Citi Research
Economics

03 Sep 2020 01:45:45 ET | 9 pages

Emerging Markets
CEEMEA

Lebanon Economics View

What could debt reduction look like?

- Lebanon is running out of time for a solution to its unsustainable macroeconomic situation. In this note, we focus on what a debt-reduction scenario following an agreement with the IMF could look like. We don't necessarily think that this scenario is likelier than a much more adverse one, but there is no telling how bad the latter could get.
- We think that the debt-to-GDP ratio could fall below 100% by 2025 in this scenario. The main contribution to this would be write-offs and a much lower effective real interest rate, as inflation would run high following exchange rate depreciation. The latter would inflate the fx debt stock, but this would be outweighed by erosion of LBP debt and interest payments.
- We assume a 65% haircut for Eurobond holders. The terms of the remaining debt would also be renegotiated in order to increase maturities, reduce coupon rates and introduce grace periods.

Michel Nies AC
+44-20-7986-3303
michel.nies@citi.com

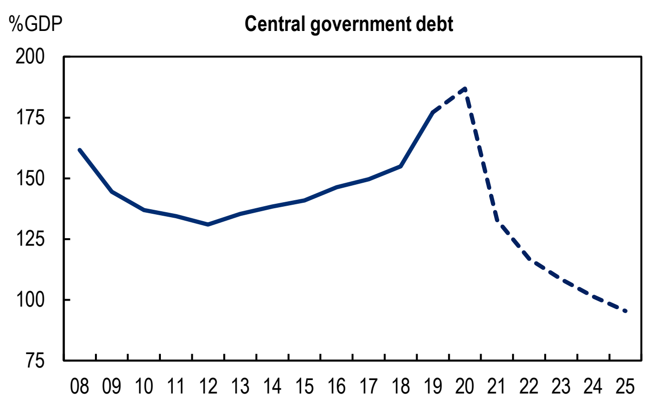
See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

What could debt reduction look like?

Lebanon is running out of time for a solution to its unsustainable macroeconomic situation. Having defaulted earlier this year on its Eurobonds, it is effectively cut off from foreign financing and relies on deficit monetisation from the Banque du Liban (BdL). The latter's fx reserves have been dwindling, and as a result, multiple exchange rates have emerged, with the BdL's official (pegged) rate only available for limited institutions and purposes.

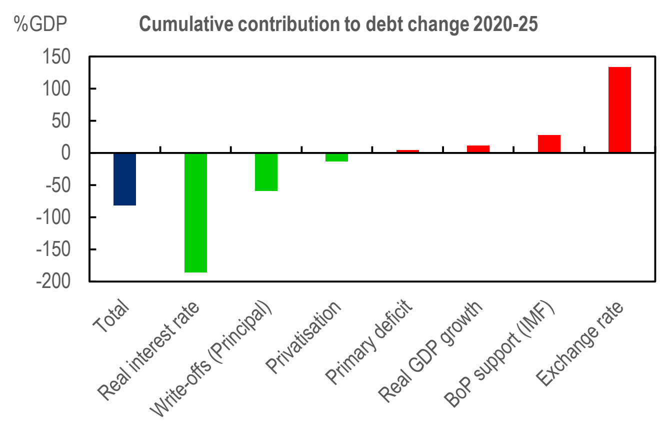
In this note, we focus on the scenario in which such a solution is found. We are reluctant to call the forecasts published in this note a base case, as it is not clear that it is more likely than not that a solution is achieved. However, there is no telling what the consequences of a severely adverse scenario would look like, although economic history can provide some vague examples and ideas. We, therefore, focus in this note on the assumptions that could shape a more favourable outcome. Even if such an outcome were to materialise, the range of possible outcomes, and hence the set of possible values for each variable, would be large. For this reason, we think of the numbers mentioned in this note more as working assumptions than forecasts.

