HENRY COOK
Senior Europe Economist

Economic Research Office

T: +44 (0)20 7577 1591
E: henry.cook@uk.mufg.jp

MUFG BANK, LTD.
A member of MUFG, a global financial group

Not out of the woods yet

26 January 2023

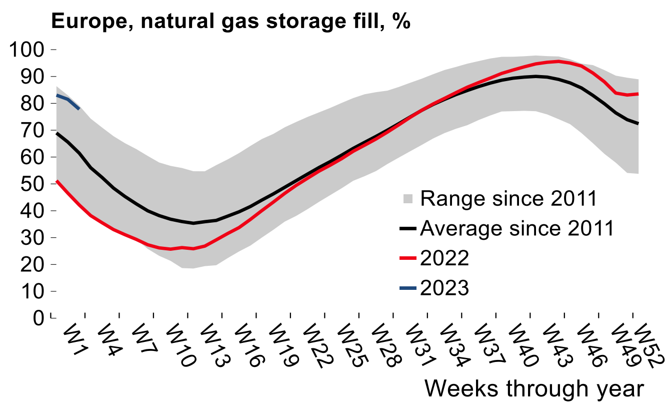
The euro area has managed to dodge the worst-case energy scenarios, and supply chain problems related to war and the pandemic are also receding. Sentiment has gradually improved through the winter and now this is being reflected in actual output data. However, the economy is not out of the woods quite yet. Consumers are still being squeezed by high inflation, and the ECB's monetary policy tightening will have a lagged effect. We continue to expect a euro area recession – but it's likely to be shallow as national fiscal policy continues to cushion the blow from the energy price shock.

Energy risks have fallen significantly

The European economy is on a relatively firm footing in what could have been an extremely challenging winter. The most significant development has been the sharp reduction in downside risks related to the energy supply. After a successful scramble for LNG imports, gas storage buffers are in extremely good shape for this time of year (Chart 1). This has been helped by a reduction in consumption. EU states committed to reducing gas demand by 15% between August 2022 and March 2023, which now looks very achievable. Price-driven demand destruction and effective public policy have combined with a dose of luck: it was an exceptionally mild autumn in most of Europe, so heating needs were relatively low. The result is that EU gas consumption was down by over 20% in August-November compared to the average of the same months in the five years to 2021 (Chart 2).

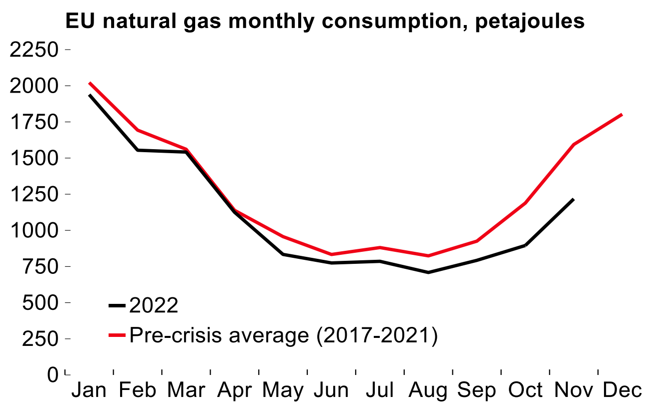
Front-month natural gas prices are now below the levels seen in the months before the 2022 Russian invasion of Ukraine, and seemed unaffected by a recent period of below-average temperatures in much of Europe. The fall in energy prices is reflected by the euro area current account moving back into surplus (Chart 3).

CHART 1: GAS STORAGE IN GOOD SHAPE AT THE START OF 2023



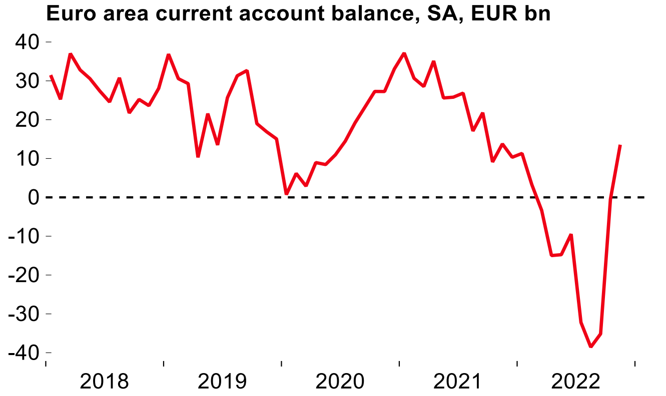
Source: GIE, MUFG Bank Economic Research Office

