

Asia Strategy

January 2021



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

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

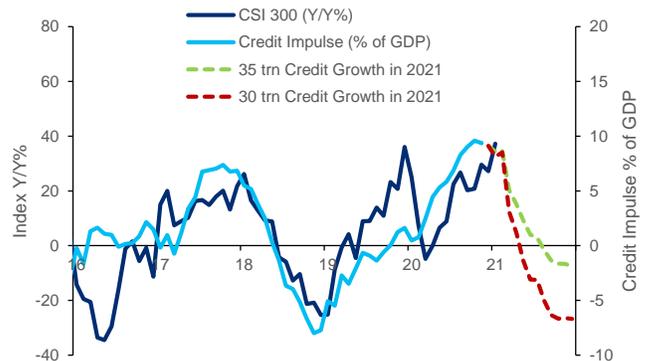
China: Beyond 2015 and Hello 2007

- After 36% returns in 2020, Chinese equities reclaimed the 2015 high in early 2021, with the 2007 peak within sight. Investors are concerned about a bubble.
- **We see several supportive factors, including stronger fundamentals**, not just from cyclical earnings recovery (**Figure 1**), but also better long term prospects. **Valuations** are no longer cheap, but they remain consistent with earnings. **Foreign fund inflows** are strong, supported by low US interest rates and weak USD, as well as foreign institutional investors allocating to quality growth in China.
- **The main risk comes from domestic credit impulse likely turning downward** (**Figure 2**). The 2016-17 rally ended three months after credit impulse peaked. This time, the credit peak may have been last November. This may leave overall index vulnerable, while sector rotation takes place. The bull market could return after credit conditions normalize, as evidenced in 2019-20.
- **We remain committed to the cyclical recovery across the region, which is likely more visible in Southeast Asia this year.** Still, given improved fundamentals, we remain committed to China's positive longer term prospects beyond near term volatility.

Figure 1: China's export growth recovered sharply in 2020, which also points to stronger EPS growth in 2021 **Figure 2: Credit Impulse suggest less support for equities from domestic credit in coming months**



Source: Bloomberg, as of 11 Jan 2020



Note: Estimates based on assumptions of 35tn or 30tn new credit in 2021 and normal seasonal patterns. Source: Bloomberg, as of Nov 2020

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

China: Beyond 2015 and Hello 2007

After significant equity rallies, we see 3 main supporting factors for China, along with a key headwind

While recovery from pandemic continues, we expect Southeast Asian markets to outperform

China's earnings recovery is likely to continue, with the largest improvements in cyclical sectors

Chinese equities led global markets in 2020 and has surpassed the 2015 peak at the start of 2021, with the 2007 all time peak within sight. Investors are worried about another bubble. Looking at the underlying earnings growth, valuation and fund flow trends, we believe the rally is well supported and we remain long term positive on Chinese equities.

However, looking at the policy and credit backdrop, we also see some headwinds, which could lead to volatility in the coming months. But the bull market may resume after credit conditions stabilize, as stronger market fundamentals remain in place.

Even though there are legitimate concerns over credit conditions in China, we believe the recovery from the pandemic in the rest of Asia would remain powerful. This favors laggard markets like Southeast Asia and industries like Energy, Financials and Industrials.

Earnings growth to rise more along with economic recovery

Thanks to the pandemic and expected recovery, China's GDP growth is likely to bounce from 2.1% in 2020 to 8.2% in 2021 (**Figure 3**). The majority of the pickup would likely come from consumption, particularly in services, which was the hardest hit in 2020. This would be taking place as exports are already booming from a 15% decline in early 2020 to a 15% growth by 4Q (**Figure 4**).

This swing may be easy to spot, but consensus earnings growth expectations are 4.2% in 2020 and 18.2% in 2021, a much milder EPS swing than implied by either GDP or exports. Compared to 2015, when GDP and EPS growth were both falling, the current rally is better supported fundamentally.

