

Asia Economics Analyst China's upcoming 20th Party Congress and its policy implications

- The Chinese Communist Party will hold its 20th Party Congress on October 16. The meeting is highly anticipated as this Congress (and the first Plenum immediately after it) will elect the new Politburo and its Standing Committee, a group of the most senior leaders in China, who will be in office for the next five years. In this report, we outline the leadership reshuffling process in China, and discuss its policy implications.
- Technically speaking, the Party Congress is focused on personnel reassignment, and thus it does not make major policy announcements. However, policies can be indirectly affected by a change in the top leadership. Besides the reshuffling of national leaders, China watchers also take note of changes affecting provincial heads ("party secretaries"), as they (especially those for the top provinces in terms of GDP, or leading municipalities) can end up sitting in the Politburo and even on its Standing Committee. The reshuffling of local officials is also important for policy implementation.
- The Party and government institutions that matter for macroeconomic policies have been evolving as Chinese policymakers continue to adjust the regulatory framework and the organization of government institutions. In recent years, the Central Commission for Comprehensively Deepening Reforms under the Politburo, the Central Financial and Economic Affairs Commission under the Politburo, and the State Council Financial Stability and Development Committee have been directly involved in designing economic policies, besides ministries and bureaus such as the Ministry of Finance, the National Development and Reform Commission, and the People's Bank of China.
- Policymakers tend to prioritize stability ahead of the Congress in recent days we have seen incrementally tighter Covid control measures in response to local Covid outbreaks, more efforts on ensuring property completions (for projects under construction) and an emphasis on exchange rate stability. After the Party Congress, we expect better policy coordination and more efficient implementation as personnel issues are settled. However, we do not expect major policy shifts immediately after the Congress, either on "Dynamic Zero Covid" or the property sector. We expect medium- to long-term policy goals to be maintained as well, including manufacturing upgrading, supply chain security, de-carbonization and the promotion of common prosperity.

Maggie Wei +86(10)6627-3189 | maggie.wei@gsgh.cn Beijing Gao Hua Securities Company Limited

Hui Shan

+852-2978-6634 | hui.shan@gs.com Goldman Sachs (Asia) L.L.C.

Lisheng Wang

+852-3966-4004 lisheng.wang@gs.com Goldman Sachs (Asia) L.L.C.

Xinquan Chen

+852-2978-2418 | xinquan.chen@gs.com Goldman Sachs (Asia) L.L.C.

Yuting Yang

+852-2978-7283 | yuting.y.yang@gs.com Goldman Sachs (Asia) L.L.C

Andrew Tilton

+852-2978-1802 | andrew.tilton@gs.com Goldman Sachs (Asia) L.L.C.

China's upcoming 20th Party Congress and its implications

The Chinese Communist Party will hold its 20th Party Congress on October 16. The meeting is highly anticipated as this Congress (and the first Plenum immediately after it) will elect the new Politburo and its standing committee, a group of the most senior leaders in China, who will be in office for the next five years (or longer). While the Congress is focused on personnel changes, market participants might be concerned about major shifts in policies after personnel issues are settled. Technically speaking, the reappointment of *government* leaders will be completed after the "Two Sessions" (National People's Congress (NPC) and National Committee of the Chinese People's Political Consultative Conference (CPPCC)) in March of next year. We do not expect major policy changes immediately after the Party Congress – policymakers appear quite committed to conservative property policy ("housing is for living in, not for speculation") and Covid control (though we might see China begin to move away from its dynamic Zero Covid policy by Q2 next year).

1. The 20th National Party Congress and its agenda

The 20th National Party Congress is part of the process that will eventually elect the Politburo and its Standing Committee, a group of the most senior Party leaders in China, who will be in office for the next five years, until late 2027 when the 21st Party Congress may take place. Party leaders also hold senior positions in the government.

