen level in the longer term from the previous high-teen levels.

Figure 9: Consensus expectations for revenue growth (China)



Source: Haver Analytics, as of 23 Aug 2021

Figure 10: Consensus expectations for Net Income growth (China)

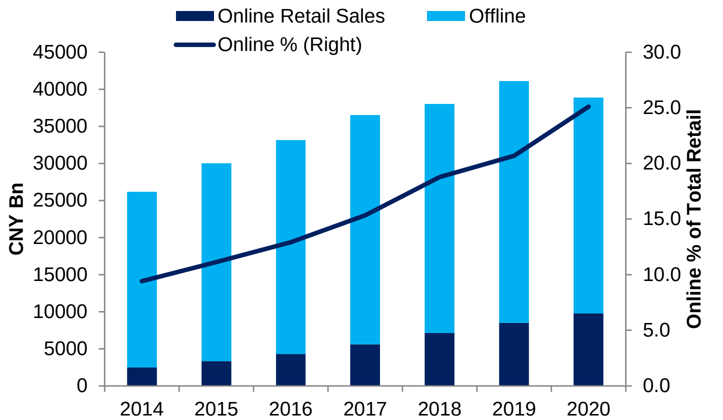


Source: Bloomberg, as of 23 Aug 2021

All views/ forecasts are expressions of opinion, are not a guarantee of future results, are subject to change without notice and may not meet our expectations due to a variety of economic, market and other factors.

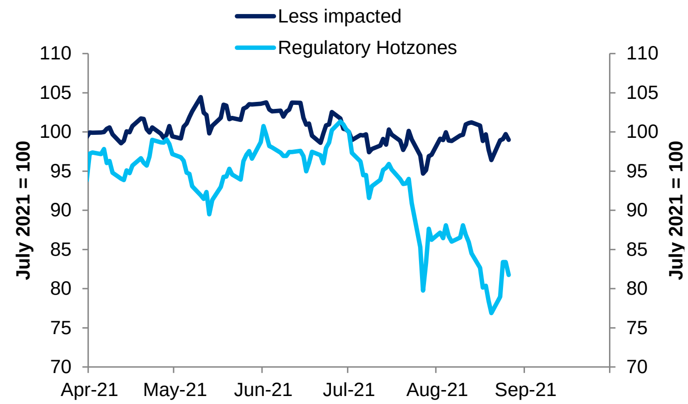
In addition, take e-commerce as an example, the antitrust rules aim to encourage fair market competition practices. Previously, merchants were forced to list their products exclusively on a certain platform, but can now list the products across multiple platforms. The result could be a sustainable increase in the penetration of e-commerce given the current 25% is still not a particularly high number (**Figure 11**). In the meantime, it means online advertising could also grow beyond the current short-term weakness in the post regulation period.

Figure 11: Online retail sales in China have grown to 25% of total in 2020, and could continue to rise as monopolistic practices are reduced



Source: Haver Analytics, as of 2020

Figure 12: Investors have been able to distinguish the targets of regulation versus the rest



Note: Regulatory hotzones include Telecom Services, Consumer Discretionary, Healthcare and IT. The Less impacted includes Materials, Industrials, Energy, Financials, Staples, and Utilities.
Source: Bloomberg, as of 26 Aug 2021
Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

What are the areas that continue to exhibit growth?

Amid the selloff among internet names, "core technology" industries have rallied, as investors rotated in. These are the industries supported by the 14th Five Year Plan, such as the EV supply chain, semiconductors and equipment, artificial intelligence, telecommunications, defense, etc. These areas have the potential to see additional growth for years to come. But even among the internet names, we believe their growth potential remains strong after the dust settles on regulations.

Both core technology and internet space could see sustained growth, after the regulation dust settles

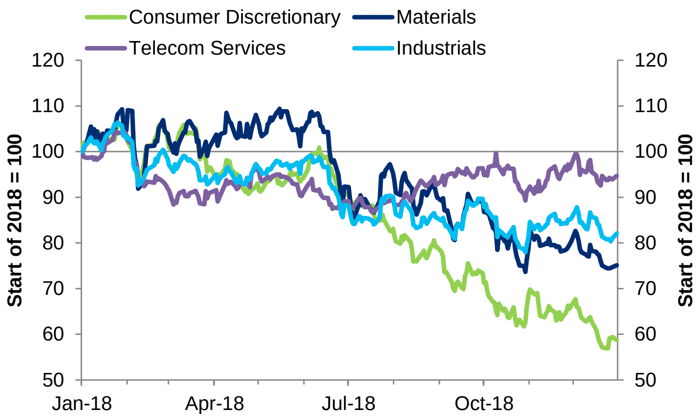
Markets have been able to distinguish those under the regulatory microscope and those that are not

China has been a global manufacturing powerhouse for more than a decade, but we have seen increasing advancement of Chinese companies in the hard technology value chain (e.g. advanced industrial and new materials). This is driven by the increasing supply of better educated engineers that come from various academic backgrounds. The number of university graduates reached almost 10mn in the last year from merely 1mn in late 1990s.

As the current regulations are oriented to avoid the monopolistic behavior of large platform businesses and excessive capital burn in rent seeking (e.g. property), the availability of capital will increase in productive areas, which is expected to lead into the continued development of hard technology industries.

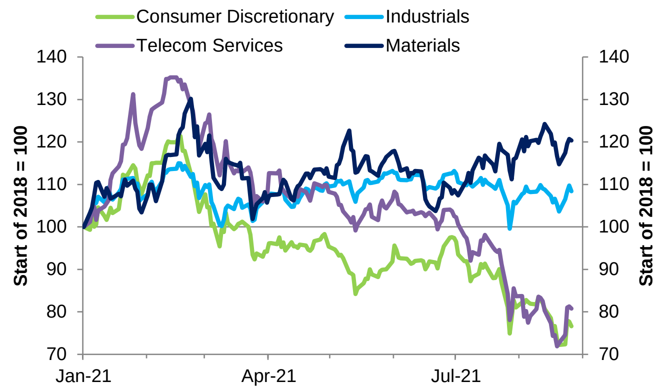
In fact, if we compare the performance at the sub-industry level, we can clearly notice that 2018 was a bear market in which all the sub-industries had similar downward adjustments (**Figure 13**). However, since July 2021, there was a clear divergence between the performances of sub-industries (**Figure 14**). Given the heavier weight of the industries facing tighter regulations, the overall Chinese equity indexes remain weak. Nevertheless, it seems the market understands the internal rebalancing happening inside the Chinese economy.

Figure 13: In 2018, all sectors were going in similar direction in a broad bear market



Source: Bloomberg, as of 26 Aug 2021

Figure 14: In 2021, markets are able to distinguish those heavily impacted by regulations versus others



Source: Bloomberg, as of 26 Aug 2021

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Will data privacy policies kill the internet industry?

