

Roche

Ticker Site BiG	ROG
Ticker BiGlobal Trade	ROG
Ticker BT24	ROG
Ticker BiG Power Trade	ROG
P/E Ratio 2019E	13.96
P/BV Ratio	8.15
EV/EBITDA	11.79

Source: Bloomberg;

Price and Performance (Values in CHF)

Price	263.40
52 week high	280.55
52 week low	206.35
YTD	8.2%
Average daily volume (un)	1,454,169
Market Capitalization (mn)	226,975
Beta	1.02
Dividend	8.70
EPS	12.29

Source: Bloomberg;

Analysts Consensus (last 3 months)

Buy	14
Hold	12
Sell	3

Source: Bloomberg;

Financial Data

Sales (CHF mn)	56,846
EBITDA (CHF mn)	18,355
Number of Employees	94,442
ROA	13.5%
ROE	38.8%
D/E	0.62
Dividend Yield	3.30%

Source: Bloomberg;

Notes:

All quotes were updated in Bloomberg at 12h47 of April 22th, 2019.

Relevant Information:

Use the following link to view our most recent publications:

<https://www.big.pt/InformacaoMercados/TradingIdeas/Index/-1>

Use the following link to see our recommendation history:

<https://www.big.pt/pdf/Newsletters/nld.pdf>

Roche (Ticker: ROG SW)

Description

Roche produces pharmaceuticals (specialized in oncology and immunology) and sells diagnostic equipment. The pharmaceuticals segment represented 77% of sales in 2018 and diagnostics 23%. In geographical terms, Roche is well diversified with 45% of sales in North America, 26% in Europe, 21% in Asia-Pacific and 10% in the rest of the world. Roche trades in NYSE as an ADR with a market capitalization of CHF 227 bn.

Investment Case

Roche as a major pharmaceutical company has a defensive profile, which combined with a robust balance sheet with low debt (net debt/ebitda 0.3) and a relatively cheap valuation (P/E 14 vs sector average 15.7) makes it look like a good opportunity. However there are several risks to take into account: some of its major drugs have their patents expiring in 2019 and 2020, which may lead to decrease in revenues and will most likely demand an investment from Roche in other pharmaceutical companies to reverse this; Roche's biggest pharmaceutical market (~50%), US, is facing increasing pressure from its President against increase in drug prices, which may impact negatively the growth of Roche.

Considering the pros and cons we do not advise an investment in Roche at the current levels as the low valuation does not offset the current risks.

Analyst:

João Calado, CFA

Research:

research@big.pt

This document is based on publicly available information and retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.

Income Sta. (CHF mn)	2018	2017	2016
Pharmaceuticals	43967	41220	39103
Diagnostics	12879	12079	11473
Royalties and others	2651	2447	2060
Revenues	59497	55746	52636
Cost of sales	17269	18179	16180
Research & Development	12092	11292	11532
Sales & Marketing	10109	9847	9140
Other	5258	3425	1715
Operating Expenses	44728	42743	38567
EBIT	14769	13003	14069
Financial expenses	621	755	1062
EBT	14148	12248	13007
Taxes	3283	3423	3274
Net Income	10865	8825	9733
Earnings Per Share	12.29	10.12	11.24

Source: Company's Data

Income Statement

Both the Pharmaceuticals and Diagnostic divisions increased sales by 6.6% in 2018. In pharma the main driver was the new drug Ocrevus and cancer medicines Perjeta, Tecentriq, Alecensa and Hemlibra. In Europe sales were affected by biosimilar competition for Mabthera and Herceptin. Diagnostic sales increased in all regions. EBIT margin increased to around 25%.

Free Cash Flow

In 2018 Roche's investment cash flow increased due to the Spark acquisition and consequently the company did not reduce debt substantially but increased its dividend.

Balance Sheet

Taking into account the marketable securities, Roche's net debt is around CHF 5.7bn reaching a ratio over EBITDA of around 0.3x.