Figure 1. The debt-to-GDP ratio could fall to below 100% by 2025 if reforms to unlock IMF help are implemented



Source: Haver Analytics, Citi Research

Figure 2. The main contribution would be from write-offs and inflation dragging the effective real interest down



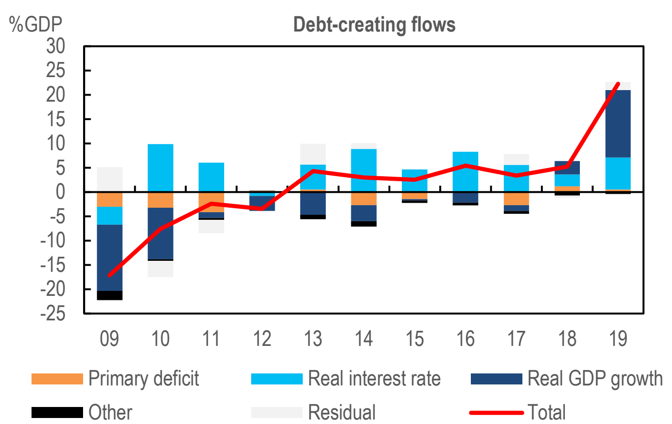
Source: Citi Research

The debt-to-GDP ratio would drop to below 100% by 2025 in this scenario (Figure 1). In the short term, the ratio would almost certainly increase from current levels amidst the collapse in growth, the depreciation of LBP and the addition of IMF and other loans. Although we would expect positive growth thereafter, the cumulative effect of growth until 2025 would still be to push up the ratio by 11 percentage points (Figure 2) as the initial contraction outweighs the modest recovery afterwards. However, we think that the ratio would start to fall sharply after the initial rise, as inflation, caused largely by the depreciation of LBP, would erode the value of local debt and drag the effective real interest rate deeply into negative territory. In our assumptions, this would outweigh the inflating of fx debt following depreciation cumulatively by 52pp until 2025. Haircuts on fx and local debt would reduce the debt burden by 59pp over this period and privatisations by another 13pp. Our assumption is for the primary deficit to widen initially (Figure 4) as parts of the external funding would have to be used for reconstruction, assistance to the financial sector, infrastructure spending, etc. Over the period shown in Figure 2, this would increase the debt ratio by 5pp, but it is worth pointing out that we assume that the primary balance would return to positive territory after two to three years (Figure 4). Loans not used for primary expenditure (mostly IMF balance of payments support) would, in our scenario, push up reserves by another 27pp.

Unlocking IMF and other external help would be key to initial stabilisation and subsequent implementation of a new financing model. In the first phase, these funds would be needed to provide some replacement for the loss of private external financing in order to guarantee imports of basic necessities and, following the explosion in Beirut port, reconstruction. In the second phase, the reforms would be needed not only for unlocking funding but also for setting the economy on a sustainable track. For the scenario described in this note, we assume that an agreement with the IMF would still be struck this year, although this – like any other variable in this exercise – is highly uncertain.

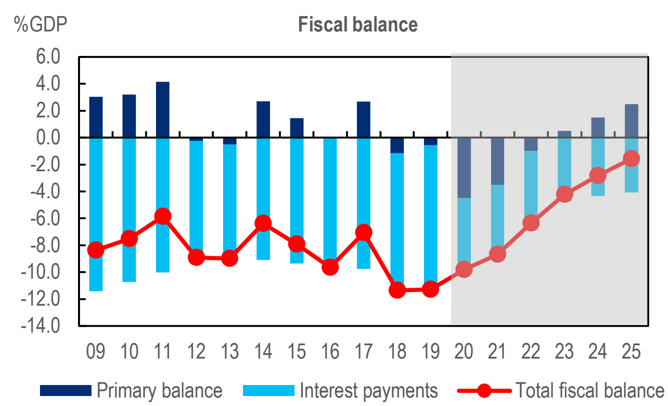
We work with assumptions of a 65% haircut on fx debt and a 20% haircut on local debt. For simplicity, we assume that one-third of this would take place this year and two-thirds next year. These haircuts would also have to be accompanied by a renegotiation of the terms on the remaining debt in order to increase maturities, reduce coupons and introduce grace periods. This lowering of the interest payment burden is crucial, as the high real interest rate burden is what led to debt spiralling out of control in the first place; in our calculations, the effective real interest rate contributed 42 percentage points to the 46pp increase in the debt-to-GDP ratio between 2012 and 2019 (Figure 3). By comparison, the primary balance actually reduced the ratio by 4.7pp over this period. The lower haircut ratio on LBP debt is possible because higher inflation over the next years would erode large shares of its value and pull the effective real interest rate into deep negative territory. In theory, a haircut on local currency debt would not even be necessary to avoid default, but we doubt that international creditors have appetite for (further) Modern Monetary Theory-style experiments.