CHART 2: GAS CONSUMPTION FELL SIGNIFICANTLY IN H2 2022



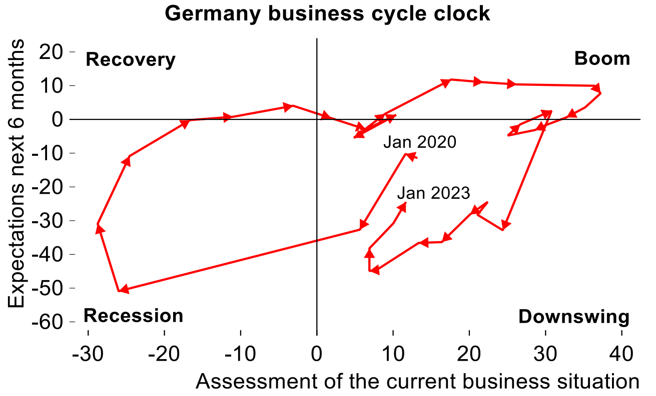
Source: Eurostat, MUFG Bank Economic Research Office

CHART 3: CURRENT ACCOUNT BACK INTO SURPLUS AS ENERGY PRICES EASE



Source: Eurostat, MUFG Bank Economic Research Office

CHART 4: THE 'IFO CLOCK' IS NO LONGER CHARGING TOWARDS RECESSION TERRITORY



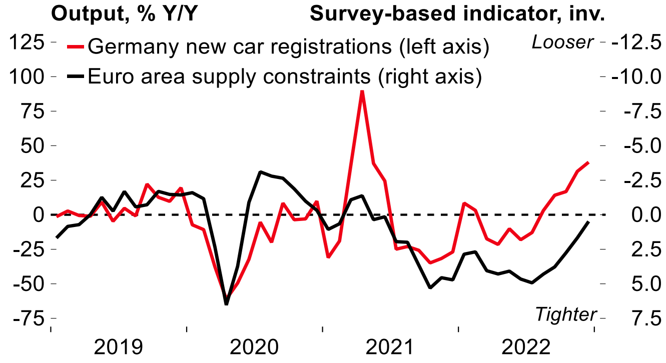
Source: ifo, MUFG Bank Economic Research Office

Economic activity has proved to be surprisingly resilient

Economic survey data has duly improved as it became clear that Europe will avoid the worst-case scenarios of blackouts and energy rationing. National surveys are no longer charging into clear recession territory (Chart 4). In fact, the composite PMI survey for the euro area as a whole has now moved above the breakeven mark for the first time since June.

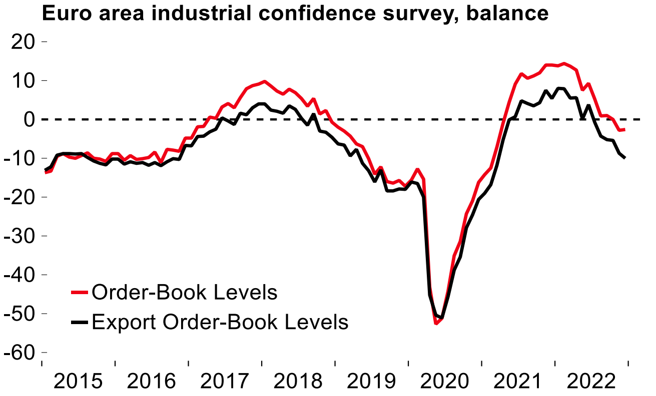
Output data is now starting to confirm indications from the soft data that the economic slowdown through Q4 was indeed milder than expected. The German statistical agency estimates that annual GDP growth in 2022 was 1.9%. This is significantly above our last forecast (1.4%), with the implication that Q4 growth may have been flat (like most forecasters, we expected a contraction). Meanwhile, industrial production for the euro area as a whole increased by a healthy 1% M/M in November. Industry has been remarkably resilient in the face of soaring energy costs. It seems there were relatively easy efficiency gains to reduce energy needs for many firms (consistently cheap gas for many years may have reduced incentives to look for these prior to the price shock). Some sectors have also benefitted from improving supply-chain constraints, such as the auto industry (Chart 5).