The upcoming 20th National Party Congress is more important than the previous one in late 2017, as Government and Party leaders serve five-year terms, and are usually in office for two terms. Party congresses that fall on even-numbered years (e.g., 2002 and 2012) generally involve more changes in personnel while those falling on odd-numbered years (e.g., 2007 and 2017) can be viewed as analogous to the mid-term elections held for the US Congress, with the reassignment of a smaller share of senior policymakers. Exhibit 1

Exhibit 1: Even numbered Party Congresses tend to see more personnel changes than odd numbered ones

Date of the CCP Congress	Term of the CCP Congress	General Secretary	Chairman of CMC**	President	Premier	
9/1/1982 - 9/11/1982	12th (1982-1987)	Hu Yaobang	Deng Xiaoping⁺	Li Xiannian	Zhao Ziyang	
10/25/1987 - 11/1/1987	13th (1987-1992)	Zhao Ziyang*	Deng Xiaoping	Yang Shangkun	Li Peng	
10/12/1992 - 10/18/1992	14th (1992-1997)	Jiang Zemin	Jiang Zemin	Jiang Zemin	Li Peng	
9/12/1997 - 9/18/1997	15th (1997-2002)	Jiang Zemin	Jiang Zemin	Jiang Zemin	Zhu Rongji	
11/8/2002 - 11/14/2002	16th (2002-2007)	Hu Jintao	Jiang Zemin^	Hu Jintao	Wen Jiabao	
10/15/2007 - 10/21/2007	17th (2007-2012)	Hu Jintao	Hu Jintao	Hu Jintao	Wen Jiabao	
11/8/2012 - 11/14/2012	18th (2012-2017)	Xi Jinping	Xi Jinping	Xi Jinping	Li Keqiang	
10/18/2017 - 10/24/2017	19th (2017-2022)	Xi Jinping	Xi Jinping	Xi Jinping	Li Keqiang	

^{*} Zhao Ziyang held the position from 1987-1989, Jiang Zemin took the position from him in 1989.

Source: www.people.com.cn, China State Council

The official agenda of the 20th Party Congress has not been released, but given the announcement that it will start on October 16, it would typically unfold along the following schedule:

- October 16: The current General Secretary of the Party (Xi Jinping) would give a speech on the first day of the Congress to summarize past achievements of the Party, and discuss what the Party aims to achieve in the future. The Congress would then review the work report of the previous Central Committee, make amendments to the Party Constitution, and then elect the new Central Committee.
- October 22: The Congress usually lasts for seven days, so it is likely to conclude on October 22.
- October 23: The day after the Congress elects the Central Committee, the Central Committee will hold the first plenum to elect the Politburo and its Standing Committee. The public announcement of the new Standing Committee of the Politburo typically occurs that same day.

2. An overview of the typical timeline for reshuffling events, various plenums following the Congress and their topics

A typical party and government reshuffle involves the following process – city-level party leaders (or below) reshuffle first, followed by provincial-level party leaders, then the National Party Congress and the first plenum elect the Politburo and its Standing Committee. This reshuffling of party leaders then completes and is followed by a government reshuffle. City/provincial level government leaders will be elected before

13 September 2022 3

⁺ Deng Xiaoping held the position from 1983-1990.

^ Jiang Zemin held the position from 1990-2005, Hu Jintao took the position from him in 2005.

**CMC - China Central Military Commission

President and Premier were appointed at the "Two Sessions" in the next year of the Party Congress

the nationwide "Two Sessions" of the following year to reassign national government leaders. Exhibit 2

Exhibit 2: The whole process of reshuffling involves both the Party and the government 2021 2022

2023 Q1 Q2 Ω3 Q1 Q2 Q3 Q4 Q1 National **Provincial** County/city

Light blue bars represent reshuffling of party roles; dark blue bars represent reshuffling of government roles.

Source: www.people.com.cn, www.npc.gov.cn

The reshuffling of party and government offices around the 20th Party Congress will be completed after the Two Sessions to be held in March 2023. After personnel issues are settled, the Central Committee of the Party will hold the third to seventh Plenums over the upcoming five years, with topics ranging from economic policies and reforms, to Party leadership. Exhibit 3 offers a preview of the upcoming Plenums after the Congress and the topics that are usually addressed. We also summarize the key upcoming high-level policymaker meetings in Exhibit 4.