Free Cash Flow (CHF mn)	2018	2017	2016
Operational Cash Flow	19979	18024	15001
Cash flows from operations	24424	22256	21225
Changes in Working Capital	176	427	-1023
Others	-4621	-4659	-5201
Investment Cash Flow	-7195	-6459	-4513
Capex	-8149	-4382	-5068
Investments in Securities	850	-2139	673
Others	104	62	-118
Financial Cash Flow	-10691	-11115	-10071
Debt change	-122	-3209	-1414
Share buyback	-448	-358	-557
Dividends	-7253	-7140	-7040
Others	-2868	-408	-1060
Change in free cash flow	2093	450	417
Other and forex	-131	106	15
Cash and equivalents	6681	4719	4163

Source: Company's Data

First Quarter of 2019 earnings

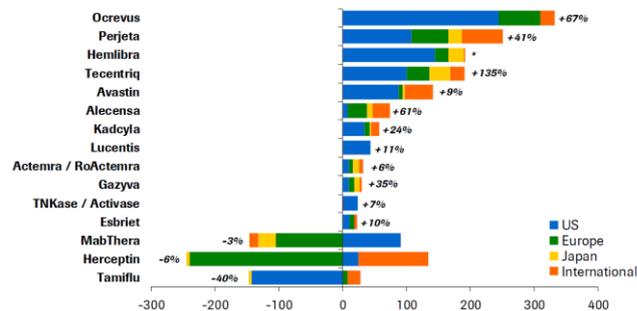
Roche beat analysts' estimates by achieving sales of CHF 14.8bn vs est. CHF 14.24bn. This way, achieved an 8% growth at constant exchange rate, with Pharma division growing by +10% YoY and Diagnostics by +1%.

Roche raised its outlook for this year, increasing sales guidance to mid single digit (vs prev. low to mid single digit) at constant FX. Notwithstanding, it sees more competitive pressures from biosimilars in US in the 2H19, but a strong momentum in China. Roche said a deal like the recent purchase of Spark is possible this year.

Balance Sheet (CHF mn)	2018	2017	2016
Assets	78517	76676	76819
Cash & Equivalents	6681	4719	4163
Marketable Securities	6437	7278	4944
Goodwill	8948	10077	11282
Receivables	9776	9577	8760
Inventories	6621	7407	7928
Property Plant & Equipment	21818	20912	19957
Intangible Assets & Goodwill	9346	8368	12046
Other Assets	8890	8338	7739
Liabilities	48151	47669	50417
Short term Debt	2693	3121	5363
Long term Debt	16077	15839	16992
Payables & accrued expense	3526	3454	3375
Defined Benefit plan liabilities	7017	7421	7678
Other liabilities	18838	17834	17009
Total Shareowner's Equity	30366	29007	26402
Total Equity and Liabilities	78517	76676	76819

source: Company's Data

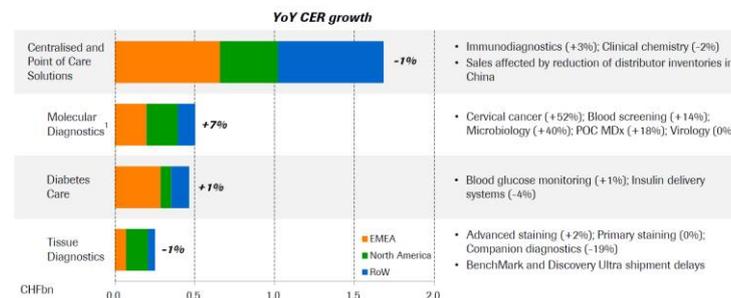
Q1 2019: Portfolio rejuvenation on-going
Strong growth from new products



Absolute values and growth rates at Constant Exchange Rates (CER); * over 500%

Source: Company's data

Q1 2019: Diagnostics Division highlights
Growth due to Molecular Diagnostics



* Underlying growth of Molecular Diagnostics excluding sequencing business: +7%; CER-Constant Exchange Rates; EMEA-Europe, Middle East and Africa

Source: Company's data

Analyst:
João Calado, CFA

Research:
research@big.pt

This document is based on publicly available information and retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.