Figure 3: China's GDP growth is expected to bounce from 2.1% to 8.2%, while consensus EPS expectations show much smaller swing

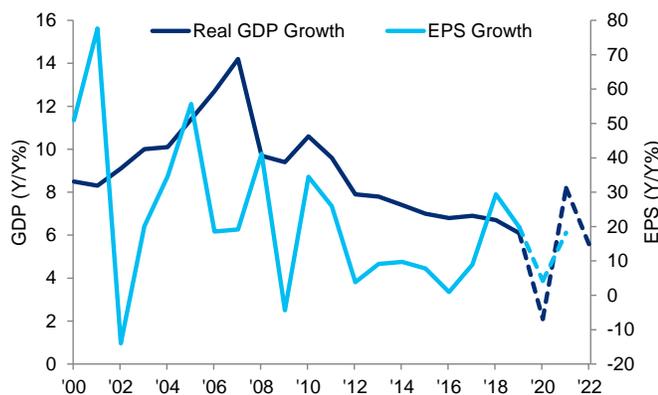


Figure 4: China's export growth has recovered sharply in 2020, which also points to stronger EPS growth in 2021



Source: Haver Analytics, Citi Research forecasts, MSCI Consensus EPS growth, as of 4 Jan 2021.

Source: Bloomberg, as of Dec 2020.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

The sectors that are likely to see the biggest earnings swings like Energy and Industrials have lagged in 2020 and are candidates for some catching up in performance (**Figure 5** and **Figure 6**). Healthcare's rally and earnings path appear consistent with performance. Financials are likely to benefit from recovery as well, especially for insurance, while banks are likely to still see mediocre growth.

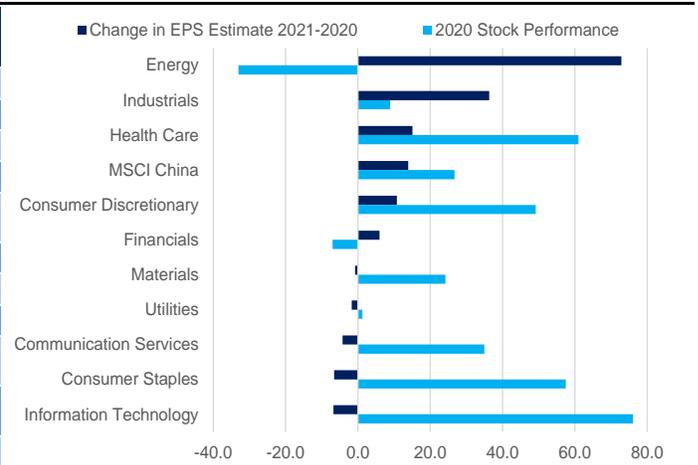
The Consumer Discretionary sector performance is driven by the high flying e-commerce and electric vehicles, while consumer services remain lagging. In 2021, we

expect the lagging part of this sector to lead, partly because of the recovery, and partly because of regulatory issues associated with e-commerce platforms. The pending anti-trust and financial regulations are likely to hold back performance for the large e-commerce platforms in the near term, but likely would not affect their longer term development significantly.

Figure 5: Most Chinese equity sectors are expected to see strong growth in 2021

	Earnings Growth Estimate			2020 Stock Performance
	2020	2021	Change	
Energy	-44.0	28.9	72.8	(33.0)
Industrials	-10.6	25.7	36.3	8.9
Health Care	30.1	45.2	15.1	61.0
MSCI China	4.2	18.2	13.9	26.7
Consumer Discretionary	26.1	36.8	10.8	49.2
Financials	9.7	15.7	5.9	(7.0)
Materials	17.4	16.7	-0.8	24.2
Utilities	14.1	12.4	-1.7	1.2
Telecom Services	19.9	15.6	-4.3	35.0
Consumer Staples	25.9	19.3	-6.6	57.5
IT	32.7	25.9	-6.7	76.0

Figure 6: Sectors with largest earnings swings like Energy and Industrials may catch up in performance



Source: Bloomberg, MSCI Consensus EPS growth, as of 1 Jan 2021.

Source: Bloomberg, MSCI Consensus EPS growth, as of 1 Jan 2021.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Telecom services sector performance is dominated by Tencent and its peers, but it also contains the traditional providers currently being delisted by the NYSE and removed from global benchmarks. These have been some of the worst performing names in 2020 and there may be a potential tactical opportunity, as buyers from China are likely to move in to replace the US investors.