Exhibit 3: The third and the fifth plenums are usually more relevant for macroeconomic policies

Plenum	Usual date	20th Party Congress term possible date	Usual Topic	
First Plenum	the next day after Congress concludes	Oct 23, 2022	Politburo And Its Standing Committee Revealed	
Second Plenum	Jan-Feb of the next year	Feb 2023	Discussion On Reassignment Of Government Leaders	
Third Plenum	second year after the Congress	Oct/Nov 2023	Policy/Institutional Design/Reform Document	
Fourth Plenum	usually one Year after the Third Plenum	Sep/Oct 2024	Uncertain	
Fifth Plenum	usually in the year that ends With 5 Or 0	Sep/Oct 2025	Five Year Plan	
Sixth Plenum	one Year after The Fifth Plenum	Q3/Q4 2026	Uncertain	
Seventh Plenum	only a few days before the 21st Party Congress	Oct 2027	Preparation For The Next Party Congress	

Grey shaded ones are about the economy

Exhibit 4: A series of high-level policymaker meetings will occur over the next year

DATES (POSSIBLE)	EVENTS
Oct 9 2022*	Seventh plenum of the 19th Party Congress
Oct 16 2022*	Start date of the 20th party congress
Oct 23 2022	First plenum of the 20th party congress
Oct 2022	Politburo meeting possibly on economic policy
Nov 2022	Nationwide financial work conference
Early Dec 2022	Politburo meeting on 2023 economic policy outlook, preparation for CEWC
Mid Dec 2022	Central Economic Work Conference (CEWC)
Jan/Feb 2023	Second Plenum of the 20th party congress
Mar 2023	Two sessions - NPC and CPPCC
Oct/Nov 2023	Third plenum of the 20th party congress

Source: www.12371.cn (a Party-run online education platform for Chinese Communist Party members)

Source: Xinhua, www.gov.cn

3. Looking into the Politburo and its Standing Committee

The Politburo consists of 25 members, and the Standing Committee usually consists of 7-9 members. The Politburo (in particular its Standing Committee) is effectively the most powerful body within the Party. As top government positions are held by these members, they are also the most-senior policymakers in the government. Exhibit 5

13 September 2022 4

Exhibit 5: Current Politburo and its Standing Committee members

The ranking order of Politburo members follows the one on the official website of the Chinese Communist Party

19ui Poliwui	o or ule	Chinese Communist Party (CCP)						
Name		Position	Age	Starting Year*				
		Standing Committee						
Xi Jinping	习近平	General Secretary of the Central Committee, Chairman of the Central Military Commission (CMC), President	69	2007				
Li Keqiang	李克强	Premier of the State Council	67	2007				
Li Zhanshu	栗战书	Chairman of the Standing Committee of the National People's Congress (NPC)		2017				
Wang Yang	汪洋	Chairman of the National Committee of the Chinese People's Political Consultative Conference (CPPCC)		2017				
Wang Huning	王沪宁	Primary Secretary of the CCP Central Secretariat, Head of the Central Policy Research Office	67	2017				
Zhao Leji	赵乐际	Secretary of the Central Commission for Discipline Inspection	65	2017				
Han Zheng	韩正	Primary Vice-Premier of the State Council	68	2017				
Other Members								
Ding Xuexiang	丁薛祥	Director of the General Office of the CCP	60	2017				
Wang Chen	王晨	Vice Chairman of the Standing Committee of the NPC	71	2017				
Liu He	刘鹤	Vice Premier of the State Council	70	2017				
Xu Qiliang	许其亮	Vice Chairman of the CMC	72	2012				
Sun Chunlan	孙春兰	Vice Premier of the State Council	72	2012				
Li Xi	李希	Party Secretary of Guangdong	66	2017				
Li Qiang	李强	Party Secretary of Shanghai	63	2017				
Li Hongzhong	李鸿忠	Party Secretary of Tianjin	66	2017				
Yang Jiechi	杨洁篪	Director of the Office of Foreign Affairs	72	2017				
Yang Xiaodu	杨晓渡	Director of the National Supervisory Commission	69	2017				
Zhang Youxia	张又侠	Vice Chairman of the CMC	72	2017				
Chen Xi	陈希	Head of the Organization Department of the CCP	69	2017				
Chen Quanguo	陈全国	Deputy Head of the Central Rural Work Leading Group (Party Secretary of Xinjiang, till 2021)	66	2017				
Chen Min'er	陈敏尔	Party Secretary of Chongqing	62	2017				
Hu Chunhua	胡春华	Vice Premier of the State Council		2012				
Guo Shengkun	郭声琨	Secretary of the Political and Legal Affairs Commission of the CCP		2017				
Huang Kunming	黄坤明	Director of the Propaganda Department of the CCP	65	2017				
Cai Qi	蔡奇	Party Secretary of Beijing	66	2017				