Figure 3. A reduction of interest payments is crucial, as they have been the main contributor to the rise in debt since 2013



Source: Haver Analytics, Citi Research

Figure 4. Lower interest payments would, therefore, allow the fiscal deficit to return to more manageable levels



Source: Haver Analytics, Citi Research

Exchange rate reunification and the end of monetary financing should eventually bring about a reduction in inflation. This is crucial to reduce local borrowing rates to an affordable level. We assume an initial devaluation of the LBP to 4300 versus US$, followed by another period of strong depreciation before the annual percentage loss of value returns to single digits. We currently pencil in a rate of 8300 for USDLBP by the end of 2024. In the short term, the unification of exchange rates under some sort of float would be a source of further inflation. However, it is unclear whether inflation would be much higher than under the current regime of multiple exchange rates, which pushes the rate available to many people higher than what it might be under a unified float. Over the medium term, a more stable unified rate should then help to bring inflation down again. Moreover, the high inflation in the beginning of the adjustment period has the aforementioned advantage of eroding existing LBP debt.

Although not the main issue, we also expect some measures to improve the primary balance. Lebanon's precarious humanitarian situation and a gradual softening of ideology at the IMF might mean that the Fund takes less aggressively an axe to public expenditure, although some fat-trimming and privatisation would almost certainly take place and should be welcomed. Especially in the first years, primary deficits appear inevitable in light of the need for reconstruction and possibly financial sector assistance. However, we think that the IMF programme might try to encourage increasing tax revenues. Given poor tax compliance, efforts to improve collection should be prioritised over increasing tax rates and might even suffice. Even modest primary-balance surpluses would contribute to the fiscal balance being much more manageable, as interest payments (as a share of GDP) should be lower following haircuts and inflation (Figure 4).

Figure 5. Lebanon Economic Indicators

	2016	2017	2018	2019	2020F	2021F	2022F	2023F	2024F
Summary Data									
Nominal GDP, US$ bn	51.2	53.1	55.0	51.7	33.3	37.0	38.0	40.3	42.4
Nominal GDP, local currency bn	77,192	80,110	82,854	77,977	116,407	197,770	262,192	310,567	345,474
GDP per capita, US$	7,626	7,793	8,012	7,545	4,851	5,392	5,543	5,883	6,183
Population, mn	6.7	6.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Economic Activity									
Real GDP, % yoy	1.5	0.9	-1.9	-8.4	-23.8	6.2	2.0	3.0	3.0
Real per capita GDP, % yoy	-1.2	-0.7	-2.5	-8.4	-23.8	6.2	2.0	3.0	3.0
Prices, Money & Credit									
CPI, % yoy	3.1	5.1	3.9	6.9	185.0	45.0	45.0	8.0	5.0
CPI, % avg	-0.8	4.5	6.1	2.9	96.0	60.0	30.0	15.0	8.0
LBP/US$, eop	1,508	1,508	1,508	1,512	4,300	6,400	7,400	8,000	8,300
LBP/US$, avg	1,509	1,509	1,512	1,511	3,500	5,350	6,900	7,700	8,150
Balance of Payments, USD bn									
Current account	-10.5	-12.1	-13.4	-11.5	-4.8	-2.9	-1.8	-1.2	-1.0
% of GDP	-20.5	-22.8	-24.3	-22.3	-14.6	-7.8	-4.7	-2.9	-2.3
Trade balance	-14.0	-14.5	-14.9	-13.4	-7.8	-6.0	-5.3	-4.8	-4.7
Exports	3.7	3.8	3.5	4.5	2.9	2.7	2.7	2.7	2.8
Imports	17.7	18.2	18.5	18.0	10.8	8.6	7.9	7.5	7.5
Service balance	1.9	1.3	1.3	0.3	0.2	1.1	1.5	1.6	1.6
Income balance	-0.8	-0.2	-1.1	-1.3	-0.2	-0.4	-0.4	-0.3	-0.3
FDI, net	1.6	1.2	2.0	1.9	-1.0	1.0	-	-	-
Public Finances, % of GDP									
Government revenues	19.4	21.9	21.0	21.4	20.0	21.0	22.0	22.5	22.5
Government expenditure	29.0	28.9	32.4	32.7	29.8	29.7	28.4	26.7	25.3
Government balance	-9.7	-7.1	-11.4	-11.3	-9.8	-8.7	-6.4	-4.2	-2.8
Central government debt	146.3	149.7	154.9	177.2	186.9	132.8	116.9	108.5	101.4

