

Medtronic, Inc.

United States of America/Equipment & Services

18 May 2016

UBS Research

Matt Miksic, IB Analyst

Vik Chopra, IB Analyst

Adding Robots to Spine – Extending the Capital-Consumable Strategy

Mazor agreement strengthens capital strategy, endorses robotics for spine

Medtronic's multi-phase co-marketing, sales and investment agreement with Mazor lays the groundwork for an additional capital platform for the company, extending the company's successful strategy of supporting the use of its medical devices and implants with Advanced Surgical Technology in the OR. We also see the deal as a notable endorsement of the potentially significant role robotic surgery systems will play in spine and orthopaedics more broadly. Other examples of Medtronic's successes in capital-consumable strategies include the O-Arm and Stealthstation (for spine) and CryoAblation (for Afib), which have both helped to expand and retain consumable use. Robotics have gained increasing interest in spine (see our notes from NASS and ISASS), however small-cap top-pick GMED and MZOR (not covered) are the only major players to have unveiled systems. This agreement puts MDT squarely on the board in robotics for spine, assuming that the first phase of the agreement is successful, which would position the company to take over exclusive sales of MZOR's robotic assisted surgery platform at the end of 2017. Globus Medical's Excelsius robotic system is expected to be filed with the FDA shortly (please see our GMED analyst day note for more detail.) MDT remains one of our two large-cap diversified top-picks (with JNJ), and we view the agreement as positive for the stock and future prospects of the company's spine franchise.

What will MZOR bring to Medtronic Spine?

MZOR's Renaissance Guidance system is a highly precise planning and targeting system for use in the placement of posterior pedicle screws during spinal fusion surgery. The system allows surgeons to reduce the use of fluoro during long and complex cases, and helps facilitate adoption of MIS techniques.

How is capital equipment an important strategy for implants?

The lines between capital equipment and implants have blurred over as manufacturers of implants seek ways to stabilize or enhance share with supporting equipment and technology. There remain many innovative and specialized screws and implants, but in cases where 'any screw will do', manufacturers would like to make it worthwhile or easier for hospitals and surgeons to use their implant, facilitated by capital equipment.

12-month rating	Buy
12-month price target	\$85.00
Price	\$80.81

Contributing authors: Yi Cheng

Trading data and key metrics

52-wk range	US\$81.89-64.52
Market cap.	US\$115bn
Shares o/s	1,419m (COM)
Free float	100%
Avg. daily volume ('000)	1,536
Avg. daily value (m)	US\$118.3
Common s/h equity (04/16E)	US\$53.3bn
P/BV (04/16E)	2.1x
Net debt / EBITDA (04/16E)	1.8x
RIC	MDT.N
BBG	MDT US

Sources: UBS, Bloomberg

EPS (UBS, diluted) (US\$)

	04/16E	
	UBS	Cons.
Q1	1.02	1.02
Q2	1.03	1.03
Q3	1.06	1.06
Q4E	1.26	1.27
04/16E	4.36	4.37
04/17E	4.65	4.70
04/18E	5.34	5.23

Definitions of terms and abbreviations are available in the appendix section of this report, and more extensively on internet at www.ubs.com/glossary

This report has been prepared by UBS Securities LLC. Analyst certification and required disclosures begin on page 3

UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Note that this material will have been provided to institutional and professional clients previously and therefore these clients will have been able to act on this material prior to you receiving it and consequently the market price of the company's security may have changed in the meantime. Past performance is no indication of future performance. The market prices provided are closing prices on the respective principal stock exchange. This applies to all performance charts and tables in this publication.

Medtronic, Inc.

Company Profile: Medtronic, Inc.

Medtronic is a global manufacturer and provider of medical devices and equipment across a wide range of specialties including cardiac rhythm management, vascular intervention, structural and valvular disease, spinal disorders, neuro-modulation, surgical equipment and diabetes.

Statement of Risk

Our \$85 price target is based on 12.5x EV/EBITDA on FY18E EBITDA of \$10.6 bil. Risks to our price target include lower than expected deal synergies, failure of key pipeline products, unexpected slowdown in key markets and regulatory delays of key products.

Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Highlights (US\$m)	04/13	04/14	04/15	04/16E	04/17E	04/18E	04/19E	04/20E
Revenues	16,589	17,006	20,261	28,715	29,717	31,727	33,623	35,470
EBIT (UBS)	4,770	4,828	5,269	6,256	6,508	7,378	8,022	8,650
Net earnings (UBS)	3,855	3,925	4,745	6,216	6,456	7,310	7,954	8,605
EPS (UBS, diluted) (US\$)	3.75	3.87	4.28	4.36	4.65	5.34	5.81	6.29
DPS (US\$)	1.04	1.12	1.24	1.55	1.86	2.23	2.46	2.70
Net (debt) / cash	479	2,313	(16,706)	(16,196)	(14,214)	(10,698)	(5,075)	1,014
Profitability/valuation	04/13	04/14	04/15	04/16E	04/17E	04/18E	04/19E	04/20E
EBIT margin %	28.8	28.4	26.0	21.8	21.9	23.3	23.9	24.4
ROIC (EBIT) %	27.4	28.7	12.3	9.1	9.6	11.3	12.8	14.4
EV/EBITDA (core) x	8.2	9.4	12.6	14.4	13.6	12.0	10.7	9.6
P/E (UBS, diluted) x	11.2	14.4	16.1	18.5	17.4	15.1	13.9	12.9
Equity FCF (UBS) yield %	10.4	8.2	5.7	4.2	6.3	7.4	7.9	8.7
Net dividend yield %	2.5	2.0	1.8	1.9	2.3	2.8	3.0	3.3

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied.

Valuations: based on an average share price that year, (E): based on a share price of US\$80.81 on 17 May 2016 19:36 EDT

For questions related to this report, please contact the global UBS Research Equity info center under ubs-cio-wm@ubs.com. Please note that e-mail communication is unsecured. For access to more research publications, please visit the UBS Quotes online portal or contact your client advisor for assistance.

Appendix

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

UBS 12-Month Rating	Rating Category	Coverage ¹	IB Services ²
Buy	Buy	47%	33%
Neutral	Hold/Neutral	42%	34%
Sell	Sell	11%	23%

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 31 March 2014.

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.

UBS Investment Research: Global Equity Ratings Definitions

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures.

Global Equity 12-Month Rating Definitions

Buy: FSR is > 6% above the MRA. **Neutral:** FSR is between -6% and 6% of the MRA. **Sell:** FSR is > 6% below the MRA.

Key Definitions

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Exceptions and Special Cases

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified the Companies Mentioned or Company Disclosure table in the relevant research piece.

Company Disclosures

Medtronic	MDT US	Buy	US\$80.81	17 May 2016
Johnson & Johnson	JNJ US	Buy	US\$113.83	17 May 2016
Company Name	Reuters	12-mo rating	Price	Price date

Source: UBS. All prices as of local market close.

Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

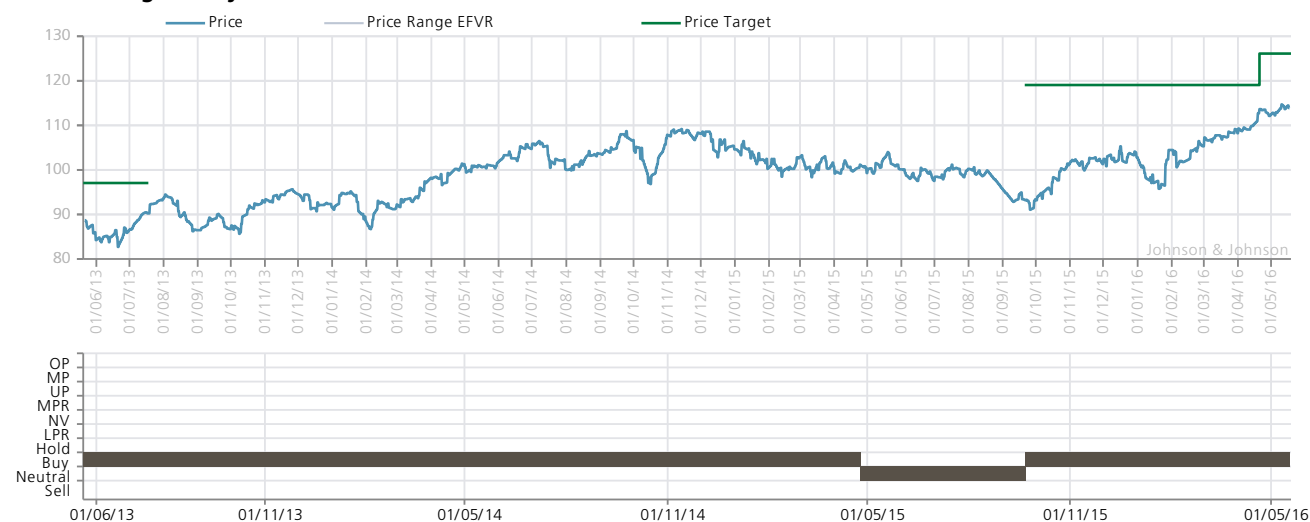
Disclosures (18 May 2016)