^{*}Starting year refers to the starting year of being in the Standing Committee for Politburo Standing Committee members and the starting year of being in the Politburo for others

Source: www.gov.cn

General pattern for personnel selection:

- Important local leaders: The Party Secretaries of the four centrally-administered municipalities, Guangdong Province (province with the largest GDP), and Xinjiang are usually in the Politburo.
- <u>Term limits</u>: Both government and party positions follow five-year terms, and there is no term limit for the Chairman of Central Military Commission, nor the Central

Committee (including the General Secretary) of the CCP. President and Vice President (government roles) used to face the "two term" limit, which was in the Constitution from 1982 to 2018. Premier (also government role and currently Li Keqiang) still faces the "two term" limit. President Xi is widely expected to stay and start his third five-year term as the leader of the government, the Party and its military.

- Age: Since the 1990s, the phrase "seven up, eight down" has referred to the implicit convention that Politburo standing committee members need to retire if they are 68 or older at the time of the Party Congress, but can stay/enter the standing committee if they are 67 or younger. However, this may not necessarily hold for the 20th Party Congress, and we avoid making predictions about specific personnel-related appointments as there is still limited visibility on that front.
- Party head and government head: Since the 14th Congress of the CCP (in October 1992), the general secretary of the Communist Party and the President of the PRC have been the same person. This person has also been the chairman of the military, except in 2003-2005, when Hu Jintao was the general secretary of the Party and the President of the PRC, while Jiang Zemin was the chairman of the military.

4. What government/party bodies matter for economic policies?

Beyond the typical ministries that are in charge of macroeconomic policies such as the Ministry of Finance, the NDRC, the PBOC, and regulators of the financial sector such as CBIRC and CSRC, one feature of the party and government set-up in recent years has been the establishment of various commissions, both under the Politburo of the CCP and the State Council.Exhibit 6

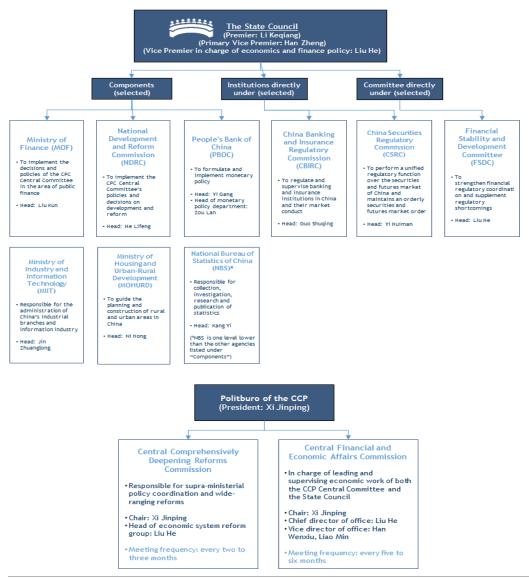
The commissions that matter most for macroeconomic policies include the Central Comprehensively Deepening Reforms Commission and the Central Financial and Economic Affairs Commission, which are under the Politburo, and the Financial Stability and Development Committee, which is under the State Council. Under the spirit of enhancing coordination between various party and government bodies, and further improving supervision based on function rather than just industry, these commissions were established (or restructured from previous government/Party institutions) to lead the design of economic policies. "Commissions" are usually under the Party while "Committees" are usually under the government, but that is not necessarily always the case.

Specifically,

- The Central Comprehensively Deepening Reforms Commission: The Commission sits under the Politburo of the Party and is mainly engaged in designing policies and pushing for structural reforms. Xi Jinping is the current chair of this commission. This Commission meets every two months, and recent meeting topics have centered around innovation, technology, and SOE reforms.
- The Central Financial and Economic Affairs Commission, which is also under the Politburo, is the top Party institution for designing economic policies. Xi Jinping is the current chair of this commission.

■ The State Council Financial Stability and Development Committee: The top government body for coordinating cross-industry regulations pertaining to primarily financial issues. Liu He is the current head of this committee.