US-China tensions are likely to stabilize somewhat after Trump leaves office

Delisting of military affiliated companies and ADRs for accounting purposes could create near term drag, but unlikely to have lasting impact as there are other buyers

There remain some worries about the US-China relationship, as the last days of Trump saw a slew of attacks on Chinese firms listed in the US. Here, we highlight two main points:

- The Biden administration likely intends to stabilize the relationship and would unlikely prioritize immediate economic and financial decoupling. The Trump executive orders that have not yet been implemented (sanctions against tech companies for example) have lower odds of execution under a Biden administration and a Treasury led by Janet Yellen. This is especially so since the investment bans did not get written into the National Defence Authorization Act in 2020.
- The delisting of telecom firms and the investment ban on firms related to the military may continue, as are other potential delisting of ADRs under the Holding Foreign Companies Accountable Act. However, the selling pressure generated from these actions are likely to be offset to a great extent by buying from China elsewhere.

Valuations have closed the historic discount, but are not stretched

Looking at valuations, investors would easily note that both offshore (H-shares and ADRs) and onshore (A-shares) Chinese equities are at the highest in more than a decade (Figure 7).

But this alone does not prove overvaluation. The index components have had revolutionary changes, with tech driven high growth companies taking up nearly two thirds of the index now, versus less than one third just ten years ago. While low growth sectors have shrunk. This has affected the offshore market a lot more than the

Even after the 2019-20 rally, Chinese valuations remain consistent with earnings, and are still at deep discount to US

onshore listed equities, which boosted the MSCI China valuations more than for the CSI 300.

In both cases, the expected long term growth for earnings is higher now than during the valuation swamp that Chinese equities experienced during 2011-18 (Figure 7). Even after the 2019-20 rally, Chinese equity valuations remain 25% below that of the US (Figure 9)

Figure 7: A-share PE has risen above 2015 levels, but remain close to historical average



Source: Bloomberg, as of 7 Jan 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Figure 8: The MSCI China index had added far more tech components in the past decade, which boosted valuations more than for the A-shares market



Source: Bloomberg, as of 7 Jan 2021.

EPS has doubled since 2007, while the index level is 6.5% lower (Figure 8). With the notable exception of 2007, A-shares had been fluctuating in a wide but upward trending range. Today's level is near the high end of the range, but still inside the range, especially considering the likely over 20% growth in EPS in 2021.

Looking forward, China's long term plan of investing in technological self sufficiency and sustainable development would continue to attract capital. Favoured industries would include, 5G, AI, e-commerce, green energy, electric/autonomous vehicles, fintech, industrial automation and consumer brands.

Figure 9: Despite recent rally Chinese equities remain at about 25% discount to the US



Source: Bloomberg, as of 7 Jan 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Figure 10: The Chinese equity rally has not outpaced earnings nearly as much as in 2007



Source: Bloomberg, as of 7 Jan 2021.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Fund flows and currency remain supportive

Foreign investors are increasingly keen to capture the emergence of sustainable growth industries in China. This has accelerated in 2020 thanks to CNY currency strength and cheap USD financing. A long term implication is that Chinese equities will be increasingly owned by institutional investors.

Foreign investors have begun to invest in quality growth industries in China, but cumulative inflows remain small

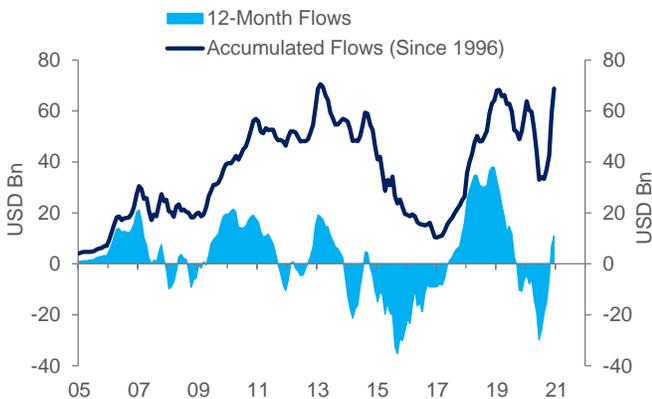
In the last four months of 2020, flows to China focused ETFs and mutual funds amounted to \$35bn, after \$25bn of outflows in the prior eight months, according to EPFR data. This is significant especially considering the US government's multiple efforts to prevent US investors from buying various types of Chinese equities. US-China tensions have pushed more investors to HK, rather than reduce overall investor interest. Yet, even after the latest inflows, cumulative flows into China funds amounted to less than \$70bn in the EPFR dataset, which is only about flat with 2013 levels (Figure 11). As a comparison, cumulative flows to Japan funds were \$388bn.

Cheap borrowing cost and weaker USD are aiding inflows

Foreign investors' enthusiasm is also buoyed by cheap USD funding and a strong Chinese currency. The rush for quality assets applied just as strongly for Chinese equities, as it did for US ones. The weaker USD provided an additional boost to returns, with the yield gap between US and China pointing to still stronger CNY of 6.10 to 6.20 area (Figure 12).

Figure 11: Inflows to China ETFs and mutual funds had been strong in late 2020 despite US tensions, but still only just returned to 2013 levels

Figure 12: Yield gap between US and China suggest further CNY strength to 6.10 to 6.20 area



Source: EPFR Global, Haver Analytics, as of Dec 2020.

Source: Bloomberg, as of 7 Jan 2020.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Domestic credit and policy risks may present some headwinds

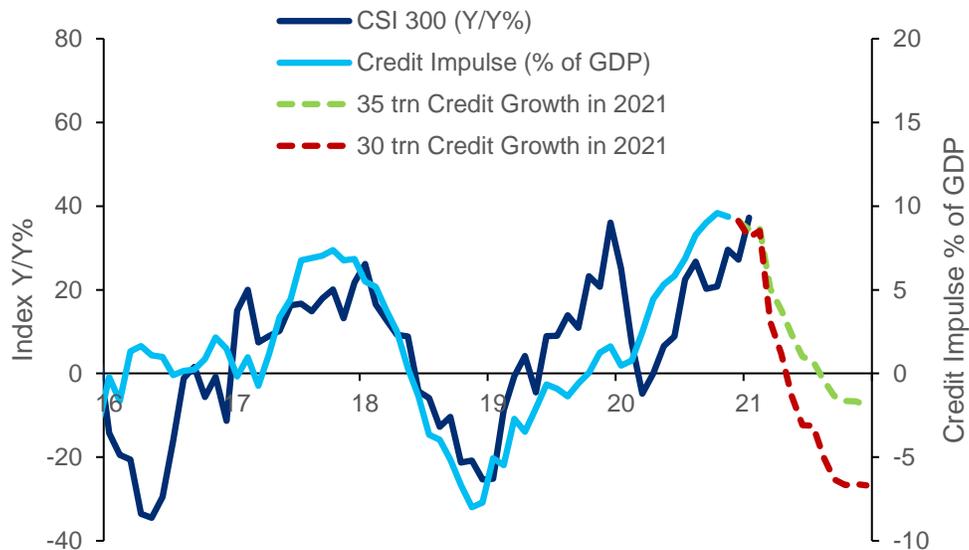
The key risk is when and how will the monetary backdrop change, both by the PBOC and the Fed.

We watch potential changes in credit conditions for signals of near term caution

For the Fed, its preference for higher inflation than 2% remains a key policy anchor. There could potentially be some odds for slowing down the monthly purchases if the Democratic controlled government steps up stimulus, but its balance sheet is still likely to expand well into 2022. As for rate hikes, 2023 is still the earliest possible timing. In sum, we are not too worried about the status of cheap USD financing. This would continue to support foreign fund flows.

The direction of China's domestic credit, however, could be more prone to change. In 2020, aggregate financing increased by CNY 35 trillion, or 34% of GDP. The so called credit impulse amounted to 9% of GDP and contributed to the remarkable 36% rally in the CSI 300 index.

Figure 13: Credit Impulse suggest less support for equities from domestic credit possibly from 2Q



Note: Credit Impulse is the change in aggregate financing over the past 12 months, as % of GDP. Source: Haver Analytics, as of 7 Jan 2021. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events.

During the 2016-17 rally, credit impulse had a similar swing from negative to positive, peaking in October 2017. Then equities peaked 3 months later in January 2018 (**Figure 13**). This time, the credit impulse may have just peaked in November 2020.

Current conditions for credit impulse appear similar to early 2018, which preceded visible correction in Chinese equities

Chinese authorities are unlikely to tighten credit policy in a significant way, as the economy has still not fully recovered. Meanwhile, 2021 is the 100th anniversary of the founding of the Chinese Communist Party, which is a key milestone for the leadership. There would be major efforts to contain both downside economic risks and overheating risks. As a result, keeping credit expansion steady is probably the preferred path rather than substantial moves in either direction.

Pressure from credit impulse may become more visible in late 1Q to early 2Q

Still, if the pace of credit expansion were to remain the same as in 2020, or about CNY35 trillion, then we're likely to see credit impulse moderate in 2021. If authorities were to decide to trim credit growth, to perhaps a still large CNY30 trillion, then the gap to current index levels becomes wider (**Figure 13**). In 1Q, credit growth typically remains robust as that is when the most refinancing is done for the year. But there could be more concerns in 2Q.

As noted above, earnings growth, valuations, fund flows and cheap USD funding remain supportive of Chinese equities. Being at the start of a new business cycle also provides cyclical upside. As a result, the relationship between equities and domestic credit may be evolving.

But we believe credit conditions would ultimately stabilize and the bull market can resume after consolidation

The macro credit conditions could create some near term consolidation, but the bull market could resume after credit conditions stabilize. We remain positive on the long term prospects for Chinese equities. For the CSI 300, we suspect that the index could return towards the middle of the upward trending range in **Figure 8**, but would retain the upward trend, thus providing an opportunity.

Asian regional recovery intact

A moderate rationalization of credit would not stop the recovery in China, nor in the region more broadly. In this backdrop, the rest of Asia could potentially be catching up in terms of equity performance.

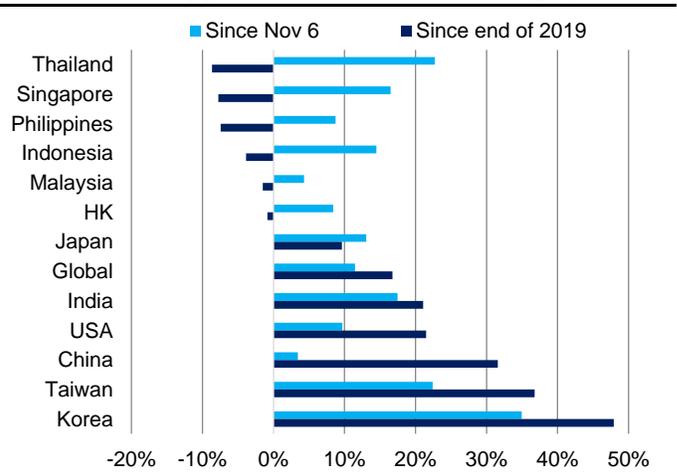
Figure 14: Asian GDP growth is likely to swing back to above trend in 2021

	2020E	2021E	Change
India	-8.0	11.0	19.0
Philippines	-7.9	7.0	14.9
Thailand	-8.6	4.0	12.6
Malaysia	-5.0	7.0	12.0
Singapore	-7.0	5.0	12.0
Hong Kong	-6.3	3.5	9.8
Japan	-5.4	2.0	7.4
China	2.1	8.2	6.1
Indonesia	-2.1	3.6	5.7
South Korea	-1.4	3.0	4.4
Taiwan	1.7	3.6	1.9
ASEAN	-6.1	5.3	11.4
EM Asia ex-CN, TW, SK	-6.5	7.8	14.3

Source: Haver Analytics, Citi Research forecasts, as of Dec 2020.

All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Figure 15: Southeast Asian equity market performance lagged in 2020, but is catching up



Source: Bloomberg, as of 7 Jan 2020.