Johnson & Johnson 1, 2, 4, 6, 7, 8, 9, 10; Medtronic, Inc. 1, 2, 3, 4, 5,

1. UBS Securities LLC makes a market in the securities and/or ADRs of this company.
2. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-investment banking securities-related services are being, or have been, provided.
3. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-securities services are being, or have been, provided.
4. Within the past 12 months, UBS Securities LLC and/or its affiliates have received compensation for products and services other than investment banking services from this company/entity.
5. A U.S.-based global equity strategist, a member of his team, or one of their household members has a long common stock position in Medtronic PLC.
6. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.
7. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
8. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.
9. This company/entity is, or within the past 12 months has been, a client of UBS Financial Services Inc, and non-investment banking securities-related services are being, or have been, provided.
10. Within the past 12 months, UBS Financial Services Inc has received compensation for products and services other than investment banking services from this company.

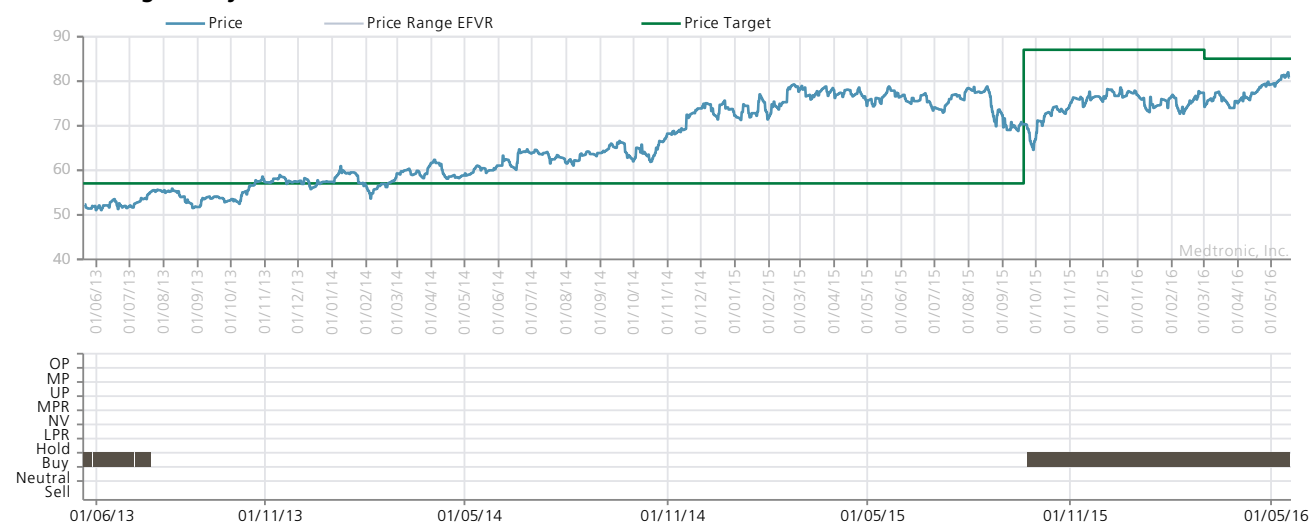
Medtronic, Inc.