Both core technology and internet space could see sustained growth, after the regulation dust settles

Markets have been able to distinguish those under the regulatory microscope and those that are not

Well, no. But it is likely a part of a global regulatory trend to beef up data privacy protections, while governments explore how to also increase control and surveillance. Firms, especially those in China, can learn to adapt.

As we noted in the July edition of Asia Strategist, data security had just been added as an essential element for sustainability and the uncertainty around it has left tech equities vulnerable. With the official passage of the Personal Information Protection Law (PIPL) by on Aug 20, China has not only caught up with, but have surpassed, DM jurisdictions in formulating robust protections for personal data.

The PIPL will come into effect on Nov 1. It has outlined legal restrictions on personal data collection and usage, cross-border data security, as well as price discrimination that is enabled by big data. The law is considered as one of the most stringent personal data privacy law in the world, and closely resembles the General Data Protection Regulation (GDPR) in the European Union according to some legal consultants and market observers.

The implementation of the PIPL could weaken corporate profits mainly in the following ways:

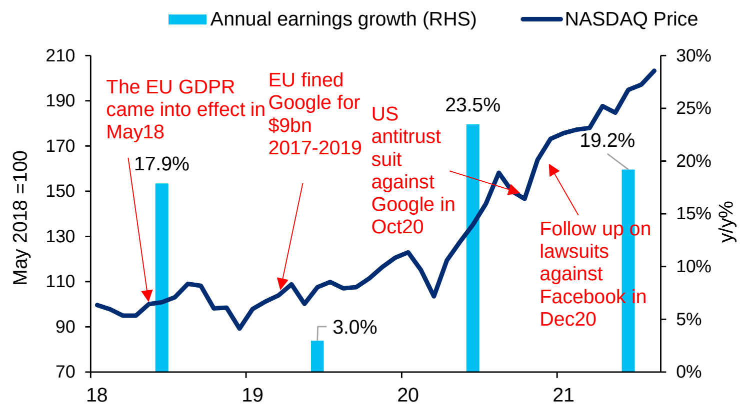
1) **Increasing legal costs/fines and internal compliance**: Though the full text of the law is yet to release, the potential penalty under PIPL could be up to 5% of the preceding year's revenue, according to the latest draft. Under GDPR, it is up to 4% of the company's annual global sales. Therefore, the increasing legal cost for violating the law is manageable for tech giants. Setting up separate internal controls to comply with the new law may become an added standing cost of doing business.

2) **Decreasing profit margins for those who highly rely on data acquisition and monetization.** Like DM regulators, Chinese authorities is trying to address unfair market competition through the usage of big data and algorithms. As a result, E-commerce, food delivery and ride-hailing providers are more likely to see their margin squeezed, while cybersecurity, social media and cloud services may be less impacted under the new law.

Despite the potential negative impact, we don't think the new law will derail the long-term growth potential of tech industry in China. The GDPR has empowered Europe's antitrust authorities to ramp up scrutiny of many other big tech firms over the past few years, adding probes into Apple and Facebook, as well as some $9 billion in fines for Google. Last month, Amazon was fined $888 million according to the GDPR.

Aside from Europe, Japan, South Korea, Brazil and India all released related legal documents recently. In the US, the Justice Department filed an antitrust suit in Oct 2020 accusing Google of abusing its power in internet searches. The Federal Trade Commission followed in Dec 2020 with lawsuits targeting Facebook's takeover of social media services. Democrats in charge of the House antitrust committee last Oct urged consideration of legislation that would prevent large tech companies from owning different lines of businesses (Bloomberg). Yet, NASDAQ has returned 111.4% since May 2018, with net income growing at an average of 16% annually for the past 4 years.

Figure 15: Significant regulations in the EU and US did not sustainably disrupt share prices



Source: Bloomberg, as of 26 Aug 2021

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

Is China going to make ADRs worthless?

As both China and US regulators try to steer away from VIE based listings, investors can seek to avoid the risk

Similar to our global focus on quality, we only like the profitable ADRs who are able to have a secondary listing

Governments on both sides of the Pacific have expressed concern around the current structure of Chinese VIE (Variable Interest Entity) listings in the US in recent years. Presidents Trump and Biden have advanced rules that would increase accounting scrutiny on US-listed Chinese ADRs, while the Chinese government is concerned that US regulators may obtain sensitive private data from Chinese firms. Amid rising competition between the US and China and a desire on the part of the China to further promote its domestic capital markets, the Chinese government would also prefer that its national champions and unicorns choose to list in mainland China or semi-offshore in Hong Kong.

The profitable Chinese companies with primary ADR listings in the US are clearly listening to Beijing's message. Other firms that have yet to achieve profitability are barred from listing on Hong Kong exchanges, which set a higher income bar than their American counterparts.

While we ultimately do not expect a total ban on Chinese ADR listings in the US, we see this risk as one that is fully avoidable for most investors. Major index providers like MSCI have already shifted their benchmarks to reflect Hong Kong shares when available, largely avoiding the US ADR issue altogether. We suggest our clients do the same, as China's domestic and Hong Kong markets are vibrant and ultimately a better reflection of the broader Chinese economy than the more limited universe of US listed Chinese ADRs.

What other EMs are interesting aside from China?

Mexico and Southeast Asia are likely to benefit from supply chain diversification, as well as investment from US and China amid their competition

While we reduced our overweight to Latin America in July after a 63% rally from COVID lows, we retain a neutral stance on the region and see the potential for some US Multinational manufacturing to shift out of China towards countries closer to home. Mexico, which benefits from close physical ties with the US, stands out as a potential beneficiary from supply chain "reshoring". In line with US equity market strength since last year, Mexico has also outperformed the broader Latam region over that time horizon. Meanwhile, as China shifts to a stance of credit easing in an attempt to boost the real economy, commodity-sensitive equity markets in South America could benefit from higher metals and oil prices in the short-run.

Southeast Asia is another potential beneficiary of outbound capital from China. The region has underperformed this year due to the relapse in COVID. Longer term, the region stands to benefit from supply chain diversification from China, as well as investment interest from both China and US amid their competition.

India has seen a lot of investor interest, not just for its own growth potential, but also as an alternative large market aside from China. However, here too, the government is embarking on a systemic journey to regulate the internet and data businesses. It requires platform providers to take responsibility for content posted and demands data to trace the original source of posting.

Southeast Asia and India can both see strong long term development. In the immediate, there remain challenges, such as work force capacity, infrastructure deficit, difficulty in relocating supply chains, etc. But the low rate environment continues to support the region's need for financing.