▲ Main segments

Drug Sales (CHF million)	2016	2017	2018	2018% Growth	Weight 2018
Herceptin**	6782	7014	6982	0%	12.3%
Avastin**	6783	6688	6849	2%	12.0%
MabThera/Rituxan**	5823	5832	5191	-11%	9.1%
Perjeta	1846	2196	2773	26%	4.9%
Kadcyla	831	914	979	7%	1.7%
Tarceva	1024	843	538	-36%	0.9%
Tecentriq	157	487	772	59%	1.4%
Xeloda	506	453	427	-6%	0.8%
Alecensa	182	362	637	76%	1.1%
Gazyva/Gazyvaro	196	278	390	40%	0.7%
Others	711	676	645	-5%	1.1%
Total Oncology	24841	25743	26183	2%	46.1%
Actemra/RoActemra	1697	1926	2160	12%	3.8%
Xolair	1498	1742	1912	10%	3.4%
MabThera/Rituxan**	1477	1556	1561	0%	2.7%
Esbriet	768	869	1031	19%	1.8%
Pullmozyme	685	730	739	1%	1.3%
CellCept	741	697	669	-4%	1.2%
Others	104	91	88	-3%	0.2%
Total Immunology	6970	7611	8160	7%	14.4%
Ocrevus	0	869	2353	171%	4.1%
Madopar	290	334	341	2%	0.6%
Others	367	339	311	-8%	0.5%
Total Neuroscience	657	1542	3005	95%	5.3%
Lucentis	1406	1414	1659	17%	2.9%
Total Ophthalmology	1406	1414	1659	17%	2.9%
Tamiflu*	794	535	378	-29%	0.7%
Rocephin	298	299	305	2%	0.5%
Valcycel/Cymevene*	306	235			
Pegasys*	259	178			
Others	116	110	401		0.7%
Total Infectious diseases	1773	1357	1084	-20%	1.9%
Activase/TNKase	1108	1219	1284	5%	2.3%
Mirceira	512	505	532	5%	0.9%
NeoRecormon/Epopin	328	312	288	-8%	0.5%
Others	1508	1517	1772	17%	3.1%
Total Other therapeutic areas	3456	3553	3876	9%	6.8%
Total Pharmaceuticals	39103	41220	43967	7%	77.3%
Centralised and PoC Solutions	6698	7179	7768	8%	13.7%
Diabetes Care	2016	1965	1980	1%	3.5%
Molecular Diagnostics	1845	1920	2019	5%	3.6%
Tissue Diagnostics	914	1015	1112	10%	2.0%
Total Diagnostics	11473	12079	12879	7%	22.7%
Total Company Sales	50576	53299	56846	7%	

* Products with patents expiring recently

**Products with patents expiring in near future

Source: Company's data

Pharmaceutical Sales (CHF mn) by region	2016	2017	2018	2018% Growth	Weight 2018
United States	18594	20496	23233	13%	52.8%
Europe	9159	9051	8693	-4%	19.8%
Japan	3711	3713	3701	0%	8.4%
EEMEA	1621	1524	1416	-7%	3.2%
Latin America	1868	2121	2004	-6%	4.6%
Asia Pacific	3291	3397	3931	16%	8.9%
Other regions	859	918	989	8%	2.2%
Total Pharmaceutical sales	39103	41220	43967	7%	

Source: Company's data

Diagnostics (CHF mn) by region	2016	2017	2018	2018% Growth	Weight 2018
EMEA	4637	4773	4986	4%	38.7%
North America	3007	3011	3213	7%	24.9%
Asia-Pacific	2559	2939	3334	13%	25.9%
Latin America	792	884	844	-5%	6.6%
Japan	478	472	502	6%	3.9%
Total Pharmaceutical sales	11473	12079	12879	7%	

Source: Company's data

MabThera/Rituxan:(11.8% of sales) Treatment for blood cancer, like lymphoma and leukaemia, by attacking cells that have CD20 marker on their surface. It is used mainly in Europe, US, Japan and Canada. Sales are expected to decline by 15% per year.