Global rating history -- Johnson & Johnson, JNJ US



Source: UBS CIO as of 18 May 2016

Global rating history -- Medtronic, Inc., MDT US



Source: UBS CIO as of 18 May 2016

Terms and Abbreviations

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
1H, 2H, etc. or 1H11, 2H11, etc.	First half, second half, etc. or first half 2011, second half 2011, etc.	1Q, 2Q, etc. or 1Q11, 2Q11, etc.	First quarter, second quarter, etc. or first quarter 2011, second quarter 2011, etc.
2011E, 2012E, etc.	2011 estimate, 2012 estimate, etc.	A	actual i.e. 2010A
ADR	American depository receipt	ARPU	Average Revenue Per User
AUM	Assets under management = total value of own and third-party assets managed	Avg.	average
bn	Billion	bp or bps	Basis point or basis points (100 bps = 1 percentage point)
BVPS	Book value per share = shareholders' equity divided by the number of shares	CAGR	Compound annual growth rate
Cant Inc/Capita	Cantonal income per capita (Switzerland only)	Capex	Capital expenditures
CF	Cash flow	CFO	1) Cash flow from operations, 2) Chief financial officer
COGS	Cost of goods sold	COM	Common shares
Cons.	Consensus	Core Tier 1 Ratio	Tier 1 capital minus tier 1 hybrid securities
Cost/Inc Ratio (%)	Costs as a percentage of income	CPI	Consumer price index
CR	Combined ratio = ratio of claims and expenses as a percentage of premiums (for insurance companies)	CY	Calendar year
DCF	Discounted cash flow	DDM	Dividend discount model
Dividend Yield (%)	Dividend per share divided by price per share	DPS	Dividend per share
E	expected i.e. 2011E	EBIT	Earnings before interest and taxes
EBIT Margin (%)	EBIT divided by revenues	EBITDA	Earnings before interest, taxes, depreciation and amortization

Medtronic, Inc.

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
EBITDA Margin (%)	EBITDA divided by revenues	EBITDA/Net Interest	EBITDA divided by net interest expense
EBITDAR	Earnings before interest, taxes, depreciation, amortization and rental expense	EFVR	Estimated fair value range
EmV	Embedded value = net asset value + present value of forecasted future profits (for life insurers)	EPS	Earnings per share
Equity Ratio (%)	Shareholders' equity divided by total assets	EV	Enterprise value = market value of equity, preferred equity, outstanding net debt and minorities
FCF	Free cash flow = cash a company generates above outlays required to maintain/expand its asset base	FCF Yield (%)	Free cash flow divided by market capitalization
FFO	Funds from operations	FY	Fiscal year / financial year
GDP	Gross domestic product	Gross Margin (%)	Gross profit divided by revenues
H	half year	h/h	Half-year over half-year; half on half
hist av.	Historical average	Interbank Ratio	Interbank deposits due from banks divided by interbank deposits due to banks
Interest Coverage	Ratio that expresses the number of times interest expenses are covered by earnings	Interest exp	Interest expense
ISIN	International securities identification number	K	One thousand
LLP/Net Int Inc (%)	Loan loss provisions divided by net interest income	LLR/Gross Loans (%)	Loan loss reserves divided by gross loans
LPR	Least Preferred: The stock is expected to both underperform the relevant benchmark and depreciate in absolute terms.	Market cap	Number of all shares of a company (at the end of the quarter) times closing price
m/m	Month-over-month; month on month	mn or m	Million
M and A	Merger and Acquisition	MP	Marketperform: The stocks expected performance is in line with the sector benchmark
MPR	Most Preferred: The stock is expected to both outperform the relevant benchmark and appreciate in absolute terms.	n.a.	Not available or not applicable
NAV	Net asset value	Net Debt	Short- and long-term interest-bearing debt minus cash and cash equivalents
Net DPS	Net dividends per share	NIM or Net Int Margin (%)	Net interest income divided by average interest-bearing assets
Net Margin (%)	Net income dividend by revenues	NV	Neutral View: The stock is expected to neither outperform nor underperform the relevant benchmark nor significantly appreciate or depreciate in absolute terms.
n.m. or NM	Not meaningful	NPL	Non-performing loans
OP	Outperform: The stocks is expected to outperform the sector benchmark	Op Margin (%)	Operating income divided by revenues
p.a.	Per annum (per year)	P/BV	Price to book value
P/E or PE	Price to earnings / Price Earnings Ratio	P/E Relative	P/E relative to the market
P/EmV	Price to embedded value	PEG Ratio	P/E ratio divided by earnings growth
PPI	Producer price index	Prim Bal/Cur Rev (%)	Primary balance divided by current revenue (total revenue minus capital revenue)
Profit Margin (%)	Net income divided by revenues	q/q or QQQ	Quarter-over-quarter; quarter on quarter
R and D	Research and development	ROA (%)	Return on assets
ROAE (%)	Return on average equity	ROCE (%)	Return on capital employed = EBIT divided by difference between total assets & current liabilities
ROE (%)	Return on equity	ROIC (%) or ROI	Return on invested capital
Shares o/s	Shares outstanding	Solvency Ratio (%)	Ratio of shareholders' equity to net premiums written (for insurance companies)
sotp or SOTP	Sum of the parts	Tax Burden Index	Swiss tax index; 100 = average tax burden of all cantons
tgt	Target	Tier 1 Ratio (%)	Tier 1 capital divided by risk-weighted assets; describes a bank's capital adequacy
tn	Trillion	UP	Underperform: The stock is expected to underperform the sector benchmark
Valor	Swiss company identifier	WACC	Weighted average cost of capital
CIO	UBS WM Chief Investment Office	x	multiple / multiplier
y/y or YOY	Year-over-year; year on year	yr	Year
YTD	Year-to-date		