CHART 5: THE AUTO INUDSTRY HAS BENEFITTED FROM EASING SUPPLY-CHAIN CONSTRAINTS



Note: Supply constraints indicator based on Chart 2.3 of November 2021 BoE MP report.
Source: KBA, BoE, IHS Markit, MUFG Bank Economic Research Office

CHART 6: SURVEYS ARE SUGGESTING THAT ORDER BACKLOGS ARE FALLING



Source: European Commission, MUFG Bank Economic Research Office

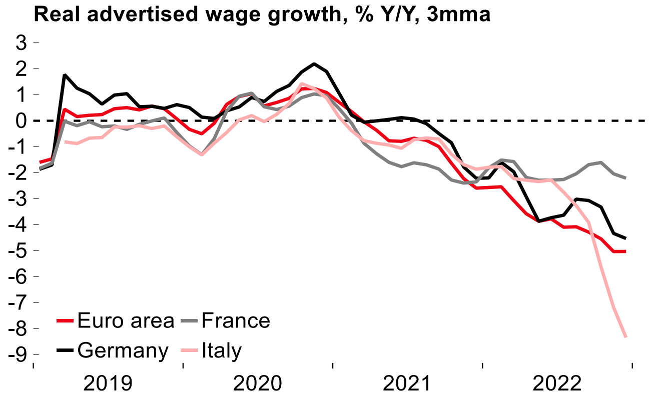
On the consumption side, it's now clear that national fiscal measures (e.g. retail price caps, direct grants, subsidised transport) have cushioned the blow from higher energy prices. Retail sales bounced back in November to around the level seen in July and August. Consumer confidence, while still extremely weak by historical standards, has now improved for four straight months to reach the highest mark since the Russian invasion of Ukraine.

A shallow recession remains our base case

The data flow has been encouraging relative to the gloomy expectations going into the winter, but it's still consistent with an economy hovering close to recession. There is a range of factors that will continue to drag on the economy. Euro area inflation has peaked and is poised to fall fairly quickly through the year, but the hit to real household disposable income will remain a challenge for months to come. Euro area negotiated wages rose by just 2.9% Y/Y in Q3 2022, while CPI inflation averaged 9.3% over the same period. More timely advertised wage data (Chart 7) shows how the squeeze on consumers is set to continue into the start of this year.

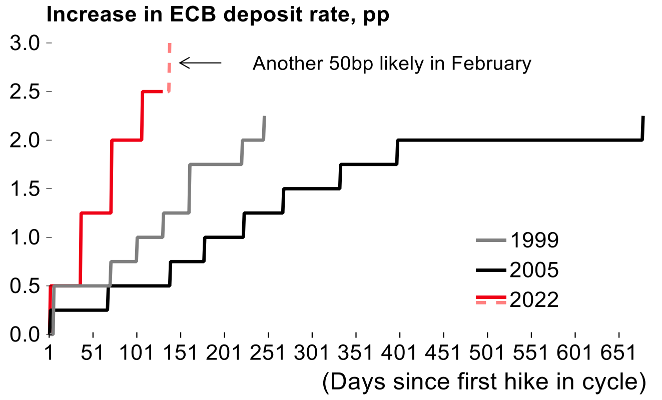
We're also dubious that the industrial sector can remain quite so resilient. Survey data suggested that backlogs were high through the summer but may now be falling as these older orders are fulfilled (Chart 6, above). In Germany, factory orders plunged by 5.3% in November. Our suspicion is that initial resilience in some areas will not be able to offset weakness in energy-intensive sectors indefinitely.

CHART 7: REAL WAGE GROWTH REMAINS FIRMLY IN NEGATIVE TERRITORY



Source: Bank of Ireland/Indeed, Eurostat, MUFG Bank Economic Research Office

CHART 8: AFTER STARTING POLICY NORMALISATION, THE ECB HAS MOVED FAST TO RAISE RATES



Source: ECB, MUFG Bank Economic Research Office

The shift in monetary policy is also significant. After years of rates close to the lower bound, and, it's fair to say, a slow start to tightening policy, the adjustment is now rapid (Chart 8). Higher borrowing costs will continue to pass through to the real economy with a lag, dampening aggregate demand. And the ECB's not done yet – markets are currently pricing in almost 150bp of further hikes by the summer.