Herceptin: (12.3% of sales) Used in combination with chemotherapy for the post-surgery treatment of HER2-positive (HER2 is a gene that promotes the growth of cancer cells, making this type of cancer more aggressive) breast and gastric cancer. It is an antibody that binds to HER2 receptors present on the surface of HER2-positive tumour cells, blocking them from receiving growth signals and flagging them for destruction by the immune system. Sales are expected to decline by 9% per year.

Avastin: (12% of sales) Approved for the treatment of advance stages of breast, colorectal, non-small cell lung, kidney, ovarian and cervical cancers. Avastin does not attack cancer cells as in chemotherapy but instead blocks the blood supply that feeds the tumor, to try to stop the tumor from growing. It was approved in more than 70 countries, but sales are expected to decrease at around 6.5% per year.

Perjeta: (4.9% of sales) Prevents the HER2 receptor from pairing with other HER receptors on the surface of cancer cells. This way it also signals the body's immune system for the destruction of these cells. The combination of Perjeta and Herceptin are believed to provide a more comprehensive blockade of HER signalling pathways, thus preventing tumour cell growth and survival. It was approved for pre-surgery treatment both in Europe and US. Sales are expected to increase by 18% per year.

Ocrevus: (4.1% of sales) It is a drug used to treat relapsing forms of multiple sclerosis (MS) by targetting an immune cell called CD20-positive B. It was approved by the FDA in US in March 2017 and in Europe in January 2018. Ocrevus already has 16% of market share in US and its uptake in new and switching patients is around 37% signalling growth momentum.

Tecentriq: (1.4% of sales but growing) Is a monoclonal antibody designed to bind with PD-L1 protein blocking its interactions with B7.1 receptors and consequently enabling the activation of T-cell (a subtype of white cells) to enable the immune system to fight cancer. It is already approved in more than 50 countries for the treatment of metastatic non-small cell lung cancer (NSCLC) and for people with locally advanced or metastatic urothelial cancer (mUC). Recent approvals for new indications to treat triple negative breast cancer (TNBC) and small cell lung cancer (SCLC) in US.

Hemlibra: (1.5% of sales) This is a preventive treatment for haemophilia A that already covers 75-80% of target population and got approval in March 2019 in Europe for the non-inhibitor category. It brings together factor IXa and factor X, proteins required to activate the natural coagulation cascade and restore the blood clotting process.

Diagnostics division: (23% of sales) Roche is the world leader in in-vitro diagnostics and supplies instruments for disease screening and diagnosis in laboratories, at point of care and for patient self-management.

This document is based on publicly available information and retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.

Analyst:
João Calado, CFA

Research:
research@big.pt

▲ Drugs in Pipeline (filed)

Satralizumab and Risdiplam will be submitted in 2019 to be approved in 2020.

Palatuzumab and Entrectinib (oncology) are expected to be approved in 2019.

Tecentriq: It was filed as treatment for non-squamous non-small lung cancer, in combination with chemotherapy and with or without Avastin. Expected approval in Europe for treatment of SCLC and TNBC in 2019.

Kadcyla Katherine: This oncology treatment is expected to be approved in 2019 in US to replace some Herceptin treatments.

Venclexta: Filed for the treatment of acute myeloid leukemia by restoring apoptosis (programmed cell death), managed by blocking the function of pro-survival of Bcl-2 family proteins, which are expressed at high levels in many tumors. Roche is partnering with AbbVie in this treatment.

Actemra/RoACTEMRA (tocilizumab): Humanised monoclonal antibody which inhibits the activity of interleukin-6. This is a protein that plays a major role in the rheumatoid arthritis inflammation process and in the cytokine release syndrome associated with CAR-T cell therapy.

Xolair: Is a monoclonal antibody which targets antibody IgE (immunoglobulin E), an underlying component of allergic asthma. With this drug, fewer IgE antibodies can bind to mast cells, making IgE cross-linking less likely and inhibiting the mast cell's release of those chemicals that lead to asthma symptoms.

Huntington's disease: Roche will present further results in a therapy to treat Huntington's disease in the AAN conference in May.



Source: Company's data

▲ Management Team

Dr Severin Schwan (CEO): Schwan was appointed CEO in March of 2008, having joined the company in 1993. He holds a degree in Economics from University of Innsbruck and a law degree and doctorate. He has Austrian and German nationality and was born in 1967. He also has the role of vice-chairman in Credit Suisse Group.