Disclaimer

This report is prepared by UBS AG or an affiliate thereof and published by Wealth Management and Retail & Corporate, a Business Division of UBS AG (UBS) or an affiliate thereof. In certain countries UBS AG is referred to as UBS SA.

This publication is for your information only and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS AG, its subsidiaries and affiliates). All information and opinions as well as any prices indicated are current as of the date of this report, and are subject to change without notice. Research will initiate, update and cease coverage solely at the discretion of UBS Research Management. Any prices stated in this report are for information purposes only and do not represent valuations for individual securities or other instruments. There is no representation that any transaction can or could have been effected at those prices and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. UBS is under no obligation to update or keep current the information contained herein. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS, its subsidiaries and affiliates, as a result of using different assumptions and/or criteria. UBS does not undertake that investors will obtain profits, nor will it share with investors any investment profits nor accept any liability for any investment losses. Investments involve risks and investors should exercise prudence in making their investment decisions. The report should not be regarded by recipients as a substitute for the exercise of their own judgment. At any time UBS and other companies in the UBS group (or its employees) may have a long or short position, or deal as principal or agent, in relevant securities or provide advisory or other services to the issuer of relevant securities or to a company connected with an issuer. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates and other market conditions. Past performance of an investment is no guarantee for its future performance. Neither UBS nor any of its affiliates, nor any of UBS' or any of its affiliates, directors, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this report. For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC and/or UBS Capital Markets LP) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this research report. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The compensation of the analyst(s) who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of UBS Wealth Management & Swiss Bank as a whole, which includes investment banking, sales and trading services. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual client and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein. For structured financial instruments and funds the sales prospectus is legally binding. If you are interested you may attain a copy via UBS or a subsidiary of UBS. This document may not be reproduced or copies circulated without prior authority of UBS or a subsidiary of UBS. UBS expressly prohibits the distribution and transfer of this document to third parties for any reason. UBS will not be liable for any claims or lawsuits from any third parties arising from the use or distribution of this document. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which UBS CIO Wealth Management manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research. Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