Is China's middle class still rising?

China middle class is expected to rise by another 150-200mn in the coming decade, with significant potential for consumption

Middle class consumption is the key rationale to own China. From healthcare to e-commerce, from name brands to vacations, the central theme is the growing disposable income of the middle class.

As noted above, 29.4% of China's population made CNY100K to 500K annually in 2018, or about 410mn people. Meanwhile, nearly 70% make less, among whom, the vast majority belong to the rural or migrant populations. Improving social welfare for these groups is a key policies objective, including expanding entitlements for migrants, providing more job opportunities, and increasing asset based income for rural population by allowing more transactions of their land. This could help expand the middle class by adding those just below the starting threshold.

Equally important is to prevent those on the lower end of the middle income range from falling to lower income. This is where containing the cost of living and protecting labor rights become more important. Making an easier environment for SMEs to get financing and access to all e-commerce platforms would be helpful to ensure those already in the middle class can stay. After all, SMEs employ about half of China's labor force.

Assuming 5% average GDP growth and a moderate narrowing in the wealth gap, the number of middle income population may rise by 150-200 million in the coming decade. Even at 29% in 2018, the middle income group accounted for nearly one half of total consumption. As a result, we continue to expect solid revenue growth driven by the development of the middle class, partly because of recent policy changes.

Where are China's fiscal and monetary policies going?

Both monetary and fiscal policies are in the process of easing, stronger credit impulse is likely to lift sentiment in 2H

Since mid-August, Chinese authorities have sent multiple signals of policy turning to support economic growth and financial stability. These included a dovish stance from the central bank, willingness to seek solutions regarding ADRs, and measures to reduce credit risk. Equities responded positively to these messages despite continued worries over regulations. The credit market has shown even stronger performance.

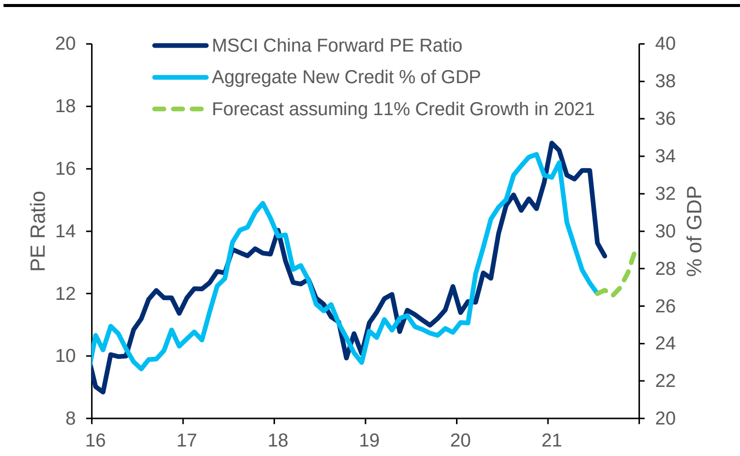
As we've repeatedly highlighted, China's growth trajectory warrants additional monetary and fiscal policy accommodation. To this end, China's central bank chief—Yi Gang—vowed to stabilize the supply of credit for the real economy, particularly for smaller businesses. This came after both credit and economic growth slowed in July. Real GDP growth is poised to fall below 6% in 2H by current trajectory.

Yi reiterated that the PBOC "will basically match the expansion of money supply and social financing to nominal economic growth". With rebounding inflation, the GDP deflator jumped to 5.3% in 2Q and is poised to stay elevated in 2H. This could lift nominal GDP growth to 13-15% for the year. Yet, aggregate credit growth was 10.7%y/y in July, leaving plenty of room for credit expansion in the remaining months of 2021. This could help to lift valuations in Chinese equities when credit growth is no longer a major drag (**Figure 16**).

While achieving 6% is easy this year thanks to low base effects, keeping it above 6% in 2022 may prove challenging. With the potential credit supply expansion, the PBOC is stabilizing economic growth and adjusting excessive hawkishness in a still vulnerable environment amid slowing economic momentum and potential Delta variant tail risk.

The tilt towards credit easing is also visible in the credit market. The troubled state owned distressed debt manager finally reported its 2020 financials and showed major losses. But authorities have also pulled together a recapitalization plan and no restructuring is expected. The heavily indebted real estate developer saw its bond prices continue to decline in August, but the others were spared of spillover (**Figure 17**).

Figure 16: A dovish turn in monetary and credit policy may lift aggregate credit, and in turn, valuations



Source: Bloomberg, as of 26 Aug 2021

Figure 17: As policy stance turned dovish, Chinese property high yield bonds have no seen additional spillover from idiosyncratic credit risks in August

Source: Bloomberg, as of 26 Aug 2021

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary. All views/ forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

How long would it take to recover?

Recent drawdowns of at least 30% saw attractive returns in 12 months, then taking 2-3 years to recover the previous high

It took about 2.5 years to reclaim the 2015 and 2018 peaks. But it also took 4.5 years after the 2010 peak and 13 years after the 2007 peak. The key difference is that 2007 and 2010 were preceded by 230% and 170% rallies, whereas the more recent examples have had less breathtaking bubbles prior to the drop. This is partly attributable to the growing size of the Chinese market.

Moreover, since 2010, there had been three instances when MSCI China index had fallen by 30% or more (2011, 2015 and 2018). Each time, the 12-18 month returns were solid (**Figure 18**).

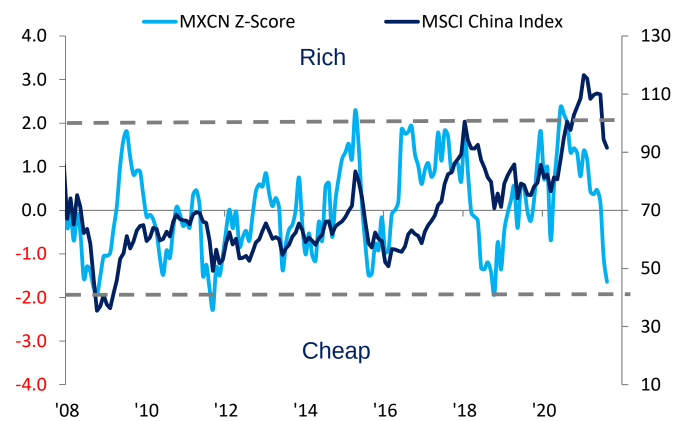
Valuation metrics also show a decent place in the spectrum of potential opportunities. We look at the z-scores (rolling 12-month standard deviation from mean) of five valuation measures, including price-to-cash-flow, PE ratio, enterprise value to EBITDA, price-to-book, and the inverse of dividend yield. In sum, China's metric is 1.6 standard deviations below mean, which had historically been associated with solid 12-month returns (**Figure 19**).