So our baseline remains that the euro area will slip into a recession, but it's likely to be a relatively shallow downturn. Fiscal policy will pull in the opposite direction to the ECB. A range of national support measures will continue to support demand through 2023, and sometimes beyond (the German energy price brake scheme will run until April 2024). The introduction of fiscal buffers has been expensive: the euro area budget deficit widened to 3.3% of GDP in Q2 2022. However, if energy prices remain low through 2023 then governments may be afforded some more leeway to support the economy if conditions deteriorate again, which further reduces the downside risks.

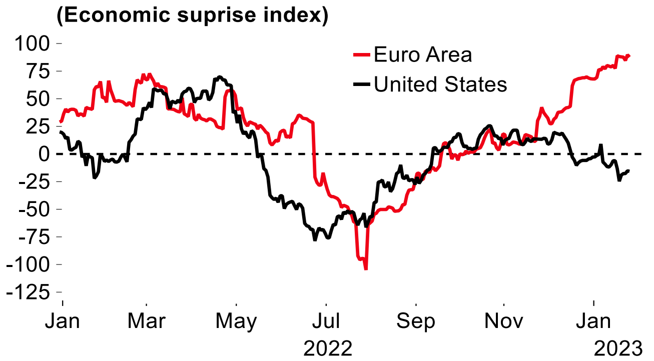
External factors may become increasingly significant by H2

The external environment will remain hugely relevant to the outlook. The gas price crisis has been mostly Europe-specific, which leaves the continent out of kilter with the cycles of other economies. While European data has surprised on the upside recently (albeit against low expectations), recent figures in the US have started to disappoint (Chart 9). US recession risk has risen sharply (Chart 10) and a downturn across the Atlantic could delay the euro area recovery.

News out of China has been relatively encouraging, on the other hand. There are some early indications that post-reopening waves of COVID infections are not shuttering all economic activity. This points to further improvement in supply-chain issues, which could help European manufacturers. Pent-up demand and accumulated savings in China could also result in significant tourism flows (Chart 11), but may in turn add to headline inflation through the travel services component.

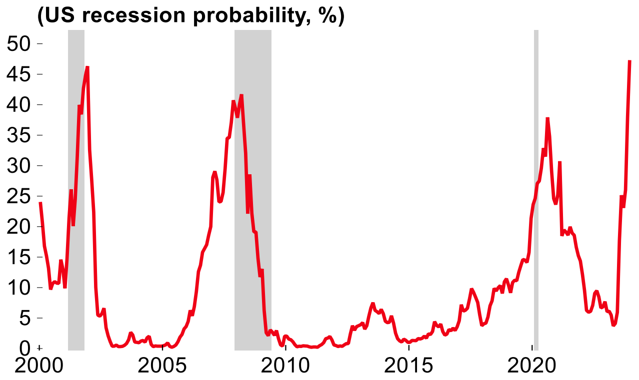
There are also implications from China reopening for the European energy supply picture. Re-filling gas inventories for next winter without Russian gas, which continued to flow until June 2022 before falling to a trickle, is set to remain a huge challenge. More competition for LNG shipments looks likely as the Chinese economy reopens (Chart 12). With this in mind, our overall sense is that it's still premature to declare that Europe has successfully managed to navigate the energy crisis.

CHART 9: EURO AREA DATA IS SURPRISING ON THE UPSIDE, IN CONTRAST TO THE US



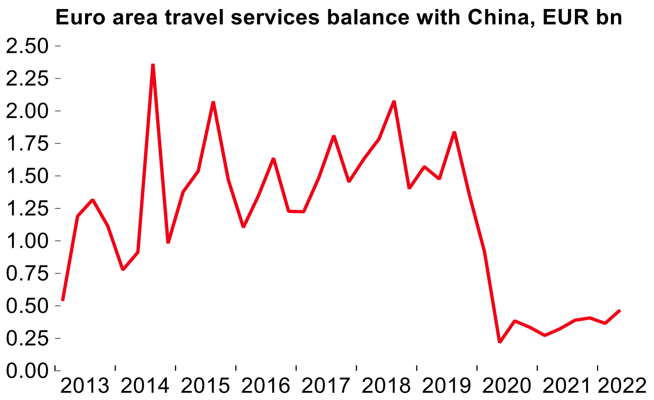
Note: The index tracks how economic data compares to forecasts. Above 0 indicates positive data surprises.
Source: Citi, MUFG Bank Economic Research Office