Source: Citi Research

Appendix A-1

Analyst Certification

The research analysts primarily responsible for the preparation and content of this research report are either (i) designated by "AC" in the author block or (ii) listed in bold alongside content which is attributable to that analyst. If multiple AC analysts are designated in the author block, each analyst is certifying with respect to the entire research report other than (a) content attributable to another AC certifying analyst listed in bold alongside the content and (b) views expressed solely with respect to a specific issuer which are attributable to another AC certifying analyst identified in the price charts or rating history tables for that issuer shown below. Each of these analysts certify, with respect to the sections of the report for which they are responsible: (1) that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc. and its affiliates; and (2) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Lebanon.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Lebanon in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Lebanon.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Lebanon.

Disclosure for investors in the Republic of Turkey: Under Capital Markets Law of Turkey (Law No: 6362), the investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided in accordance with a contract of engagement on investment advisory concluded between brokerage houses, portfolio management companies, non-deposit banks and clients. Comments and recommendations stated here rely on the individual opinions of the ones providing these comments and recommendations. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations. Furthermore, Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies and/or trades on securities covered in this research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report, however investors should also note that the Firm has in place organisational and administrative arrangements to manage potential conflicts of interest of this nature.

Analysts' compensation is determined by Citi Research management and Citigroup's senior management and is based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates (the "Firm"). Compensation is not linked to specific transactions or recommendations. Like all Firm employees, analysts receive compensation that is impacted by overall Firm profitability which includes investment banking, sales and trading, and principal trading revenues. One factor in equity research analyst compensation is arranging corporate access events between institutional clients and the management teams of covered companies. Typically, company management is more likely to participate when the analyst has a positive view of the company.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Unless stated otherwise neither the Research Analyst nor any member of their team has viewed the material operations of the Companies for which an investment view has been provided within the past 12 months.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 30th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Pursuant to the Market Abuse Regulation a history of all Citi Research recommendations published during the preceding 12-month period can be accessed via Citi Velocity (https://www.citivelocity.com/cv2) or your standard distribution portal. Historical disclosures (for up to the past three years) will be provided upon request.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below (and their regulators are listed further herein):

Citigroup Global Markets Ltd	Michel Nies

OTHER DISCLOSURES

Any price(s) of instruments mentioned in recommendations are as of the prior day's market close on the primary market for the instrument, unless otherwise stated.

The completion and first dissemination of any recommendations made within this research report are as of the Eastern date-time displayed at the top of the Product. If the Product references views of other analysts then please refer to the price chart or rating history table for the date/time of completion and first dissemination with respect to that view.

European regulations require that where a recommendation differs from any of the author's previous recommendations concerning the same financial instrument or issuer that has been published during the preceding 12-month period that the change(s) and the date of that previous recommendation are indicated. Please refer to the trade history in the published research or contact the research analyst.