Australia: 1) Clients of UBS Wealth Management Australia Ltd: This notice is issued by UBS Wealth Management Australia Ltd ABN 50 005 311 937 (Holder of Australian Financial Services Licence No. 231127): This Document is general in nature and does not constitute personal financial product advice. The Document does not take into account any person's objectives, financial situation or needs, and a recipient should obtain advice from an independent financial adviser and consider any relevant offer or disclosure document prior to making any investment decisions. **2) Clients of UBS AG:** This notice is issued by UBS AG ABN 47 088 129 613 (Holder of Australian Financial Services Licence No 231087): This Document is issued and distributed by UBS AG. This is the case despite anything to the contrary in the Document. The Document is intended for use only by "Wholesale Clients" as defined in section 761G ("Wholesale Clients") of the Corporations Act 2001 (Cth) ("Corporations Act"). In no circumstances may the Document be made available by UBS AG to a "Retail Client" as defined in section 761G of the Corporations Act. UBS AG's research services are only available to Wholesale Clients. The Document is general information only and does not take into account any person's investment objectives, financial and taxation situation or particular needs. **Bahamas:** This publication is distributed to private clients of UBS (Bahamas) Ltd and is not intended for distribution to persons designated as a Bahamian citizen or resident under the Bahamas Exchange Control Regulations. **Bahrain:** UBS is a Swiss bank not licensed, supervised or regulated in Bahrain by the Central Bank of Bahrain and does not undertake banking or investment business activities in Bahrain. Therefore, Clients have no protection under local banking and investment services laws and regulations. **Brazil:** Prepared by UBS Brasil Administradora de Valores Mobiliários Ltda, entity regulated by Comissão de Valores Mobiliários ("CVM"). The views and opinions expressed in this report accurately reflect analyst's personal views about the subject securities and issuers. This report is only intended for Brazilian residents if such residents are directly purchasing or selling securities in the Brazil capital market through a local authorized institution. For investors residing in Brazil, Eligible Investors are considered to be: (i) financial institutions, (ii) insurance firms and investment capital companies, (iii) supplementary pension entities, (iv) entities that hold financial investments higher than R\$ 300.000 and that confirm the status of qualified investors in written, (v) investment funds, (vi) securities portfolio managers and securities consultants duly authorized by CVM, regarding their own investments, and (vii) social security systems created by the Federal Government, States, and Municipalities. **Canada:** 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, solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. Under no circumstances 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. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada or, alternatively, pursuant to a dealer registration exemption. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. In Canada, this publication is distributed by UBS Investment Management Canada Inc. **China:** This research report is neither intended to be distributed to PRC investors nor to provide securities investment consultancy services within the territory of PRC. **Dubai:** Research is issued by UBS AG Dubai Branch within the DIFC, is intended for professional clients only and is not for onward distribution within the United Arab Emirates. **France:** This publication is distributed by UBS (France) S.A., French "société anonyme" with share capital of € 125.726.944, 69, boulevard Haussmann F-75008 Paris, R.C.S. Paris B 421 255 670, to its clients and prospects. UBS (France) S.A. is a provider of investment services duly authorized according to the terms of the "Code Monétaire et Financier", regulated by French banking and financial authorities as the "Autorité de Contrôle Prudentiel et de Résolution." Egypt: Securities or other investment products are not being offered or sold by UBS to the public in Egypt and they have not been and will not be registered with the Egyptian Financial Supervisory Authority (EFSA). **Germany:** The issuer under German Law is UBS Deutschland AG, Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Deutschland AG is authorized and regulated by the "Bundesanstalt für Finanzdienstleistungsaufsicht". **Hong Kong:** This publication is distributed to clients of UBS AG Hong Kong Branch by UBS AG Hong Kong Branch, a licensed bank under the Hong Kong Banking Ordinance and a registered institution under the Securities and Futures Ordinance. **India:** Distributed by UBS Securities India Private Ltd. 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437. **Indonesia:** This research or publication is not intended and not prepared for purposes of public offering of securities under the Indonesian Capital Market Law and its implementing regulations. Securities mentioned in this material have not been, and will not be, registered under the Indonesian Capital Market Law and regulations. **Israel:** UBS Switzerland AG is registered as a Foreign Dealer in cooperation with UBS Wealth Management Israel Ltd, a wholly owned UBS subsidiary. UBS Wealth Management