CHART 10: US RECESSION RISKS HAVE RISEN SHARPLY



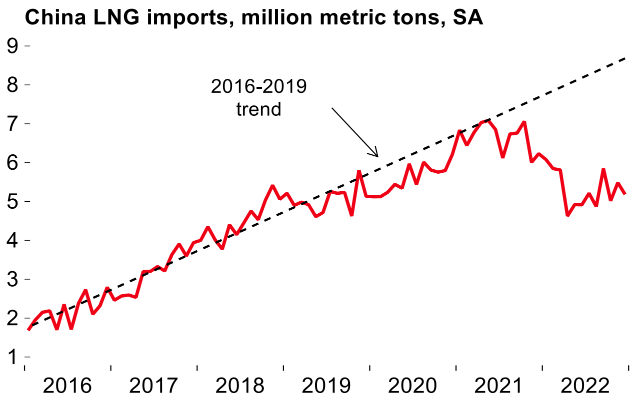
Note: Shaded areas show NBER defined US recessions.
Source: Federal Reserve Bank of New York, MUFG Bank Economic Research Office

CHART 11: THE EUROPEAN TOURISM SECTOR COULD BENEFIT SIGNIFICANTLY FROM CHINA REOPENING



Source: Eurostat, MUFG Bank Economic Research Office

CHART 12: COMPETITION FOR LNG MAY SOON INCREASE



Source: GAC, MUFG Bank Economic Research Office

CERTIFICATION

The author(s) mentioned on the cover of this report hereby certify(ies) (or, where multiple authors are responsible, individually certify with respect to each security that the author covers in this report) that the views expressed in this report accurately reflect their personal views about the subject company(ies) and its (their) securities, and also certify(ies) that they have not been, are not, and will not be receiving direct or indirect compensation in exchange for expressing any specific recommendation(s) or view(s) in this report.

DISCLAIMERS

This report has been prepared by the Global Markets Research, US Rates and Credit Strategy desks within MUFG Bank , Ltd. ("MUBK") and MUFG Securities EMEA plc ("MUS(EMEA)") and may be distributed to you either by MUBK, MUS(EMEA) or by another subsidiary of the Mitsubishi UFJ Financial Group ("MUFG").

Legal entities and branches

The securities related businesses within MUFG (together referred to in this presentation as "MUFG Securities") are: (1) MUFG SECURITIES EMEA PLC ("MUS(EMEA)") which is authorised in the United Kingdom by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA (FS Registration Number 124512). MUS(EMEA) has a branch office that is registered at Level 3, East Wing, The Gate, Dubai International Financial Centre, PO Box 506894, Dubai, UAE ("Dubai Branch"). The Dubai Branch is authorised to operate in the Dubai International Financial Centre ("DIFC") as a Non-DIFC Entity (Commercial License Number CL1656) and is regulated by the Dubai Financial Services Authority (Reference Number F002623); (2) (MUFG Securities (Europe) N.V. ("MUS (EU)") which is authorized and regulated in the Netherlands by the Dutch Authority for the Financial Markets (AFM) and also regulated by De Nederlandsche Bank (DNB). MUS (EU) Paris Branch is regulated in France by the Autorité de contrôle prudentiel et de résolution (ACPR) and the Autorité des marchés financiers (AMF); (3) MUFG SECURITIES AMERICAS INC. ("MUSA") which is registered in the United States with the Securities and Exchange Commission ("SEC") and regulated by the Financial Industry Regulatory Authority ("FINRA") (SEC# 8-43026; CRD# 19685); (4) MUFG SECURITIES (CANADA), LTD. ("MUS(CAN)") is an investment dealers registered in Canada with the Ontario Securities Commission ("OSC") and in each province and territory of Canada, a member of the Investment Industry Regulatory Organization of Canada ("IIROC"), and a member of the Canadian Investor Protection Fund ("CIPF"). Customers' accounts are protected by CIPF within the specified limits; (5) MUFG SECURITIES ASIA LIMITED ("MUS(ASIA)") which is incorporated in Hong Kong, licensed under the Hong Kong Securities and Futures Ordinance and regulated by the Hong Kong Securities and Futures Commission (Central Entity Number AAA889). MUS(ASIA) is registered as a foreign company under the Corporations Act 2001 of Australia ARBN No. 169 329 453; and (6) MUFG Securities Asia (Singapore) Limited ("MUS(SPR)") which is licensed as an approved merchant bank by the Monetary Authority of Singapore. In respect of the financial services provided to wholesale clients in Australia, MUS(ASIA), MUS(EMEA), MUS(USA) and MUS(SPR) are each exempt from the requirement to hold an Australian financial services licence under the Corporations Act 2001 of Australia under the Australian Securities and Investments Commission Class Order Exemption CO 03/1099, CO 03/1103, CO 03/1100, and CO 03/1102, respectively. Each of MUS(ASIA), MUS(EMEA), MUSA, MUS(CAN), and MUS(SPR) are regulated under the laws of Hong Kong, the United Kingdom, the United States, Canada and Singapore respectively, which differ from Australian laws.