Figure 18: Past episodes of 30% corrections since the Global Financial Crisis were followed by double digit returns in 12-18 months

Peak Date	-30% Date	1-Month	6-Month	12-Month	18-Month
4/22/11	9/30/11	15%	18%	13%	22%
4/27/15	8/24/15	2%	-9%	8%	15%
1/26/18	10/26/18	6%	22%	13%	14%
Average		8%	11%	11%	17%
2/17/21	7/27/21				

Note: Peak dates are chosen as daily index peaks after the previous drawdown of at least 30%. Source: Bloomberg, as of 26 Aug 2021

Figure 19: A summary of valuation metrics suggest show MSCI China is 1.6 standard deviations below mean, which has historically been followed by positive 12-month returns



Note: z-scores (rolling 12-month standard deviation from mean) of five valuation measures, including price-to-cash-flow, PE ratio, enterprise value to EBITDA, price-to-book, and the inverse of dividend yield. Source: Bloomberg, as of 26 Aug 2021

Glossary

Terms	Definition
AxJ	Asia ex-Japan
AFC	Asian Financial Crisis (1998-99)
GFC	Global Financial Crisis (2008-09)

Asset allocation definitions

Asset classes	Benchmarked against
Global equities	MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.
Global bonds	Barclays Capital Multiverse (Hedged) Index, which contains the government -related portion of the Multiverse Index, and accounts for approximately 14% of the larger index.
Hedge funds	HFRX Global Hedge Fund Index, which is designed to be representative of the overall composition of the hedge fund universe. It comprises all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage. The strategies are asset-weighted based on the distribution of assets in the hedge fund industry.
Commodities	Dow Jones-UBS Commodity Index, which is composed of futures contracts on physical commodities traded on US exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). The major commodity sectors are represented including energy, petroleum, precious metals, industrial metals, grains, livestock, softs, agriculture and ex-energy.
Cash	Three-month LIBOR, which is the interest rates that banks charge each other in the international inter -bank market for three-month loans (usually denominated in Eurodollars).
Equities	
Developed market large cap	MSCI World Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.
US	Standard & Poor's 500 Index, which is a capitalization -weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.
Europe ex UK	MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in each of Europe's developed markets, except for the UK.
STOXX 600	The STOXX Europe 600 Index has a fixed number of 600 components, representing large, mid and small capitalization companies across 18 countries of the European region.
Japan	MSCI Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in Japan.
Asia Pacific ex Japan	MSCI Asia Pacific ex Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in Australia, Hong Kong, New Zealand and Singapore.
China & HK	The MSCI China Index is a free-float weighted equity index, representing Chinese companies listed in Hong Kong, as well as American Depository Receipts listed in the US. MSCI HK Index is a free-float weighted equity index, representing HK companies listed in HK.
Emerging market	MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 22 emerging markets.

Asset allocation definitions

Bonds	
Developed sovereign	Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB–/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.
Emerging sovereign	Citi Emerging Market Sovereign Bond Index (ESBI), which includes Brady bonds and US dollar -denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.
Supranationals	Citi World Broad Investment Grade Index (WBIG)—Government Related, which is a subsector of the WBIG. The index includes fixed rate investment grade agency, supranational and regional government debt, denominated in the domestic currency. The index is rebalanced monthly.
Corporate investment grade	Citi World Broad Investment Grade Index (WBIG)—Corporate, which is a subsector of the WBIG. The index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.
Corporate high yield	Bloomberg Barclays Global High Yield Corporate Index. Provides a broad-based measure of the global high yield fixed income markets. It is also a component of the Multiverse Index and the Global Aggregate Index.
Securitized	Citi World Broad Investment Grade Index (WBIG)—Securitized, which is a subsector of the WBIG. The index includes global investment grade collateralized debt denominated in the domestic currency, including mortgage -backed securities, covered bonds (Pfandbriefe) and asset -backed securities. The index is rebalanced monthly.

Indices	
CFETS RMB Basket Index	The China Foreign Exchange Trade System (CFETS) RMB currency basket measures the RMB versus foreign exchange currency pairs listed on CFETS. This index refers to the currency basket accepted by CFETS and the 13 currencies which make up the basket were selected based upon international trade-weights with adjustment of re-export trade factors.
DXY Dollar Index	The U.S. Dollar Index (USDX) indicates the general international value of the USD. The USDX does this by averaging the exchange rates between the USD and major world currencies. The ICE US computes this by using the rates supplied by some 500 banks.
ADXY Index / Asian Currency Index	This Bloomberg JPMorgan Asia Dollar Index is a trade and liquidity weighted index of 10 EM Asian currencies' exchange rate versus the US dollar.
Bloomberg Barclays Multiverse Total Return Index	The Multiverse Index provides a broad-based measure of the global fixed-income bond market. The index represents the union of the Global Aggregate Index and the Global High-Yield Index and captures investment grade and high yield securities in all eligible currencies.
Bloomberg Barclays Asian-Pacific ex-Japan local currency bond index	The Bloomberg Barclays Asian-Pacific Non-Japan Total Return Index Value Unhedged USD is a market capitalisation weighted index and measures the performance of local currency denominated government-related and corporate bonds of the Asia ex-Japan region.
iBoxx Asian US dollar Bond Index	Markit is a global index provider which is involved in designing, administering and calculating this index that covers USD segments of Asian fixed income markets.
CRB Industrial Commodities Price Index	A Thomson Reuters/Core Commodity Excess Return Index which uses an arithmetic average of commodity futures prices with monthly rebalancing.
CRB Industrial Metals Index	This data represents Commodity Research Bureau BLS Spot Indices (1967=100). The metals sub-index includes aluminum, copper, gold, iron ore, nickel, silver and steel rebar.
MSCI Asia ex-Japan Index	The MSCI Asia ex-Japan Index captures large- and mid-cap representation across 2 of 3 Developed Market countries (excluding Japan) and 9 Emerging Market countries in Asia. With 955 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. DM countries in the index include: Hong Kong and Singapore. EM countries include: China, India, Indonesia, Korea, Malaysia, Pakistan, the Philippines, Taiwan and Thailand.

Disclosures

In any instance where distribution of this communication ("Communication") is subject to the rules of the US Commodity Futures Trading Commission ("CFTC"), this communication constitutes an invitation to consider entering into a derivatives transaction under US CFTC Regulations §§ 1.71 and 23.605, where applicable, but is not a binding offer to buy/sell any financial instrument.

This Communication is prepared by Citi Private Bank ("CPB"), a business of Citigroup, Inc. ("Citigroup"), which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, "Citi"). Not all products and services are provided by all affiliates, or are available at all locations.