Exhibit 6: A few ministries and Commissions are in charge of designing macroeconomic policies Selected Party and government bodies involved in China's macroeconomics policy



Source: China State Council, Xinhua

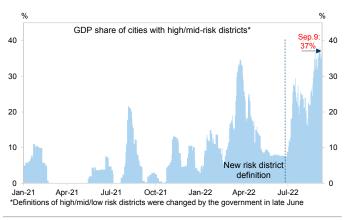
Broadly speaking, leadership changes at the MOF and the NDRC have aligned with government reshuffles, i.e., the Finance Minister and the NDRC head are reappointed usually after the new State Council comes into office. However, the PBOC governor could stay in office for longer. One limit for how long the PBOC governor could stay in office is age – officials in cabinet minister-ranked jobs have to retire at 65, though this might not be a binding constraint – the previous PBOC governor, Zhou Xiaochuan, was promoted to "vice national-level leader" rank and thus exempted from this age restriction and retired in 2018 when he was 70 years old. There will likely be a leadership reshuffle for Ministry of Finance, NDRC and PBOC in March 2023.

5. What are the policy implications of the 20th Party Congress?

Policymakers tend to prioritize stability ahead of the Congress – in recent days we have seen incrementally tighter Covid control measures in response to local Covid outbreaks, more efforts on ensuring property completions (for under-construction projects), and an emphasis on exchange rate stability.

In light of local Covid outbreaks, we have seen incremental tightening of Covid control measures ahead of the Party Congress. Exhibit 7 For example, policymakers advocated "staying put" for the mid-autumn festival (Sep 10-12) and the Golden Week (October 1-7) and required negative Covid tests for those taking long-haul public transportation. The incremental tightening of Covid control measures will continue to weigh on service activity growth in the coming weeks.

Exhibit 7: GDP share of cities with high/mid-risk districts rose and stayed elevated



Source: NHC, CEIC, Goldman Sachs Global Investment Research

Stability also implies more growth-supportive measures. In Zhengzhou, where <u>mortgage boycotts</u> and suspended property construction projects are mostly located, local governors vowed to <u>restart all suspended property construction projects</u> in the next one month. This could help mitigate homebuyers' concerns, provide support for construction activity and bolster market sentiment.

Policymakers have also moved to prioritize stability in the exchange rate. CNY has depreciated rapidly against the US dollar (with USDCNY approaching the psychologically important 7 threshold) since mid-August, and the PBOC <u>pushed back against</u> <u>depreciation by cutting the FX reserve requirement ratio</u>. These moves signaled the PBOC was uncomfortable with the rapid depreciation of the currency, especially ahead of the 20th Party Congress. We found a similar pattern ahead of the 19th Party Congress in October 2017, when policymakers discouraged CNY depreciation through more negative countercyclical factors (CCF) ahead of the Congress. <u>Exhibit 8</u>

Index (time 0 = 100) Pips 101.0 -200 CNY moves around the 19th National Party Congress -180 -160 100.5 -140 -120 100.0 -100 -80 -60 99.5 -40

용용용용용용용 Days before/after 10/18/2017

Exhibit 8: PBOC pushed back against depreciation ahead of the 19th Party Congress in October 2017

Source: Bloomberg, Goldman Sachs Global Investment Research

CCF (inverted, RHS)

99.0

Policy coordination and implementation could also be improved after personnel issues are settled, although we do not expect immediate policy changes after the Congress, either on Dynamic Zero Covid or the property sector.

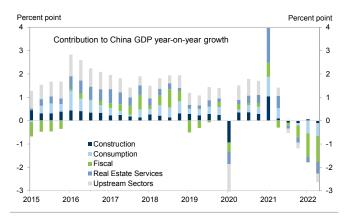
-20

Focusing on long-run goals and maintaining policy determination have been stressed by senior policymakers in recent years, despite occasional downward pressures to overall growth. For example, policymakers' swift normalization of monetary policy in mid-2020 suggests policymakers are quite keen on preventing over-stimulus and focusing on improving structural imbalances in the economy. Indeed, with China's per-capita GDP rising past the world average last year (Exhibit 10), the country's growth potential is slowing in light of demographic headwinds. The policy reaction function would likely be different under this context, compared with 15-20 years ago, regardless of personnel changes.