MUFG Bank Ltd ("MUBK"), is a limited liability stock company incorporated in Japan and registered in the Tokyo Legal Affairs Bureau (company no. 0100-01-008846). MUBK's head office is at 7-1 Marunouchi 2-Chome, Chiyoda-Ku, Tokyo 100-8388, Japan. MUBK's London branch is at Ropemaker Place, 25 Ropemaker Street, London EC2Y 9AN, and is registered as a UK establishment in the UK register of companies (registered no. BR002013). The principal office of MUBK's Canada branch (MUFG Bank, Ltd., Canada Branch) is located at 200 Bay Street, Suite 1800, Toronto, Ontario, M5J 2J1, Canada. MUFG Bank's Canada branch is an authorized foreign bank branch permitted to carry on business in Canada pursuant to the Bank Act (Canada); Deposits with MUFG Bank Canada are not insured by the Canada Deposit Insurance Corporation. MUBK is authorised and regulated by the Japanese Financial Services Agency. MUBK's London branch is authorised by the UK Prudential Regulation Authority ("PRA") and regulated by the UK Financial Conduct Authority ("FCA") with limited regulation by the PRA.

General disclosures

This report is for information purposes only and should not be construed as investment research as defined by MIFID 2 or a solicitation of any offer to buy or sell any security, commodity, futures contract or related derivative (hereafter "instrument") or to participate in any trading strategy. This report does not constitute a personal recommendation and does not take into account the individual financial circumstances, needs or objectives of the recipients. Recipients should therefore seek their own financial, legal, tax or other advice before deciding to invest in any of the instruments mentioned in this report.

Certain information contained in this report has been obtained or derived from third party sources and such information is believed to be correct and reliable but has not been independently verified. MUFG does not make any guarantee, representation, warranty or undertaking, express or implied, as to the fairness, accuracy, reliability, completeness, adequacy or appropriateness of any information or comments contained in this report. Furthermore the information may not be current due to, among other things, changes in the financial markets or economic environment. MUFG has no obligation to update any such information contained in this report.

The information contained in this report may contain forward-looking information ("FLI"). FLI is information regarding possible events, conditions, or results of operations that is based on assumptions about future economic conditions and courses of action and may be presented as either a forecast or a projection. This report is not intended to forecast or predict future events. Past performance is not a guarantee or indication of future results. Upon receipt of this report, each recipient acknowledges and agrees that any FLI included herein should not be considered material. Recipients should consult their own legal and financial advisers for additional information. Any prices provided herein (other than those identified as being historical) are indicative only and do not represent firm quotes as to either price or size.

This report is proprietary to MUFG and may not be quoted, circulated or otherwise referred to without our prior written consent. Notwithstanding this, MUFG shall not be liable in any manner whatsoever for any consequences or loss (including but not limited to any direct, indirect or consequential loss, loss of profits and damages) arising from any reliance on or usage of this report and accepts no legal responsibility to any investor who directly or indirectly receives this material.

Country and region specific disclosures

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or is located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to any law, regulation or rule. Each entity and branch within MUFG is subject to distinct regulatory requirements and certain products and services discussed in this document may not be available in all jurisdictions or to all client types.

In this regard, please note the following in relation to the jurisdictions in which MUFG has a local presence:

• United Kingdom / European Economic Area (EEA): This report is intended for distribution to a "professional client" or "eligible counterparty" as those terms are defined in the rules of the FCA and PRA. In other EEA countries, this report is intended only for persons regarded as professional investors (or equivalent) in their home jurisdiction.

