Eurex MSCI Derivatives – Trading Latin America

The MSCI index derivatives listed on Eurex offer clients the possibility to establish regional and country exposures to their preferred MSCI benchmarks across the globe. The success of the Eurex MSCI index derivatives is evident through the segment open interest breaking through the 1 million contracts mark during the September 2016 roll. In this note we highlight the flexibility of the product offering to establish exposure to Latin America in general and to Brazil in particular.

Regional and country exposure in Latin America through Eurex MSCI index futures

Eurex offers regional exposure to Latin America through the MSCI Emerging Markets (EM) Latin America index futures, but also country exposure through futures on the MSCI country indexes like the one on the MSCI Mexico*. All underlying indexes are net-total return indexes and all futures are quoted in U.S. Dollar terms. A summary of product specifications of the futures are show in table 1 below.

The country composition of the MSCI EM Latin America index captures both large and mid cap stocks from Brazil, Mexico, Chile, Colombia and Peru. The five countries from which the stocks making up the MSCI EM Latin America index represent more than 80% of GDP produced across Latin America according to 2015 World Bank data. In the table 2 below we show the GDP and country weights (market cap weights) of these five countries. At the top of the list are Brazil and Mexico. In the last column of table 2 we rescaled the GDP numbers of the 5 countries to add up to 100%. Going forward, we will use the current country weights and historical GDP shares for our back tests.

Table 2 – GDP and country weights

	GDP 2015 (billion USD)	Current country weight	GDP Share
Brazil	1,775	53.80%	48.70%
Mexico	1,144	30.50%	31.40%
Chile	240	9.10%	6.60%
Colombia	292	3.60%	8.00%
Peru	192	3.00%	5.30%

Table 1 – Contract specifications

Futures on	MSCI EM Latin America Index	MSCI Mexico Index
Eurex product ID	FMEL	FMMX
Contract value per index point	USD 100	USD 50
Contract terms	Up to 36 months	
Tick size in points	0.1	0.5
Tick value in currency	10	25
Settlement	Cash settlement	
Final settlement price	Based on the closing index level on the last trading day of the maturity/expiration month	
Last trading day	Third Friday of the maturity/expiration month	
Continuous trading	08:00–22:00 CET	
Bloomberg code index	NDUEEGFL Index	NDEUMXF Index
Bloomberg code future	ZULA	ZVPA
Order book fees per contract	USD 0.5	

* The MSCI Brazil index is currently not available for licensing as an underlying for derivatives.

Figure 1

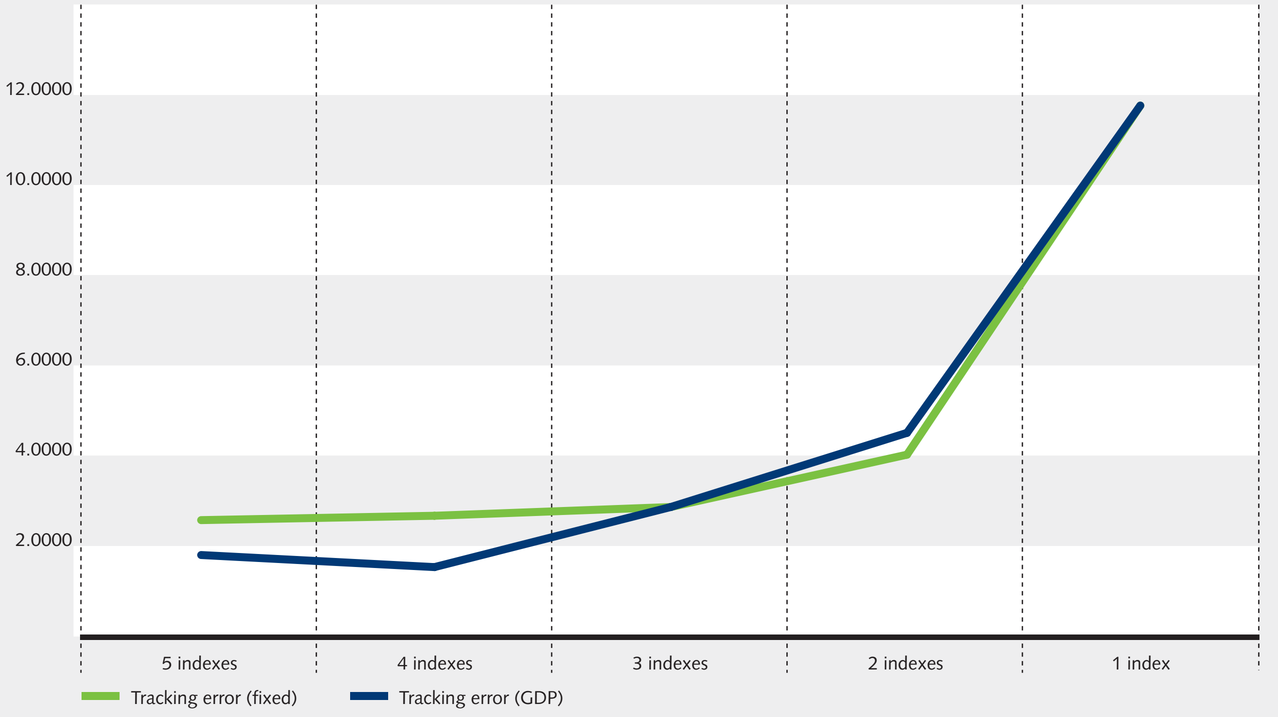

Table 3

2012–2016	5 Indexes	4 Indexes	3 Indexes	2 Indexes	1 Index
Tracking error (fixed)	2.54	2.69	2.82	3.95	11.77
Tracking error (GDP)	1.75	1.50	2.84	4.51	11.77

Tracking error between MSCI EM Latin America and MSCI country indexes

In figure 1 we plot the median annual tracking error (TE) between the MSCI EM Latin America index and a basket of the 5 MSCI country indexes of the countries making up the regional index. The data range is between 2012 and 2015. For each year in our time period we use either the fixed current country weights (green) or the historical GDP shares of the preceding year (blue) as weight for each country index. On the x-axis we reduce step by step the number of country indexes in the basket, starting with Peru (4 indexes), followed by Colombia (3 indexes), Chile (2 indexes) and Mexico (1 index). All weights are rescaled accordingly.

For a basket made up of all 5 MSCI country indexes we find a tracking error of 2.54% when using the fixed current country weights. With a tracking error of 1.75% we find a substantial improvement using the GDP weights. Even reducing the basket to only 2 contracts, Brazil and Mexico, captures most of the dynamics. The tracking error increases to 3.95% for fixed country weights and 4.51% for the GDP derived weights. All results are summarized in table 3 above.

Analysis of a spread trade to gain exposure to Brazil

A natural question to ask is, if we could exploit a spread trade between futures on the MSCI EM Latin America and some of futures on country indexes to gain exposure to another country index. Here we analyze a trade long MSCI EM Latin America and short MSCI Mexico to gain exposure to MSCI Brazil. We will use index data only for this analysis from Q1 2012 to Q3 2016.

In our spread strategy the number of shares to go long the MSCI EM Latin America and short the MSCI Mexico is fixed for a given quarter by minimizing the tracking error over the previous quarter. Table 4 gives some summary statistics in terms of tracking error, turn over and dollar position per 1 Dollar exposure to Brazil over the 19 quarters of our data set. Figure 2 shows both MSCI Brazil index and our synthetic spread index.

We have to overweight the position in the MSCI EM Latin America, since Brazil represents only a fraction of the index basket. To finance this weight we go short the same amount on the MSCI Mexico. The tracking error, with 3–4% and the position in the MSCI EM Latin America, with 1.5 to 2.0 times the index, are relatively stable.

A real-life implementation would require going long the futures on the MSCI EM Latin America and going short the futures on the MSCI Mexico index. For a position of USD 1 million in MSCI Brazil, we would have to go long USD 1.8 million in MSCI EM Latin America and short USD 0.8 million in MSCI Mexico. This corresponds roughly to a position of 42 FMEL (Bloomberg ZULA) long and 33 FMMX (Bloomberg ZVPA) short. The initial margin for such a position would benefit from margin offsets. End of September 2016 such a position with a December expiration would have required 7.4% initial margin on the total exposure of USD 2.6 million. Next to the tracking error and margin requirements such a position would accrue roll cost and other trading fees.

In summary Eurex offers access to Latin America through its MSCI index derivative segment. The futures on the MSCI EM Latin America index offers direct exposure to the region. Country index futures like the one on Mexico offer in addition tailor-made product to access specific Latin American countries. In this short note we showed how to gain exposure to Brazil using a long position in the futures on MSCI EM Latin America index and a short position in the futures on the MSCI Mexico.

Eurex Exchange would like to thank Chen Wu for her help with this analysis.

Table 4

	Tracking error in %	Latin America	Mexico	LatinAmerica	Mexico
Mean	3.44	1.1%	3.8%	1.65	−0.65
Median	3.32	1.3%	3.7%	1.65	−0.65
Maximum	4.92	9.1%	28.9%	2.04	−1.04
Minumum	2.22	−9.9%	−21.7%	1.39	−0.39

Figure 2 – Tracking the MSCI Brazil with MSCI EM Latin America and MSCI Mexico

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