In 2017 Severin received from Roche around CHF 11.7mn, including salary (CHF 4mn), stocks (CHF 6.8mn) and other benefits.

M&A

Purchase of Spark: This transaction is expected to close in the 2Q19. Spark is a pioneer of gene therapy, founded in 2013 as a spin off of Children’s Hospital of Philadelphia. Its focus is on ophthalmology, hemophilia and neuroscience. Launched its first in vivo gene therapy, Luxturna, in US in 2018. The transaction was done in cash at a value of USD 4.3bn.

Purchase of Foundation Medicine: FMI is a molecular information company focused in cancer care. It does genomic profiling (CGP) to identify molecular alterations in a patient’s cancer and match them with targeted therapies, immunotherapies and clinical trials. Roche will pay USD 2.4bn for the rest of the stake in the company, which is valued at USD 5.3bn.

Purchase of Flatiron: This is a company that handles data of individual cancer cases in order to aid doctors to select promising approaches of treatment. It also stores billing data, doctors’ notes and other info. Roche had a 16% stake in the company which was also backed by Google. The total acquisition value will be USD 1.9bn and was announced in the beginning of 2018.

Purchase of Ignyta: This company is a US biotech specialized in cancer drugs. The transaction value is USD 1.7bn and was announced in December of 2017.

Relative Valuation

Attractive and below sector average multiples: We highlight the P/E multiple expected for 2019 of 14x vs. sector average of 15.7x; EBITDA margin of 32.3% vs. 29% and a lower net debt/EBITDA of 0.3 vs sector 1.8.

Name	Country	Market Cap (mn)	Currency	P/E 2019E	P/E 2020E	Div. Yield	1 Yr. Price Δ	NetDebt/ EBITDA	Margin EBITDA
ASTRAZENECA PLC	BRITAIN	76,279	Gbp	21.5	17.7	3.7%	16.9%	1.8	32.3%
NOVO NORDISK A/S-B	DENMARK	790,738	DKK	19.7	17.2	2.5%	13.6%	-0.3	45.8%
GLAXOSMITHKLINE PLC	BRITAIN	76,032	Gbp	13.5	12.8	5.2%	6.6%	3.0	23.8%
PFIZER INC	UNITED STATES	218,630	USD	13.6	12.9	3.5%	7.5%	1.1	38.0%
SANOFI	FRANCE	90,952	EUR	12.7	11.7	4.2%	11.6%	2.1	22.4%
NOVARTIS AG-REG	SWITZERLAND	196,475	CHF	15.2	14.0	3.7%	14.5%	1.2	26.0%
BAYER AG-REG	GERMANY	57,259	EUR	8.8	7.9	4.5%	-36.9%	5.0	18.5%
ELI LILLY & CO	UNITED STATES	119,326	USD	20.3	17.2	2.0%	45.7%	0.9	21.7%
ROCHE HOLDING AG-GENUSSCHEIN	SWITZERLAND	226,975	CHF	14.0	13.5	3.3%	22.1%	0.3	32.3%
Average exc. Roche				15.7	13.9	3.66%	9.9%	1.8	29%

Source: Bloomberg; BiG Research

Analyst:
João Calado, CFA

Research:
research@big.pt

This document is based on publicly available information and retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.

Risks

Competition: Pharmaceutical companies are always subjected to competitive pressures of new drugs that are launched in the market. This will be reflected in the market price and may lead to a drop in margins.

US drug prices: Donald Trump has criticized multiple times healthcare companies for raising prices. Roche has hiked prices of major drugs in US by 3% in July and pledged to not hike prices again until the end of the year. US represents 50% of its pharmaceutical sales and grew by 5% in 2017. Currently Roche is in discussion with Trump’s administration, however if the conclusion of that discussion results in a price freeze or even reduction, Roche’s growth may be greatly affected. There have been discussions around a new program called Medicare for All which would expand government administered coverage to most of the population altering the current sector business.

Patents expiring: MabThera/Rituxan, Herceptin and Avastin have patents expiring in 2019 or 2020 in Europe and US. Together the sales of these drugs account for almost 40% of 2017 Roche’s pharmaceutical sales. In US there will be a market entry of Herceptin biosimilars in 2019. Roche signaled that in China, its attractive pricing would ensure that Avastin, Herceptin and Mabthera will face lower biosimilar competition there.

Rating		
Agency	Rating	Outlook
S&P	AA	STABLE
Moody's	Aa3	STABLE
Fitch	AA	STABLE

Source: Bloomberg

Graph



Source: BiGlobal Trade (partner Saxo Bank); BiG Research

Calendar

May 4-10th, 2019: AAN conference in which Roche will present data from a couple of studies.

May 13th, 2019: Roche’s pipeline event (after market)

May 31st to June 4th, 2019: ASCO conference in which Roche will present in June 3rd.

July 25th, 2019: 2Q19 earnings

DISCLOSURES

- Banco de Investimento Global, S.A. is an institution registered on and regulated by the Bank of Portugal and by the Portuguese Securities Market Commission, the two main entities that regulate financial activities in Portugal.
- BiG has a Code of Conduct, applicable to all its employees that carry out activities as financial analysts, with the aim to ensure the continuation of the accuracy, competence and excellence that characterize its institutional image. This document is available for external consultation, if required.
- The analysts in BiG's Research Team are, for all purposes, duly registered with the Portuguese Securities Market Commission.
- The analysts in BiG's Research Team do not, and will not, receive any kind of compensation in the scope of the regular carrying out of its recommendations, which reflect strictly personal opinions.
- There isn't a predefined coverage policy in regards to the selection of stocks that are subject to investment recommendations.
- Clarification of the qualitative terms implied in the recommendations:
 - Buy, expected absolute return above 15%;
 - Accumulate, expected absolute return between +5% and +15%;
 - Keep/Neutral, expected absolute return between -5% and +5%;
 - Reduce, expected absolute return between -5% and -15%;
 - Sell, expected absolute return below -15%;
 The investment framework aforementioned is merely indicative and not globally strict.
- Unless otherwise specified, the price-targets of the investment recommendations issued by BiG's Research Team are valid for 12 months.
- The update of the investment recommendations models and respective price-targets will occur, usually, in a period of 6 to 12 months.
- BiG may have, in the present and/or future, some commercial relationship with the companies mentioned in this report, namely providing investment advisory services.
- The records of the investment recommendations of the Research Team are provided below. The detailed external consultation of the respective performances may be provided if so requested.

PSI20 Notes in the last 12 months as of 31st of March of 2019:

	Number of Recommendations	%
Accumulate/Buy	1	33.3%
Keep/Neutral	1	33.3%
Reduce/Sell	1	33.3%
Total	3	100.0%

Source: BiG Research

Trading Ideas in the last 12 months as of 31st of March of 2019:

	Number of Recommendations	%
Profit Taking	8	50.0%
Stop Loss	8	50.0%
In Place	0	0.0%
Total	16	100.0%

Pair Trades in the last 12 months as of 31st of March of 2019:

	Number of Recommendations	%
Profit Taking	0	0%
Stop Loss	0	0%
In Place	0	0%
Total	0	0%

DISCLAIMER

This document has been prepared exclusively for informative purposes, and is based on publicly available information, retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.

Analyst:
João Calado, CFA

Research:
research@big.pt

This document is based on publicly available information and retrieved from sources deemed trustworthy. BiG does not assume any responsibility for the full correction of the information provided, and the information here provided should not be interpreted as an indicator that any results will be achieved. We emphasize that the projected results are susceptible to alterations due to changes in the assumptions that have served as basis to the information here provided. We forewarn that the previous performance of a security is not a guarantee of identical performance in the future. Changes in exchange rates of securities denominated in a currency different from that of the investor may lead to a negative impact on the value, price or return of such securities. BiG, or its employees, may have, at any moment, an investment, subject to alterations, in any security mentioned in this document. BiG may provide additional information, if so is requested. This document is not a sale proposal, nor a purchase solicitation for the subscription of any securities.