Disclaimer

Israel Ltd is a licensed Portfolio Manager which engages also in Investment Marketing and is regulated by the Israel Securities Authority. This publication shall not replace any investment advice and/or investment marketing provided by a relevant licensee which is adjusted to your personal needs. For the avoidance of doubt, any use of the word "advice" and any of its derivatives in this publication shall be construed as "Investment Marketing" as defined in the Israeli Advisory Law.) UBS AG and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS AG is not covered by insurance as required from a licensee under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS AG and its affiliates may prefer various Financial Assets to which they have or may have an affiliation (as such term is defined under the Israeli Advisory Law. **Italy:** This publication is distributed to the clients of UBS (Italia) S.p.A., via del vecchio politecnico 3, Milano, an Italian bank duly authorized by Bank of Italy to the provision of financial services and supervised by "Consob" and Bank of Italy. UBS Italia has not participated in the production of the publication and of the research on investments and financial analysis herein contained. **Jersey:** UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission for the conduct of banking, funds and investment business. **Luxembourg:** This publication is not intended to constitute a public offer under Luxembourg law, but might be made available for information purposes to clients of UBS (Luxembourg) S.A., 33A avenue J.F. Kennedy, L-1855 Luxembourg, R.C.S. Luxembourg B 11142, a regulated bank under the joint supervision of the European Central bank and the "Commission de Surveillance du Secteur Financier" (CSSF), to which this publication has not been submitted for approval. **Mexico:** This document has been distributed by UBS Asesores México, S.A. de C.V., a company which is not part of UBS Grupo Financiero, S.A. de C.V. or of any other Mexican financial group and whose obligations are not guaranteed by any third party. UBS Asesores México, S.A. de C.V. does not guarantee any yield whatsoever. **Netherlands:** This publication is not intended to constitute a public offering or a comparable solicitation under Dutch law, but might be made available for information purposes to clients of UBS Bank (Netherlands) B.V., a regulated bank under the supervision of "De Nederlandsche Bank" (DNB) and "Autoriteit Financiële Markten" (AFM), to which this publication has not been submitted for approval. **New Zealand:** This notice is distributed to clients of UBS Wealth Management Australia Limited ABN 50 005 311 937 (Holder of Australian Financial Services Licence No. 231127), Chifley Tower, 2 Chifley Square, Sydney, New South Wales, NSW 2000, by UBS Wealth Management Australia Ltd. You are being provided with this UBS publication or material because you have indicated to UBS that you are a client certified as a wholesale investor and/or an eligible investor ("Certified Client") located in New Zealand. This publication or material is not intended for clients who are not Certified Clients ("Non-Certified Clients"), and if you are a Non-Certified Client you must not rely on this publication or material. If despite this warning you nevertheless rely on this publication or material, you hereby (i) acknowledge that you may not rely on the content of this publication or material and that any recommendations or opinions in this publication or material are not made or provided to you, and (ii) to the maximum extent permitted by law (a) indemnify UBS and its associates or related entities (and their respective directors, officers, agents and advisers (each a "Relevant Person") for any loss, damage, liability or claim any of them may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material and (b) waive any rights or remedies you may have against any Relevant Person for (or in respect of) any loss, damage, liability or claim you may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material. **Singapore:** Please contact UBS AG Singapore branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or report. **Spain:** This publication is distributed to clients of UBS Bank, S.A. by UBS Bank, S.A., a bank registered with the Bank of Spain. **Taiwan:** This material is provided in accordance with laws of Taiwan, in agreement with or at the request of clients. **Thailand:** At your specific request, this material has been provided to you. This document has not been approved by the Thai SEC, which has not verified the correctness or completeness of this document either on the issuing date of this document or later. This document has not passed any consideration by the Thai SEC. Investment in these securities involves risks investors should exercise due care and discretion in considering investment risk. The Investors should carefully study the investment risk and ensure that they have a good understanding of such risk. **Turkey:** No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey in the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board (the CMB) under the provisions of the Capital Market Law (Law No. 2499). Accordingly neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the CMB. However, according to article 15 (d) (ii) of the Decree No. 32 there is no restriction on the purchase or sale of the instruments by residents of the Republic of Turkey. **UAE:** This research report is not intended to constitute an offer, sale or delivery of shares or other securities under the laws of the United Arab Emirates (UAE). The contents of this report have not been and will not be approved by any authority in the United Arab Emirates including the UAE Central Bank or Dubai Financial Authorities, the Emirates Securities and Commodities Authority, the Dubai Financial Market, the Abu Dhabi Securities market or any other UAE exchange. **UK:** Approved by UBS AG, authorised and regulated by the Financial Market Supervisory Authority in Switzerland. In the United Kingdom, UBS AG is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. A member of the London Stock Exchange. This publication is distributed to private clients of UBS London in the UK. Where products or services are provided from outside the UK, they will not be covered by the UK regulatory regime or the Financial Services Compensation Scheme. **Ukraine:** UBS is not registered and licensed as a bank/financial institution under Ukrainian legislation and does not provide banking and other financial services in Ukraine. UBS has not made and will not make any offer of the mentioned products to the public in Ukraine. No action has been taken to authorize an offer of the mentioned products to the public in Ukraine and the distribution of this document shall not constitute financial services for the purposes of the Law of Ukraine "On Financial Services and State Regulation of Financial Services Markets" dated 12 July 2001 **USA:** This document is not intended for distribution into the US, to US persons. UBS Securities LLC is a subsidiary of UBS AG and an affiliate of UBS Financial Services Inc., UBS Financial Services Inc. is a subsidiary of UBS AG.

Version 02/2016.

© UBS 2016. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.