

THE ROBO ADVISOR - EM EQUITIES

WHAT ROBO DOES:

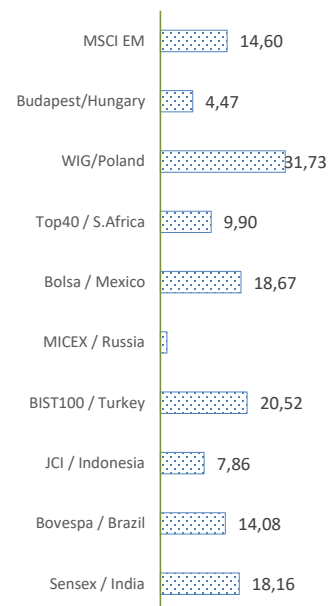
“The Robo Advisor/EM Equities” tool assigns valuation scores to nine EM markets under our scope, based on quantitative analyses and econometric models that rely on historical regression, real exchange rate (REER) comparisons and equity valuations. The scores are complemented with technical trend analysis, to initiate a timely strategy.

For details on econometric methods please see page 4.

IDEAS: Since we have launched the RoboAdvisor, BIST100/Turkey has stayed as the most undervalued index whereas JCI/Indonesia, Sensex/India, Bolsa/Mexico as the most overvalued. However overvaluation in those indices were not supported by downward trend. As we cross-check the scoring with technical trend in series, Turkish and Brazil equities seem to be the perfect match.

We initiate undervaluation signal for Bovespa/Brazil due to low REER, attractive valuations and positive trend.

EM YTD Performance (USD) (%)



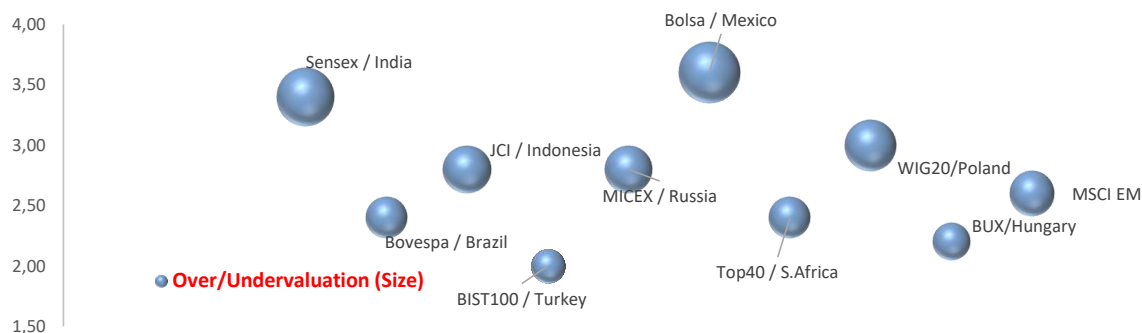
IDEAS	Score	Trend	Signal	P&L	CONDITION
Turkey/BIST100	M.Undervalued	Positive	15 Dec 2016	21,90%	OPEN
Brazil/Bovespa	M.Undervalued	Positive	3-May-2017	0,00%	OPEN

TRACK RECORD	Score	Trend	Starting Signal	P&L	CONDITION
Russia/Micex	M.Overvalued	Negative	14 Feb 2017	12,30%	Closed on 20/04/2017

Note: Ideas do not stand as a substitute for equity strategy. They are generated as automated signals.

SCORECARD	MODEL (Short-Term)	REER (Long-Term)	VALUATION (Long-Term)	SCORE	TREND
Sensex / India	3	4	3	MODERATELY OVERVALUED	POS
Bovespa / Brazil	4	2	2	MODERATELY UNDERVALUED	POS
JCI / Indonesia	4	3	2	MODERATELY OVERVALUED	POS
BIST100 / Turkey	4	2	1	UNDERVALUED	POS
MICEX / Russia	4	3	2	MODERATELY OVERVALUED	NEUT
Bolsa / Mexico	4	4	3	OVERVALUED	POS
Top40 / S.Africa	2	3	2	MODERATELY UNDERVALUED	POS
WIG20/Poland	3	4	2	MODERATELY OVERVALUED	POS
BUX/Hungary	3	2	2	MODERATELY UNDERVALUED	NEUT
MSCI EM	1	3	3	MODERATELY OVERVALUED	POS

Scoring as follows: 1 for UNDERVALUED, 2 for Moderately Undervalued, 3 for Moderately Overvalued, 4 for Overvalued



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Valuation and Equity Performance

On the equity valuation side. We have compared key price multiples of the selected EM's from a perspective of historical discount/premiums. Consensus forecasts on EPS growth were also taken into account. Dully, several metrics put India as the most overvalued market, whereas Bolsa, BIST100, WIG20, MICEX ,BUX and BOVESPA are moderately undervalued on both historical and comparative perspective.

Equity Markets / Historical Valuation

03/05/2017	Fwd P/E 12M	Premium/Discount to 3Y Average	Premium/Discount to 10Y average	EPS Growth Exp	QUANTILE SCORE
Sensex / India	17,82	3,9%	16,3%	24,0%	MODERATELY OVERVALUED
Bovespa / Brazil	12,62	-2,5%	25,4%	63,4%	MODERATELY UNDERVALUED
JCI / Indonesia	16,10	0,8%	6,2%	47,1%	MODERATELY UNDERVALUED
BIST100 / Turkey	9,29	-6,8%	-9,6%	14,0%	MODERATELY UNDERVALUED
MICEX / Russia	6,34	1,3%	-26,4%	13,7%	MODERATELY UNDERVALUED
Bolsa / Mexico	18,31	-10,0%	8,8%	15,6%	MODERATELY UNDERVALUED
Top40 / S.Africa	14,83	-10,3%	10,7%	34,6%	MODERATELY UNDERVALUED
WIG20/Poland	12,98	1,5%	5,6%	57,8%	MODERATELY UNDERVALUED
BUX/Hungary	11,51	-6,0%	6,3%	-0,5%	MODERATELY UNDERVALUED
MSCI EM	12,60	3,2%	7,5%	25,8%	MODERATELY OVERVALUED

Equity Markets / EM comparative valuation

03/05/2017	Premium/Discount to EM	Premium/Discount to 3Y Average	Premium/Discount to 10Y average	QUANTILE SCORE
Sensex / India	0,41	40,2%	36,1%	OVERVALUED
Bovespa / Brazil	0,00	5,3%	1,4%	MODERATELY UNDERVALUED
JCI / Indonesia	0,28	30,4%	22,8%	MODERATELY OVERVALUED
BIST100 / Turkey	-0,26	-18,3%	-17,0%	UNDERVALUED
MICEX / Russia	-0,50	-49,1%	-42,7%	UNDERVALUED
Bolsa / Mexico	0,45	66,3%	45,4%	OVERVALUED
Top40 / S.Africa	0,18	35,2%	12,7%	MODERATELY OVERVALUED
WIG20/Poland	0,03	4,6%	1,2%	MODERATELY UNDERVALUED
BUX/Hungary	-0,09	0,3%	-10,3%	UNDERVALUED

03/05/2017	Fwd P/E 12M	P/E	P/B	P/EBITDA	P/SALES	Fwd ROE	ROE
Sensex / India	17,82	22,10	2,87	10,30	2,51	13,81	13,60
Bovespa / Brazil	12,62	20,62	1,70	6,03	1,24	11,70	7,73
JCI / Indonesia	16,10	23,68	2,50	9,57	2,04	18,28	10,41
BIST100 / Turkey	9,29	10,59	1,31	6,22	1,09	13,39	13,31
MICEX / Russia	6,34	7,21	0,81	3,28	1,17	9,75	10,90
Bolsa / Mexico	18,31	21,16	2,71	6,45	1,50	15,56	13,58
Top40 / S.Africa	14,83	19,96	2,10	9,92	1,80	14,42	13,40
WIG20/Poland	12,98	20,48	1,40	5,27	1,12	8,24	6,99
BUX/Hungary	11,51	11,45	1,38	4,84	1,21	9,64	14,31
MSCI EM	12,60	15,85	1,69	7,16	1,34	9,72	11,30

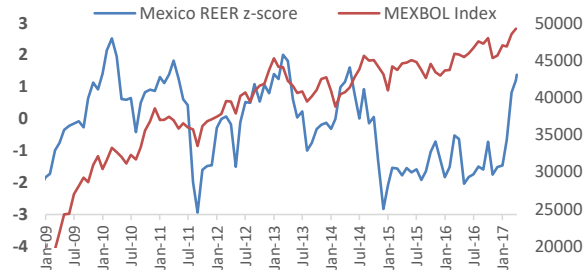
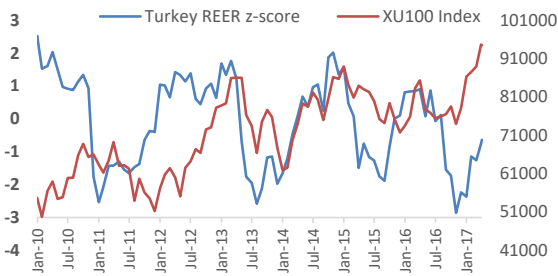
Source: Ak Investment, Bloomberg

Real Exchange Rates and Equity Markets

UNDERVALUED/SIGNIFICANT LONG TERM POTENTIAL

Our statistical measure derived from real exchange rates indicate Turkish and Mexican real exchange rates stay at historically low levels...

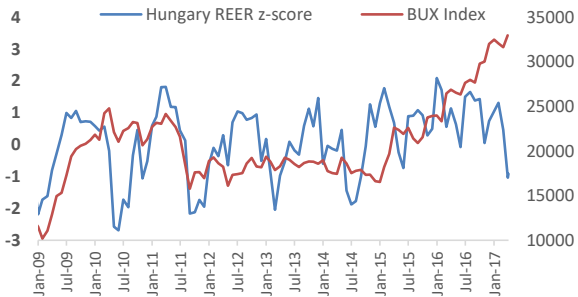
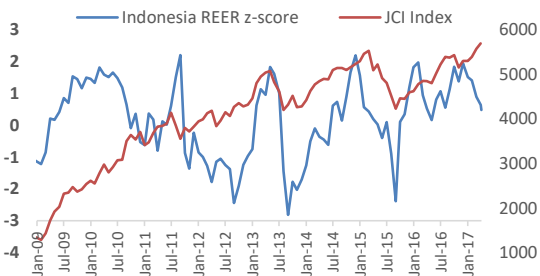
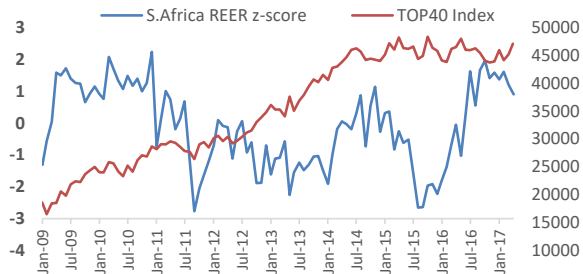
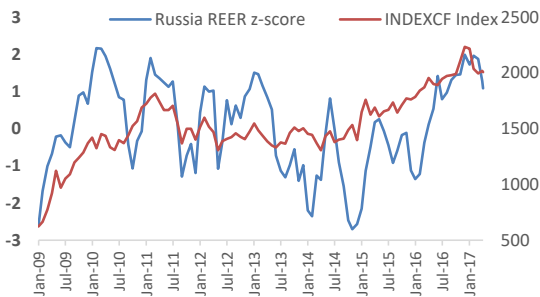
A good proxy for long term upside potential...



OVERVALUED/MINOR LONG TERM POTENTIAL

Russia, S.Africa, Indonesia and Hungary looks overvalued from a long term perspective.

This may limit upside potential for the countries in question.

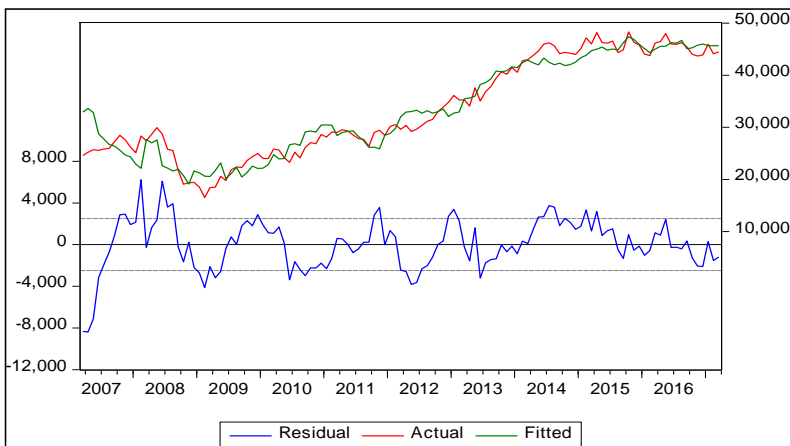


Regression models (Short-term view)

Our regression models are designed to come up with a short-term view to contribute to long-term REER and valuation models. From a dataset of over 500 global macro and financial variables, regressions with highest R-Sq and favorable backtesting results are chosen to evaluate equity markets short-term potential. Thresholds and valuation graphs (shown as blue series) are derived from the difference between actual index series and model forecasts.

Recent short-term regression models indicate a short-term overvaluation for BIST100, JCI, Bovespa, MICEX ,and Bolsa , whereas

03/05/2017	R-Sq	LOWER THRESHOLD	MID	UPPER THRESHOLD	LATEST	QUANTILE SCORE
Sensex / India	93%	-1500	250	2000	1539	MODERATELY OVERVALUED
Bovespa / Brazil	75%	-5000	1000	7000	7081	OVERVALUED
JCI / Indonesia	94%	-400	0	400	651	OVERVALUED
BIST100 / Turkey	93%	-5000	500	6000	10081	OVERVALUED
MICEX / Russia	73%	-200	-25	150	283	OVERVALUED
Bolsa / Mexico	95%	-2900	0	2900	3687	OVERVALUED
Top40 / S.Africa	93%	-2500	500	3500	49	MODERATELY UNDERVALUED
WIG20/Poland	86%	-240	0	240	147	MODERATELY OVERVALUED
BUX/Hungary	92%	-2000	0	2000	150	MODERATELY OVERVALUED
MSCI EM	67%	85	-8	-100	43	UNDERVALUED



Top40/ South Africa looks oversold from a short-term perspective.

The series (blue) on the lower panel stays close to lower band.

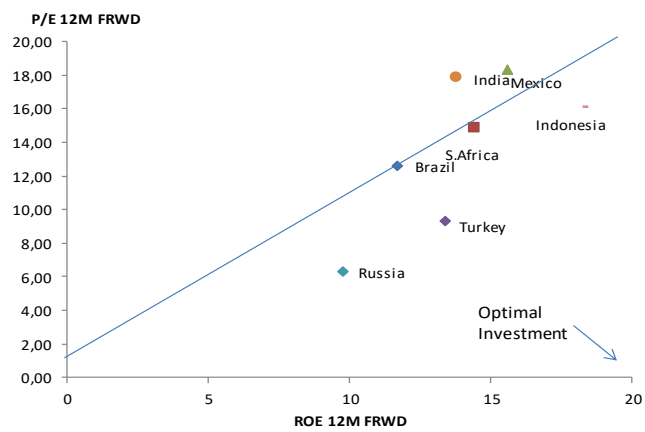
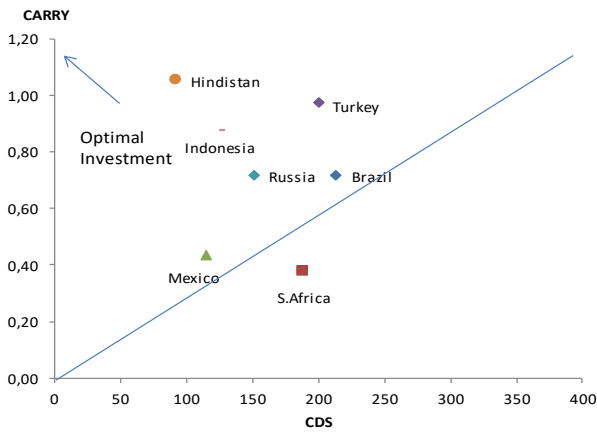
APPENDIX: MACRO INDICATORS

Bond and FX Markets

03/05/2017	CARRY	CDS (bps)	FX VOL (1M imp %)	1M LIBOR (%)	YIELD CURVE SLOPE	SWAP CURVE SLOPE
India	1,05	92	5,2	6,4	POSITIVE	POSITIVE
Brazil	0,72	213	14,0	11,1	POSITIVE	POSITIVE
Indonesia	0,87	125	5,4	5,8	POSITIVE	POSITIVE
Turkey	0,98	200	11,6	12,3	NEGATIVE	NEGATIVE
Russia	0,71	152	12,2	9,8	NEGATIVE	NEGATIVE
Mexico	0,43	115	12,7	6,5	POSITIVE	NEGATIVE
S.Africa	0,38	189	16,3	7,1	POSITIVE	POSITIVE
Mexico	0,07	65	9,1	1,7	POSITIVE	POSITIVE
S.Africa	-0,10	113	8,7	0,2	POSITIVE	POSITIVE

MACRO AND FINANCIAL VARIABLES

03/05/2017	GDP yoy (%)	CPI yoy(%)	Unemp (%)	CA/GDP (%)	Budget/GDP(%)	2 Year Gov Bond	10 Year Gov Bond	Real Rate 2 Year (%)
India	5,30	2,61	7,10	-0,54	-3,69	6,67	6,95	2,02
Brazil	-2,46	4,57	8,20	-1,29	-8,72	9,46	10,23	5,06
Indonesia	4,94	4,17	7,30	-1,73	-1,93	6,55	7,04	2,15
Turkey	3,09	11,87	13,00	-3,81	-1,23	11,38	10,18	2,48
Russia	0,30	4,30	5,40	1,72	-3,93	8,13	7,57	3,86
Mexico	2,70	5,35	3,19	-3,46	-2,58	6,80	7,15	2,33
S.Africa	-0,30	6,10	26,50	-1,70	-4,14	8,68	7,46	3,03
Poland	2,50	2,00	8,10	-0,30	-2,40	2,00	3,47	-0,05
Hungary	1,60	2,70	4,50	2,22	-1,80	0,62	3,32	-1,98



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Our rating system aims to indicate a relative value and is therefore based on a graduated scale (Outperform, Neutral and Underperform). While the BIST-100 (XU100) Index is treated as the point of reference when assigning our ratings, each analyst also takes into account views towards stocks in relation to the sectors under coverage and the sector call relative to the market. We also categorize the stocks in our coverage under two groups, principally in accordance with their liquidity (based on free-float market capitalization and historical average daily trading volume) as small-cap stocks exhibit different risk/return characteristics than more-liquid large-caps. In conjunction, the individual stock ratings reflect the expected return of the stock relative to the broader market over the next 6 to 12 months. The expected performance equals to the sum of forecasted share price appreciation and expected cash dividend income. It is a function of the near-term company fundamentals, the outlook for the sector, the confidence in earnings projections and the company valuation, along with other factors. In light of this expected return, the target price for a stock represents the value the analyst expects the stock to reach or sustain over a 12-month horizon. However, this should be interpreted as a notional reference price and must be discounted by the stock's cost of equity to calculate the current fair price estimate.

A key element of our rating system is the benchmarking of the 12-month expected return against the cost of equity. We apply a required rate of return for each stock, calculated on the basis of our assumed risk-free rate and equity risk premium. A stock is normally assigned an Outperform rating if the implied return over the next 12 months exceeds the required rate of return (cost of equity) by at least 10 percentage points for our larger-cap stock coverage, or by 15 percentage points for the small-cap group. As the average potential upside of the stocks in our coverage may be considerably higher or lower than the average cost of equity, we also filter stocks according to their potential upside with respect to other stocks under coverage, with the practical aim of attaching an Outperform rating to the top group (generally 30-50% of the companies under our coverage), a Neutral rating for the next 40-50% and an Underperform rating to the lowest group (no less than 10%, and typically between 10-20% of the coverage group). The expected returns on some stocks may fall outside the range of the applicable rating category, due to movements in market prices and other short-term volatility or trading patterns, or analyst discretion. While temporary deviations from the specified ranges are permitted, they would subsequently become subject to review. Note too that the analyst's short-term view may occasionally diverge from the stock's longer-term fundamental rating.

Outperform. An outperform rating conveys an expectation that the stock will outperform the BIST-100 Index (XU100) within the next 6 to 12 months.

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Underperform. An underperform rating conveys an expectation that the stock will yield a return below that of the BIST-100 (XU100) Total Return Index within the next 6- to 12-month period.

Not Rated (N/R). A not rated rating is assigned when the analyst does not have adequate conviction about the stock's total return relative to the BIST-100 (XU100) Total Return Index or to the average total return of the analyst's industry coverage universe, on a risk-adjusted basis, over the next 6 to 12 months.

Under Review (U/R). An under review rating is temporarily assigned when the analyst starts an appraisal process of the rating for a potential revision, or the issuer has a significant material event with further information pending or to be announced. This does not revise the previously published rating, but indicates that the analyst is actively reviewing the investment rating or waiting for sufficient information to re-evaluate the analyst's expectation of total return on equity.

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