• United States of America: This report, when distributed by MUSA, is intended for Institutional Investors ("Institutional Accounts" as defined by FINRA Rule 4512(c)). When distributed by a non-US affiliate of MUSA, this report is intended for distribution solely to "major U.S. institutional investors" or "U.S. institutional investors" pursuant to Rule 15a-

6 under the U.S. Securities Exchange Act of 1934, as amended. Securities referenced in this report may have been underwritten by MUSA and/or its affiliates. Nothing in this report should be considered an offer or solicitation of an offer to buy or sell securities or any other financial product or a commitment of any kind with respect to any transaction.

IRS Circular 230 Disclosure: MUFG Securities does not provide tax advice. Accordingly, any discussion of U.S. tax matters included herein (including any attachments) is not intended or written to be used, and cannot be used, in connection with the promotion, marketing or recommendation by anyone not affiliated with MUSA of any of the matters addressed herein or for the purpose of avoiding U.S. tax-related penalties.

• Hong Kong: This report is only intended for distribution to a “professional investor” as that term is defined in the Securities and Futures Ordinance and should not be passed onto any other person.

• Singapore: This report is only intended for distribution to an "institutional investor", "accredited investor" or "expert investor" as those terms are defined under regulation 2 of the Financial Advisers Regulation. It is solely for the use of such investors and shall not be distributed, forwarded, passed on or disseminated to any other person. Investors should note that, as a result of exemptions that apply when this report is distributed to "accredited investors" and "expert investors", MUSS is exempt from complying with certain requirements under the Financial Advisers Act, including section 25 of the Financial Advisers Act (which requires a financial adviser to disclose all material information on certain investment products), section 27 (which requires a financial adviser to have a reasonable basis for making recommendations on investments) and section 36 (which requires a financial adviser to disclose any interests that it holds in securities that it recommends).

• Canada: When distributed in Canada by MUS(EMEA) or MUSA. MUS(EMEA) operates under an International Dealer Exemption from registration with the securities regulators in Alberta, British Columbia, Manitoba, Ontario and Québec. MUSA operates under an International Dealer Exemption from registration with the securities regulators in all Canadian Provinces and Territories. When distributed by MUS(EMEA) or MUSA, this report is only intended for a “permitted client” as that term is defined under the National Instrument 31-103 in Canada and is not intended for re-distribution to any other person. When distributed by MUS(CAN), this report is only intended for an “institutional client” as that term in defined under the IIROC dealer member rules and is not intended for re-distribution to any other person. The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Under no circumstance is the information contained herein to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. • Japan: This Note, when distributed by MUFG Securities affiliates located outside of Japan, is intended for distribution in accordance with Article 58-2 of the Financial Instruments Exchange Act 1948 (“FIEA”) i) to a “Financial Instruments Business Operator” engaged in “Securities-Related Business” as defined in the FIEA or ii) to the government, the Bank of Japan, a qualified financial institution defined in Article 209 of the Cabinet Office Ordinance Concerning Financial Instruments Business, Etc., or an Investment Manager.

When distributed by Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. (“MUMSS”), this Note is intended for distribution to a “Professional Investor (tokutei-toushika)” as defined in the FIEA.

• United Arab Emirates: This report is only intended for distribution to a “Professional Client” or “Market Counterparty” as those terms are defined under the rules of the Dubai Financial Services Authority and only a person meeting the criteria for these terms should act upon this report.

• Australia: This Note is only intended for distribution to persons in Australia who are sophisticated or professional investors for the purposes of section 708 of the Corporations Act of Australia, and are wholesale clients for the purposes of section 761G of the Corporations Act of Australia. This Note is not intended to be distributed or passed on, directly or indirectly, to any other class of persons in Australia.

Other jurisdictions:

MUFG Securities also relies on local registrations or regulatory exemptions in order to undertake certain securities business in other countries. In Thailand, MUS(EMEA) has a derivatives dealer registration with the Securities and Exchange Commission, Thailand. In Canada, MUS(EMEA) and MUSA each operate under an international dealer exemption registered with the securities regulators. MUS(EMEA) operates under the exemption in Alberta, Quebec, Ontario, British Columbia and Manitoba. MUSA operates under the exemption in all Canadian Provinces and Territories..

.