We therefore do not expect immediate policy changes after the Party Congress. Policymakers might only pivot away from the "Dynamic Zero Covid" policy after Two Sessions next year, and also appear quite committed to the conservative policy stance that "housing is for living-in, not for speculation," despite the bigger drag to overall growth from the housing downcycle since 2021 (Exhibit 9). We expect medium- to long-term policy goals to be maintained, such as manufacturing upgrading/supply chain security, de-carbonization, and promoting common prosperity.

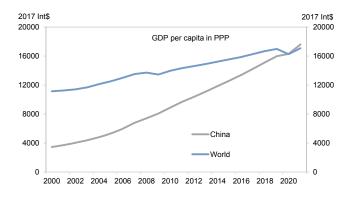
The author would like to thank Xinni Cai, the intern on the Asia economics research team, for all of her contributions to this report.

Exhibit 9: The property sector's contribution to GDP growth has turned increasingly negative in recent quarters



Source: Haver Analytics, Goldman Sachs Global Investment Research

Exhibit 10: China's GDP per capita surpassed the world average in 2021



Source: Haver Analytics

Disclosure Appendix

Reg AC

We, Maggie Wei, Hui Shan, Lisheng Wang, Xinquan Chen, Yuting Yang and Andrew Tilton, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. Australia: Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of the Global Investment Research Division of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. Brazil: Disclosure information in relation to CVM Resolution n. 20 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. Canada: This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. Hong Kong: Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. India: Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Japan: See below. Korea: This research, and any access to it, is intended only for 'professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. New Zealand: Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. Russia: Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. Singapore: Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. Taiwan: This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. United Kingdom: Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union and United Kingdom: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU) (2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of

Goldman Sachs Asia Economics Analyst

conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan and Type II Financial Instruments Firms Association. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Effective from the date of the United Kingdom's departure from the European Union and the European Economic Area ("Brexit Day") the following information with respect to distributing entities will apply:

Goldman Sachs International ("GSI"), authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this research in connection with its distribution in the United Kingdom.

European Economic Area: GSI, authorised by the PRA and regulated by the FCA and the PRA, disseminates research in the following jurisdictions within the European Economic Area: the Grand Duchy of Luxembourg, Italy, the Kingdom of Belgium, the Kingdom of Denmark, the Kingdom of Norway, the Republic of Finland, the Republic of Cyprus and the Republic of Ireland; GS -Succursale de Paris (Paris branch) which, from Brexit Day, will be authorised by the French Autorité de contrôle prudentiel et de resolution ("ACPR") and regulated by the Autorité de contrôle prudentiel et de resolution and the Autorité des marches financiers ("AMF") disseminates research in France; GSI - Sucursal en España (Madrid branch) authorized in Spain by the Comisión Nacional del Mercado de Valores disseminates research in the Kingdom of Spain; GSI - Sweden Bankfilial (Stockholm branch) is authorized by the SFSA as a "third country branch" in accordance with Chapter 4, Section 4 of the Swedish Securities and Market Act (Sw. lag (2007:528) om värdepappersmarknaden) disseminates research in the Kingdom of Sweden; Goldman Sachs Bank Europe SE ("GSBE") is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research in the Federal Republic of Germany and those jurisdictions within the European Economic Area where GSI is not authorised to disseminate research and additionally, GSBE, Copenhagen Branch filial af GSBE, Tyskland, supervised by the Danish Financial Authority disseminates research in the Kingdom of Denmark; GSBE - Sucursal en España (Madrid branch) subject (to a limited extent) to local supervision by the Bank of Spain disseminates research in the Kingdom of Spain; GSBE - Succursale Italia (Milan branch) to the relevant applicable extent, subject to local supervision by the Bank of Italy (Banca d'Italia) and the Italian Companies and Exchange Commission (Commissione Nazionale per le Società e la Borsa "Consob") disseminates research in Italy; GSBE - Succursale de Paris (Paris branch), supervised by the AMF and by the ACPR disseminates research in France; and GSBE - Sweden Bankfilial (Stockholm branch), to a limited extent, subject to local supervision by the Swedish Financial Supervisory Authority (Finansinpektionen) disseminates research in the Kingdom of Sweden.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Goldman Sachs Asia Economics Analyst

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.jsp and

https://www.fiadocumentation.org/fia/regulatory-disclosures_1/fia-uniform-futures-and-options-on-futures-risk-disclosures-booklet-pdf-version-2018.

Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by the Global Investment Research division of GS may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.

© 2022 Goldman Sachs.

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.