European regulations require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

The proportion of all Citi Research research recommendations that were the equivalent to "Buy","Hold","Sell" at the end of each quarter over the prior 12 months (with the % of these that had received investment firm services from Citi in the prior 12 months shown in brackets) is as follows: Q2 2020 Buy 33% (68%), Hold 43% (62%), Sell 24% (60%), RV 0.7% (88%); Q1 2020 Buy 33% (68%), Hold 43% (60%), Sell 24% (57%), RV 0.6% (85%); Q4 2019 Buy 32% (68%), Hold 44% (61%), Sell 24% (56%), RV 0.8% (90%); Q3 2019 Buy 33% (72%), Hold 43% (65%), Sell 24% (57%), RV 0.6% (88%). For the purposes of disclosing recommendations other than for equity or high yield recommendations (whose definitions can be found in their corresponding disclosure sections), "Buy" means a positive directional trade idea; "Sell" means a negative directional trade idea; and "Relative Value" means any trade idea which does not have a clear direction to the investment strategy.

European regulations require a 5 year price history when past performance of a security is referenced. CitiVelocity's Charting Tool (https://www.citivelocity.com/cv2/#go/CHARTING_3_Equities) provides the facility to create customisable price charts including a five year option. This tool can be found in the Data & Analytics section under any of the asset class menus in CitiVelocity (https://www.citivelocity.com/). For further information contact CitiVelocity support (https://www.citivelocity.com/cv2/go/CLIENT_SUPPORT). The source for all referenced prices, unless otherwise stated, is DataCentral, which sources price information from Thomson Reuters. Past performance is not a guarantee or reliable indicator of future results. Forecasts are not a guarantee or reliable indicator of future performance.

Investors should always consider the investment objectives, risks, and charges and expenses of an ETF carefully before investing. The applicable prospectus and key investor information document (as applicable) for an ETF should contain this and other information about such ETF. It is important to read carefully any such prospectus before investing. Clients may obtain prospectuses and key investor information documents for ETFs from the applicable distributor or authorized participant, the exchange upon which an ETF is listed and/or from the applicable website of the applicable ETF issuer. The value of the investments and any accruing income may fall or rise. Any past performance, prediction or forecast is not indicative of future or likely performance. Any information on ETFs contained herein is provided strictly for illustrative purposes and should not be deemed an offer to sell or a solicitation of an offer to purchase units of any ETF either explicitly or implicitly. The opinions expressed are those of the authors and do not necessarily reflect the views of ETF issuers, any of their agents or their affiliates.

Citigroup Global Markets India Private Limited and/or its affiliates may have, from time to time, actual or beneficial ownership of 1% or more in the debt securities of the subject issuer.

This communication is directed at persons who are "Eligible Clients" as such term is defined in the Israeli Regulation of Investment Advice, Investment Marketing and Investment Portfolio Management law, 1995 (the "Advisory Law"). Within Israel, this communication is not intended for retail clients and Citi will not make such products or transactions available to retail clients. The presenter is not licensed as investment advisor or marketer by the Israeli Securities Authority ("ISA") and this communication does not constitute investment or marketing advice. The information contained herein may relate to matters that are not regulated by the ISA. Any securities which are the subject of this communication may not be offered or sold to any Israeli person except pursuant to an exemption from the Israeli public offering rules, including according to the Israeli Securities Law.

Citi Research generally disseminates its research to the Firm's global institutional and retail clients via both proprietary (e.g., Citi Velocity and Citi Personal Wealth Management) and non-proprietary electronic distribution platforms. Certain research may be disseminated only via the Firm's proprietary distribution platforms; however such research will not contain changes to earnings forecasts, target price, investment or risk rating or investment thesis or be otherwise inconsistent with the author's previously published research. Certain research is made available only to institutional investors to satisfy regulatory requirements. Individual Citi Research analysts may also opt to circulate published research to one or more clients by email; such email distribution is discretionary and is done only after the research has been disseminated. The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with the Firm and legal and regulatory constraints.