CPB personnel are not research analysts, and the information in this Communication is not intended to constitute "research", as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

This Communication is provided for information and discussion purposes only, at the recipient's request. The recipient should notify CPB immediately should it at any time wish to cease being provided with such information. Unless otherwise indicated, (i) it does not constitute an offer or recommendation to purchase or sell any security, financial instrument or other product or service, or to attract any funding or deposits, and (ii) it does not constitute a solicitation if it is not subject to the rules of the CFTC (but see discussion above regarding communication subject to CFTC rules) and (iii) it is not intended as an official confirmation of any transaction.

Unless otherwise expressly indicated, this Communication does not take into account the investment objectives, risk profile or financial situation of any particular person and as such, investments mentioned in this document may not be suitable for all investors. Citi is not acting as an investment or other advisor, fiduciary or agent. The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Recipients of this Communication should obtain advice based on their own individual circumstances from their own tax, financial, legal and other advisors about the risks and merits of any transaction before making an investment decision, and only make such decisions on the basis of their own objectives, experience, risk profile and resources.

The information contained in this Communication is based on generally available information and, although obtained from sources believed by Citi to be reliable, its accuracy and completeness cannot be assured, and such information may be incomplete or condensed. Any assumptions or information contained in this Communication constitute a judgment only as of the date of this document or on any specified dates and is subject to change without notice. Insofar as this Communication may contain historical and forward looking information, past performance is neither a guarantee nor an indication of future results, and future results may not meet expectations due to a variety of economic, market and other factors. Further, any projections of potential risk or return are illustrative and should not be taken as limitations of the maximum possible loss or gain. Any prices, values or estimates provided in this Communication (other than those that are identified as being historical) are indicative only, may change without notice and do not represent firm quotes as to either price or size, nor reflect the value Citi may assign a security in its inventory. Forward looking information does not indicate a level at which Citi is prepared to do a trade and may not account for all relevant assumptions and future conditions. Actual conditions may vary substantially from estimates which could have a negative impact on the value of an instrument.

Views, opinions and estimates expressed herein may differ from the opinions expressed by other Citi businesses or affiliates, and are not intended to be a forecast of future events, a guarantee of future results, or investment advice, and are subject to change without notice based on market and other conditions. Citi is under no duty to update this document and accepts no liability for any loss (whether direct, indirect or consequential) that may arise from any use of the information contained in or derived from this Communication.

Investments in financial instruments or other products carry significant risk, including the possible loss of the principal amount invested. Financial instruments or other products denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. This Communication does not purport to identify all risks or material considerations which may be associated with entering into any transaction.

Structured products can be highly illiquid and are not suitable for all investors. Additional information can be found in the disclosure documents of the issuer for each respective structured product described herein. Investing in structured products is intended only for experienced and sophisticated investors who are willing and able to bear the high economic risks of such an investment. Investors should carefully review and consider potential risks before investing.

OTC derivative transactions involve risk and are not suitable for all investors. Investment products are not insured, carry no bank or government guarantee and may lose value. Before entering into these transactions, you should: (i) ensure that you have obtained and considered relevant information from independent reliable sources concerning the financial, economic and political conditions of the relevant markets; (ii) determine that you have the necessary knowledge, sophistication and experience in financial, business and investment matters to be able to evaluate the risks involved, and that you are financially able to bear such risks; and (iii) determine, having considered the foregoing points, that capital markets transactions are suitable and appropriate for your financial, tax, business and investment objectives.

This material may mention options regulated by the US Securities and Exchange Commission. Before buying or selling options you should obtain and review the current version of the Options Clearing Corporation booklet, Characteristics and Risks of Standardized Options. A copy of the booklet can be obtained upon request from Citigroup Global Markets Inc., 390 Greenwich Street, 3rd Floor, New York, NY 10013 or by clicking the following links,

http://www.theocc.com/components/docs/riskstoc.pdf and
http://www.theocc.com/components/docs/about/publications/november_2012_supplement.pdf and
https://www.theocc.com/components/docs/about/publications/october_2018_supplement.pdf

If you buy options, the maximum loss is the premium. If you sell put options, the risk is the entire notional below the strike. If you sell call options, the risk is unlimited. The actual profit or loss from any trade will depend on the price at which the trades are executed. The prices used herein are historical and may not be available when you order is entered. Commissions and other transaction costs are not considered in these examples. Option trades in general and these trades in particular may not be appropriate for every investor. Unless noted otherwise, the source of all graphs and tables in this report is Citi. Because of the importance of tax considerations to all option transactions, the investor considering options should consult with his/her tax advisor as to how their tax situation is affected by the outcome of contemplated options transactions.

None of the financial instruments or other products mentioned in this Communication (unless expressly stated otherwise) is (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citi or any other insured depository institution.

Citi often acts as an issuer of financial instruments and other products, acts as a market maker and trades as principal in many different financial instruments and other products, and can be expected to perform or seek to perform investment banking and other services for the issuer of such financial instruments or other products. The author of this Communication may have discussed the information contained therein with others within or outside Citi, and the author and/or such other Citi personnel may have already acted on the basis of this information (including by trading for Citi's proprietary accounts or communicating the information contained herein to other customers of Citi). Citi, Citi's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of Citi may be long or short the financial instruments or other products referred to in this Communication, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different from or adverse to your interests.

IRS Circular 230 Disclosure: Citi and its employees are not in the business of providing, and do not provide, tax or legal advice to any taxpayer outside Citi. Any statement in this Communication regarding tax matters is not intended or written to be used, and cannot be used or relied upon, by any taxpayer for the purpose of avoiding tax penalties. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

Neither Citi nor any of its affiliates can accept responsibility for the tax treatment of any investment product, whether or not the investment is purchased by a trust or company administered by an affiliate of Citi. Citi assumes that, before making any commitment to invest, the investor and (where applicable, its beneficial owners) have taken whatever tax, legal or other advice the investor/beneficial owners consider necessary and have arranged to account for any tax lawfully due on the income or gains arising from any investment product provided by Citi.

This Communication is for the sole and exclusive use of the intended recipients, and may contain information proprietary to Citi which may not be reproduced or circulated in whole or in part without Citi's prior consent. The manner of circulation and distribution may be restricted by law or regulation in certain countries. Persons who come into possession of this document are required to inform themselves of, and to observe such restrictions. Citi accepts no liability whatsoever for the actions of third parties in this respect. Any unauthorized use, duplication, or disclosure of this document is prohibited by law and may result in prosecution.

Other businesses within Citigroup Inc. and affiliates of Citigroup Inc. may give advice, make recommendations, and take action in the interest of their clients, or for their own accounts, that may differ from the views expressed in this document. All expressions of opinion are current as of the date of this document and are subject to change without notice. Citigroup Inc. is not obligated to provide updates or changes to the information contained in this document.

The expressions of opinion are not intended to be a forecast of future events or a guarantee of future results. Past performance is not a guarantee of future results. Real results may vary.

Although information in this document has been obtained from sources believed to be reliable, Citigroup Inc. and its affiliates do not guarantee its accuracy or completeness and accept no liability for any direct or consequential losses arising from its use. Throughout this publication where charts indicate that a third party (parties) is the source, please note that the attributed may refer to the raw data received from such parties. No part of this document may be copied, photocopied or duplicated in any form or by any means, or distributed to any person that is not an employee, officer, director, or authorized agent of the recipient without Citigroup Inc.'s prior written consent.

Citigroup Inc. may act as principal for its own account or as agent for another person in connection with transactions placed by Citigroup Inc. for its clients involving securities that are the subject of this document or future editions of the Quadrant.

Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

Bond rating equivalence
Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

1 The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.
2 The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

(MLP's) - Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

Past performance is no guarantee of future results.

International investing entails greater risk, as well as greater potential rewards compared to US investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Readers interested in the strategies or concepts should consult their tax, legal, or other advisors, as appropriate.

Diversification does not guarantee a profit or protect against loss. Different asset classes present different risks.

Announced in January 2021, Citi Global Wealth (“CGW”) is comprised of the wealth management businesses of Citi Private Bank and Citi’s Global Consumer Bank. Through these businesses, CGW delivers Citi’s wealth solutions, products and services globally. The unified management and delivery of CGW’s wealth strategy represents a further commitment by Citi to become a leading global wealth business. Citi Global Wealth Investments (“CGWI”) is comprised of the Investments and Capital Markets capabilities of Citi Private Bank, Citi Personal Wealth Management and International Personal Bank U.S.

Citi Private Bank and Citi Personal Wealth Management are businesses of Citigroup Inc. (“Citigroup”), which provide clients access to a broad array of products and services available through bank and non-bank affiliates of Citigroup. Not all products and services are provided by all affiliates or are available at all locations. In the U.S., investment products and services are provided by Citigroup Global Markets Inc. (“CGMI”), member FINRA and SIPC, and Citi Private Advisory, LLC (“Citi Advisory”), member FINRA and SIPC. CGMI accounts are carried by Pershing LLC, member FINRA, NYSE, SIPC. Citi Advisory acts as distributor of certain alternative investment products to clients of Citi Private Bank. Insurance is offered by Citi Personal Wealth Management through Citigroup Life Agency LLC (“CLA”). In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). CGMI, Citi Advisory, CLA and Citibank, N.A. are affiliated companies under the common control of Citigroup.

Outside the U.S., investment products and services are provided by other Citigroup affiliates. Investment Management services (including portfolio management) are available through CGMI, Citi Advisory, Citibank, N.A. and other affiliated advisory businesses. These Citigroup affiliates, including Citi Advisory, will be compensated for the respective investment management, advisory, administrative, distribution and placement services they may provide.

International Personal Bank U.S. (“IPB U.S.”), is a business of Citigroup Inc. (“Citigroup”) which provides its clients access to a broad array of products and services available through Citigroup, its bank and non-bank affiliates worldwide (collectively, “Citi”). Through IPB U.S. prospects and clients have access to the Citigold® Private Client International, Citigold® International, International Personal, Citi Global Executive Preferred, and Citi Global Executive Account Packages. Investment products and services are made available through either Citi Personal Investments International (“CPII”), a business of Citigroup Inc., which offers securities through Citigroup Global Markets Inc. (“CGMI”), member FINRA and SIPC, an investment advisor and broker–dealer registered with the Securities and Exchange Commission; or Citi International Financial Services, LLC (“CIFS”), member FINRA and SIPC, and a broker–dealer registered with the Securities and Exchange Commission that offers investment products and services to non–U.S. citizens, residents, or non–U.S. entities. CGMI and CIFS investment accounts are carried by Pershing LLC, member FINRA, NYSE, and SIPC. Insurance is offered by CPII through Citigroup Life Agency LLC (“CLA”). In California, CLA does business as Citigroup Life Insurance Agency, LLC (license number 0G56746). Citibank N.A., CGMI, CIFS, and CLA are affiliated companies under common control of Citigroup Inc.

Citibank, N.A., Hong Kong / Singapore organised under the laws of U.S.A. with limited liability. This communication is distributed in Hong Kong by Citi Private Bank operating through Citibank N.A., Hong Kong Branch, which is registered in Hong Kong with the Securities and Futures Commission for Type 1 (dealing in securities), Type 4 (advising on securities), Type 6 (advising on corporate finance) and Type 9 (asset management) regulated activities with CE No: (AAP937) or in Singapore by Citi Private Bank operating through Citibank, N.A., Singapore Branch which is regulated by the Monetary Authority of Singapore. Any questions in connection with the contents in this communication should be directed to registered or licensed representatives of the relevant aforementioned entity. The contents of this communication have not been reviewed by any regulatory authority in Hong Kong or any regulatory authority in Singapore. This communication contains confidential and proprietary information and is intended only for recipient in accordance with accredited investors requirements in Singapore (as defined under the Securities and Futures Act (Chapter 289 of Singapore) (the “Act”)) and professional investors requirements in Hong Kong(as defined under the Hong Kong Securities and Futures Ordinance and its subsidiary legislation). For regulated asset management services, any mandate will be entered into only with Citibank, N.A., Hong Kong Branch and/or Citibank, N.A. Singapore Branch, as applicable. Citibank, N.A., Hong Kong Branch or Citibank, N.A., Singapore Branch may sub-delegate all or part of its mandate to another Citigroup affiliate or other branch of Citibank, N.A. Any references to named portfolio managers are for your information only, and this communication shall not be construed to be an offer to enter into any portfolio management mandate with any other Citigroup affiliate or other branch of Citibank, N.A. and, at no time will any other Citigroup affiliate or other branch of Citibank, N.A. or any other Citigroup affiliate enter into a mandate relating to the above portfolio with you. To the extent this communication is provided to clients who are booked and/or managed in Hong Kong: No other statement(s) in this communication shall operate to remove, exclude or restrict any of your rights or obligations of Citibank under applicable laws and regulations. Citibank, N.A., Hong Kong Branch does not intend to rely on any provisions herein which are inconsistent with its obligations under the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission, or which mis-describes the actual services to be provided to you.

Citibank, N.A. is incorporated in the United States of America and its principal regulators are the US Office of the Comptroller of Currency and Federal Reserve under US laws, which differ from Australian laws. Citibank, N.A. does not hold an Australian Financial Services Licence under the Corporations Act 2001 as it enjoys the benefit of an exemption under ASIC Class Order CO 03/1101 (remade as ASIC Corporations (Repeal and Transitional) Instrument 2016/396 and extended by ASIC Corporations (Amendment) Instrument 2020/200).

In the United Kingdom, Citibank N.A., London Branch (registered branch number BR001018), Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB, is authorised and regulated by the Office of the Comptroller of the Currency (USA) and authorised by the Prudential Regulation Authority. Subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. The contact number for Citibank N.A., London Branch is +44 (0)20 7508 8000.

Citibank Europe plc (UK Branch), is a branch of Citibank Europe plc, which is authorised by the European Central Bank and regulated by the Central Bank of Ireland and the European Central Bank (reference number is C26553). Citibank Europe plc (UK Branch) is also authorised by the Prudential Regulation Authority and with deemed variation of permission. Citibank Europe plc (UK Branch) is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details of the temporary permissions regime, which allows EEA-based firms to operate in the UK for a limited period while seeking full authorisation, are available on the FCA's website. Citibank Europe plc (UK Branch) is registered as a branch in the register of companies for England and Wales with registered branch number BR017844. Its registered address is Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB. VAT No.: GB 429 6256 29. Citibank Europe plc is registered in Ireland with number 132781, with its registered office at 1 North Wall Quay, Dublin 1. Citibank Europe plc is regulated by the Central Bank of Ireland. Ultimately owned by Citigroup Inc., New York, USA.

Citibank Europe plc, Luxembourg Branch is a branch of Citibank Europe plc with trade and companies register number B 200204. It is authorised in Luxembourg and supervised by the Commission de Surveillance du Secteur Financier. It appears on the Commission de Surveillance du Secteur Financier register with company number B00000395. Its business office is at 31, Z.A. Bourmicht, 8070 Bertrange, Grand Duchy of Luxembourg. Citibank Europe plc is registered in Ireland with company registration number 132781. It is regulated by the Central Bank of Ireland under the reference number C26553 and supervised by the European Central Bank. Its registered office is at 1 North Wall Quay, Dublin 1, Ireland.

In Jersey, this document is communicated by Citibank N.A., Jersey Branch which has its registered address at PO Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citibank N.A. Jersey Branch is a participant in the Jersey Bank Depositors Compensation Scheme. The Scheme offers protection for eligible deposits of up to £50,000. The maximum total amount of compensation is capped at £100,000,000 in any 5 year period. Full details of the Scheme and banking groups covered are available on the States of Jersey website www.gov.je/dcs, or on request.

In Canada, Citi Private Bank is a division of Citibank Canada, a Schedule II Canadian chartered bank. References herein to Citi Private Bank and its activities in Canada relate solely to Citibank Canada and do not refer to any affiliates or subsidiaries of Citibank Canada operating in Canada. Certain investment products are made available through Citibank Canada Investment Funds Limited ("CCIFL"), a wholly owned subsidiary of Citibank Canada. Investment Products are subject to investment risk, including possible loss of principal amount invested. Investment Products are not insured by the CDIC, FDIC or depository insurance regime of any jurisdiction and are not guaranteed by Citigroup or any affiliate thereof.

CCIFL is not currently a member, and does not intend to become a member of the Mutual Fund Dealers Association of Canada ("MFDA"); consequently, clients of CCIFL will not have available to them investor protection benefits that would otherwise derive from membership of CCIFL in the MFDA, including coverage under any investor protection plan for clients of members of the MFDA.

Global Consumer Bank (Asia Pacific and EMEA):

"Citi analysts" refer to investment professionals within Citi Research ("CR"), Citi Global Markets Inc. ("CGMI"), Citi Private Bank ("CPB") and voting members of the Citi Global Investment Committee. Citibank N.A. and its affiliates / subsidiaries provide no independent research or analysis in the substance or preparation of this document.

The information in this document has been obtained from reports issued by CGMI and CPB. Such information is based on sources CGMI and CPB believe to be reliable. CGMI and CPB, however, do not guarantee its accuracy and it may be incomplete or condensed. All opinions and estimates constitute CGMI and CPB's judgment as of the date of the report and are subject to change without notice. This document is for general information purposes only and is not intended as a recommendation or an offer or solicitation for the purchase or sale of any security or currency. No part of this document may be reproduced in any manner without the written consent of Citibank N.A. Information in this document has been prepared without taking account of the objectives, financial situation, or needs of any particular investor. Any person considering an investment should consider the appropriateness of the investment having regard to their objectives, financial situation, or needs, and should seek independent advice on the suitability or otherwise of a particular investment. Investments are not deposits, are not obligations of, or guaranteed or insured by Citibank N.A., Citigroup Inc., or any of their affiliates or subsidiaries, or by any local government or insurance agency, and are subject to investment risk, including the possible loss of the principal amount invested. Investors investing in funds denominated in non-local currency should be aware of the risk of exchange rate fluctuations that may cause a loss of principal. Past performance is not indicative of future performance, prices can go up or down. Investment products are not available to US persons. Investors should be aware that it is his/her responsibility to seek legal and/or tax advice regarding the legal and tax consequences of his/her investment transactions. If an investor changes residence, citizenship, nationality, or place of work, it is his/her responsibility to understand how his/her investment transactions are affected by such change and comply with all applicable laws and regulations as and when such becomes applicable. Citibank does not provide legal and/or tax advice and is not responsible for advising an investor on the laws pertaining to his/her transaction.

Citi Research (CR) is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. For more information, please refer to https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Market Specific Disclosures

Australia: This document is distributed in Australia by Citigroup Pty Limited ABN 88 004 325 080, AFSL No. 238098, Australian credit licence 238098. Any advice is general advice only. It was prepared without taking into account your objectives, financial situation, or needs. Before acting on this advice you should consider if it's appropriate for your particular circumstances. You should also obtain and consider the relevant Product Disclosure Statement and terms and conditions before you make a decision about any financial product, and consider if it's suitable for your objectives, financial situation, or needs. Investors are advised to obtain independent legal, financial, and taxation advice prior to investing. Past performance is not an indicator of future performance. Investment products are not available to US people and may not be available in all jurisdictions.

Bahrain: This document is distributed in Bahrain by Citibank, N.A., Bahrain. Citibank, N.A., Bahrain, may in its sole and absolute discretion provide various materials relating to the securities for information purposes only. Citibank, N.A., Bahrain is licensed by the Central Bank of Bahrain as a Conventional Retail and Wholesale Bank and is bound by the CBB's regulations and licensing conditions with regards to products and services provided by Citibank, N.A. Bahrain. These terms are governed by and shall be construed in accordance with the laws of the Kingdom of Bahrain. The Customer irrevocably agrees that the civil courts in the Bahrain shall have non-exclusive jurisdiction to hear and determine any suit, action or proceeding and to settle any disputes which may arise out of or in connection with these Terms and Conditions and for such purposes the Customer irrevocably submits to the jurisdiction of such courts. Investment products are not insured by government or governmental agencies. Investment and Treasury products are subject to Investment risk, including possible loss of principal amount invested. Past performance is not indicative of future results: prices can go up or down. Investors investing in investments and/or treasury products denominated in foreign (non-local) currency should be aware of the risk of exchange rate fluctuations that may cause loss of principal when foreign currency is converted to the investors' home currency. Investment and Treasury products are not available to U.S. persons. All applications for investments and treasury products are subject to Terms and Conditions of the individual investment and Treasury products. Customer understands that it is his/her responsibility to seek legal and/or tax advice regarding the legal and tax consequences of his/her investment transactions. If customer changes residence, citizenship, nationality, or place of work, it is his/her responsibility to understand how his/her investment transactions are affected by such change and comply with all applicable laws and regulations as and when such becomes applicable. Customer understands that Citibank does not provide legal and/or tax advice and are not responsible for advising him/her on the laws pertaining to his/her transaction. Citibank Bahrain does not provide continuous monitoring of existing customer holdings.

People's Republic of China: This document is distributed by Citibank (China) Co., Ltd in the People's Republic of China (excluding the Special Administrative Regions of Hong Kong and Macau, and Taiwan).

Hong Kong: This document is distributed in Hong Kong by Citibank (Hong Kong) Limited ("CHKL") and Citibank N.A.. Citibank N.A. and its affiliates / subsidiaries provide no independent research or analysis in the substance or preparation of this document. Investment products are not available to US persons and not all products and services are provided by all affiliates or are available at all locations. Prices and availability of financial instruments can be subject to change without notice. Certain high-volatility investments can be subject to sudden and large falls in value that could equal the amount invested.

India: This document is distributed in India by Citibank N.A. Investment are subject to market risk including that of loss of principal amounts invested. Products so distributed are not obligations of, or guaranteed by, Citibank and are not bank deposits. Past performance does not guarantee future performance. Investment products cannot be offered to US and Canada Persons. Investors are advised to read and understand the Offer Documents carefully before investing.

Indonesia: This report is made available in Indonesia through Citibank N.A., Indonesia Branch. Citibank N. A., is a bank that is licensed, registered and supervised by the Indonesia Financial Services Authority (OJK).

Korea: This document is distributed in South Korea by Citibank Korea Inc. Investors should be aware that investment products are not guaranteed by the Korea Deposit Insurance Corporation and are subject to investment risk including the possible loss of the principal amount invested. Investment products are not available to US persons.

Malaysia: Investment products are not deposits and are not obligations of, not guaranteed by, and not insured by, Citibank Berhad, Citibank N.A., Citigroup Inc. or any of their affiliates or subsidiaries, or by any government or insurance agency. Investment products are subject to investment risks, including the possible loss of the principal amount invested. These are provided for general information only and are not intended as a recommendation or an offer or solicitation for the purchase or sale of any security or currency or other investment products. Citibank Berhad does not represent the information herein as accurate, true or complete, makes no warranty express or implied regarding it and no liability whatsoever will be accepted by Citibank Berhad, whether in contract, tort or otherwise, for the accuracy or completeness of such information including any error of fact or omission herein which may lead to any direct or consequential loss, damages, costs or expenses arising from any reliance upon or use of the information in the material. The contents of these materials have not been reviewed by the Securities Commission Malaysia.

Philippines: This document is made available in Philippines by Citicorp Financial Services and Insurance Brokerage Phils. Inc, and Citibank N.A. Philippine Branch. Investors should be aware that Investment products are not insured by the Philippine Deposit Insurance Corporation or Federal Deposit Insurance Corporation or any other government entity.

Singapore: This report is distributed in Singapore by Citibank Singapore Limited ("CSL"). Investment products are not insured under the provisions of the Deposit Insurance and Policy Owners' Protection Schemes Act of Singapore and are not eligible for deposit insurance coverage under the Deposit Insurance Scheme.

Thailand: This document contains general information and insights distributed in Thailand by Citigroup and is made available in English language only. Citi does not dictate or solicit investment in any specific securities and similar products. Investment contains certain risk, please study prospectus before investing. Not an obligation of, or guaranteed by, Citibank. Not bank deposits. Subject to investment risks, including possible loss of the principal amount invested. Subject to price fluctuation. Past performance does not guarantee future performance. Not offered to US persons.

UAE: This document is distributed in UAE by Citibank, N.A. UAE. This is not an official statement of Citigroup Inc. and may not reflect all of your investments with or made through Citibank. For an accurate record of your accounts and transactions, please consult your official statement. Before making any investment, each investor must obtain the investment offering materials, which include a description of the risks, fees and expenses and the performance history, if any, which may be considered in connection with making an investment decision. Each investor should carefully consider the risks associated with the investment and make a determination based upon the investor's own particular circumstances, that the investment is consistent with the investor's investment objectives. At any time, Citigroup companies may compensate affiliates and their representatives for providing products and services to clients.

United Kingdom: This document is distributed in the U.K. by Citibank UK Limited and in Jersey by Citibank N.A., Jersey Branch.

Citibank UK Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Our firm's Financial Services Register number is 805574. Citibank UK Limited is a company limited by shares registered in England and Wales with registered address at Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB, Companies House Registration No. 11283101.

Citibank N.A., Jersey Branch is regulated by the Jersey Financial Services Commission. Citi International Personal Bank is registered in Jersey as a business name of Citibank N.A. The address of Citibank N.A., Jersey Branch is P.O. Box 104, 38 Esplanade, St Helier, Jersey JE4 8QB. Citibank N.A. is incorporated with limited liability in the USA. Head office: 399 Park Avenue, New York, NY 10043, USA.

Vietnam: This document is distributed in Vietnam by Citibank, N.A., - Ho Chi Minh City Branch and Citibank, N.A. - Hanoi Branch, licensed foreign bank's branches regulated by the State Bank of Vietnam. Investment contains certain risk, please study product's prospectus, relevant disclosures and disclaimers and the terms and conditions for details before investing. Investment products are not offered to US persons.

This document is for information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities to any person in any jurisdiction. The information set out herein may be subject to updating, completion, revision, verification and amendment and such information may change materially.

Citigroup, its affiliates and any of the officers, directors, employees, representatives or agents shall not be held liable for any direct, indirect, incidental, special, or consequential damages, including loss of profits, arising out of the use of information contained herein, including through errors whether caused by negligence or otherwise.