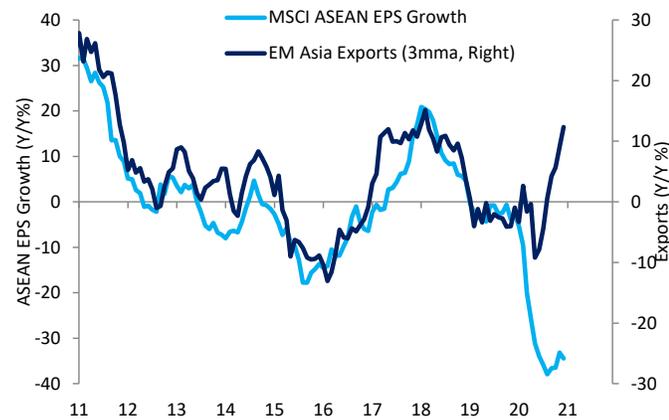
Southeast Asian equities may outperform during cyclical recovery from pandemic, after lagging in 2020

In 2020, Southeast Asia, along with India and even Japan, had economic contractions of 5 to 9%, much worse than China's 2% growth. In 2021, China is still expected to be leading the pack at 8.2% (second only to India), but the swing would be much stronger in the more vulnerable markets (Figure 14). The more pronounced recoveries in Southeast Asia and Japan will likely translate into asset price performance.

The key risk to our view is if effective vaccines and treatments do not become widely available in the first half of 2021. However, even with possible delays, we would still expect ongoing progress towards economic re-opening. This goes not only for the economies that managed the pandemic most effectively, but also in the "vulnerable" group including India, where economies remained open despite high infection rates.

In 2020, China, Korea and Taiwan led equity performance not just in the region, but also globally, driven by effective pandemic management and heavy tech weightings. These advantages may fade in a broader recovery in 2021.

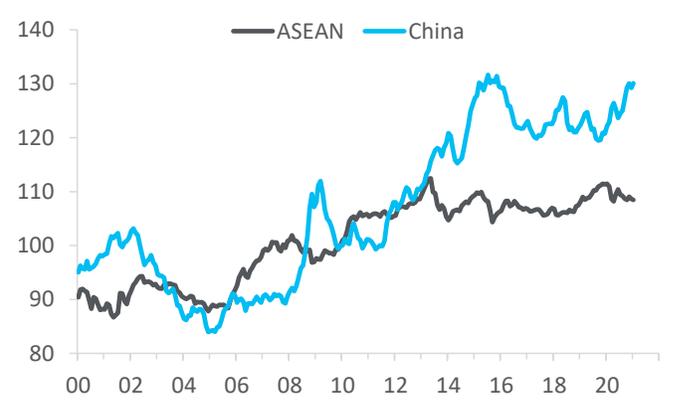
Figure 16: Export growth suggest substantial rebound in ASEAN earnings



Source: Haver Analytics, Citi Research forecasts, as of Dec 2020.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Figure 17: Real effective exchange rates of ASEAN had been broadly stagnant, while CNY strengthened



Source: Bloomberg, as of 11 Jan 2020.

Southeast Asian currencies have also lagged in performance, but could see some catch up

Meanwhile, Southeast Asia, even after the vaccine driven rally since November, are still lagging. This provides more room for upside surprises in 2021. Regional exports have already rebounded by 13% year-on-year as of Nov 2020, with further gains likely. We believe that this points to potentially above-30% earnings growth in these markets for 2021 (**Figure 16**).

Moreover, in the environment of weaker USD and low US borrowing rates, Southeast Asia also stands to benefit more (**Figure 17**). Here ASEAN currencies had also been the laggards, not just during the pandemic, but also over the past decade. China's predominance in global supply chains and tech development contributed to this divergence. In the coming decade, there are likely more investments going to ASEAN, as firms try to diversify supply chains and the G2 powers compete for influence in this region.

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 (USDIX) indicates the general international value of the USD. The USDIX 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

Credit risk	Rating agencies		
	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.

Citi Private Bank is a business of Citigroup Inc. ("Citigroup"), which provides its 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. CGMI, Citi Advisory 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.

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 (replaced 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 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. Ultimately owned by Citigroup Inc., New York, USA. 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. It is authorised by the Central Bank of Ireland and by the Prudential Regulation Authority. It is subject to supervision by the Central Bank of

Ireland, and subject to limited regulation by the Financial Conduct Authority and the Prudential Regulation Authority. Details about the extent of our authorisation and regulation by the Prudential Regulation Authority, and regulation by the Financial Conduct Authority are available from us on request.

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.

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.

© 2021 Citigroup Inc. Citi, Citi and Arc Design and other marks used herein are service marks of Citigroup Inc. or its affiliates, used and registered throughout the world.