Pursuant to Comissão de Valores Mobiliários Rule 598 and ASIC Regulatory Guide 264, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental equity or credit research report, it is the intention of Citi Research to provide research coverage of the covered issuers, including in response to news affecting the issuer. For non-fundamental research reports, Citi Research may not provide regular updates to the views, recommendations and facts included in the reports. Notwithstanding that Citi Research maintains coverage on, makes recommendations concerning or discusses issuers, Citi Research may be periodically restricted from referencing certain issuers due to legal or policy reasons. Where a component of a published trade idea is subject to a restriction, the trade idea will be removed from any list of open trade ideas included in the Product. Upon the lifting of the restriction, the trade idea will either be re-instated in the open trade ideas list if the analyst continues to support it or it will be officially closed. Citi Research may provide different research products and services to different classes of customers (for example, based upon long-term or short-term investment horizons) that may lead to differing conclusions or recommendations that could impact the price of a security contrary to the recommendations in the alternative research product, provided that each is consistent with the rating system for each respective product.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Bell Potter Customers: Bell Potter is making this Product available to its clients pursuant to an agreement with Citigroup Global Markets Australia Pty Limited. Neither Citigroup Global Markets Australia Pty Limited nor any of its affiliates has made any determination as to the suitability of the information provided herein and clients should consult with their Bell Potter financial advisor before making any investment decision.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citigroup Global Markets Australia Pty Limited. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. Citigroup Global Markets Australia Pty Limited is not an Authorised Deposit-Taking Institution under the Banking Act 1959, nor is it regulated by the Australian Prudential Regulation Authority. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários ("CVM"), BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBIMA – Associação Brasileira das Entidades dos Mercados Financeiro e de Capitais. Av. Paulista, 1111 - 14º andar(parte) - CEP: 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **Germany** either by Citigroup Global Markets Europe AG ("CGME"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGME, Reuterweg 16, 60323 Frankfurt am Main or by Citigroup Global Markets Limited, which is authorised by the PRA and regulated by the FCA and the PRA. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A.(organized under the laws of U.S. A. with limited liability), Champion Tower, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited (CGM), which is regulated by the Securities and Exchange Board of India (SEBI), as a Research Analyst (SEBI Registration No. INH000000438). CGM is also actively involved in the business of merchant banking and stock brokerage in India, and is registered with SEBI in this regard. CGM's registered office is at 1202, 12th Floor, FIFC, G Block, Bandra Kurla Complex, Bandra East, Mumbai – 400098. CGM's Corporate Identity Number is U99999MH2000PTC126657, and its contact details are: Tel:+9102261759999 Fax:+9102261759961. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A, Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Japan** by Citigroup Global

Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Otemachi Park Building, 1-1-1 Otemachi, Chiyoda-ku, Tokyo 100-8132 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The product is made available in the **Kingdom of Saudi Arabia** in accordance with Saudi laws through Citigroup Saudi Arabia, which is regulated by the Capital Market Authority (CMA) under CMA license (17184-31). 2239 Al Urubah Rd – Al Olaya Dist. Unit No. 18, Riyadh 12214 – 9597, Kingdom Of Saudi Arabia. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. http://dis.kofia.or.kr/websquare/index.jsp?w2xPath=/wq/fundMgr/DISFundMgrAnalystList.xml&divisionId=MDIS03002002000000&serviceId=SDIS03002002000. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. This research report is intended to be provided only to Professional Investors as defined in the Financial Investment Services and Capital Market Act and its Enforcement Decree in Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Citibanamex Casa de Bolsa, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Citibanamex which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through AO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the license scope and the applicable laws and regulations in the Republic of China. CGMTS is regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS]. Pursuant to the applicable laws and regulations in the Republic of China, the recipient of the Product shall not take advantage of such Product to involve in any matters in which the recipient may have conflicts of interest. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 399 Interchange 21 Building, 18th Floor, Sukhumvit Road, Klongtoey Nua, Wattana ,Bangkok 10110, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets