

# JSE Rand Index (RAIN)



**JOHANNESBURG STOCK EXCHANGE**  
Currency Derivatives

## »»» JSE Rand Index (RAIN)

### What is a currency index?

A currency index tracks the combined movement of a base currency against a basket of currencies. In this specific case the rand based currency index will track the changes/movement of the Rand against a basket of currencies. The currency index will be calculated and distributed by the JSE on a daily basis and, if demand surfaces, the Currency Derivatives team of the JSE will list future and option contracts on the index.

### Index calculation

The RAIN will consist of 5 currencies based on South Africa's most prominent international trading partners, it will include all imports and exports of physical goods between South Africa and its trading partners. The information is obtained from the South African Revenue Service (SARS) and will be used as a reference for index constituents and their corresponding weights in the index (more around this in the Index Rules section).

For the past 5 years the 5 currencies that were and still are included in the index are:

- the Euro
- the US Dollar
- the Chinese Yuan
- the UK Pound
- the Japanese Yen.

The RAIN will be calculated using an arithmetic weighted index calculation with the following formula:

$$RAIN_t = \sum_{i=1}^N SX_{i,t} \times ContZ_i \times NCont_i$$

Where:

$RAIN_t$  is the level of the index on date t

$SX_{i,t}$  is the SA Rands per foreign currency unit i on date t

N is the number of foreign currencies in the index (RAIN, N = 5)

$ContZ_i$  is the contract size or notional value for foreign currency i, i.e. number of the currency units traded for one currency futures contract and is the constant number set for the futures contract on the listing day (1000 for USD, EUR and Sterling, 10,000 RMB and 100,000 YEN)

and

$NCont_i$  is the fixed number of contracts for currency i in the index for the period. These fixed numbers of contracts encompassing the currency weights are calculated for each currency on the rebalancing date, using the closing figures on closeout day.

### Weight and number of contract determination

The representative weight of each currency in the index will be calculated using physical goods import and export data obtained from the South African Revenue Service (SARS).

Once weights are calculated, a representative number of future contracts of each currency will be included in the index to reflect these weights (an example of how this is done is available on the JSE website). As contracts are adjusted to reflect whole numbers the weight assigned to each currency will differ by a small amount to the original calculated weights.

The pre adjustment weights of each currency at the beginning of the index period (more around this in the Index Rules section):

Figure 1: Index currency weightings

Currency	Weight 2006	Weight 2007	Weight 2008	Weight 2009
EUR	44.38%	42.69%	42.79%	42.09%
USD	16.05%	16.49%	16.93%	15.06%
CNY/RMB	12.84%	15.40%	16.10%	22.48%
GBP	11.45%	10.58%	9.53%	8.85%
JPY	15.28%	14.85%	14.65%	11.53%
	100.00%	100.00%	100.00%	100.00%

*The post adjustment weights of each currency at the beginning of the index period.*





Figure 2: Post adjustment weights

Currency	Weight 2006	Weight 2007	Weight 2008	Weight 2009
EUR	42.40%	42.69%	46.55%	41.78%
USD	17.75%	16.49%	14.80%	16.11%
CNY/RMB	14.69%	15.40%	13.59%	23.63%
GBP	10.23%	10.58%	9.86%	7.55%
JPY	14.93%	14.84%	15.20%	10.93%
	100.00%	100.00%	100.00%	100.00%

*Contracts per currency included in index.*

Figure 3: Future Contracts in Index

Currency	Weight 2006	Weight 2007	Weight 2008	Weight 2009
EUR	6	6	6	6
USD	3	3	3	3
CNY/RMB	2	2	2	3
GBP	1	1	1	1
JPY	3	3	3	2

*The index will be calculated daily at 3 o'clock and 5 o'clock.*

Figure 4: RAIN



## Qualities of the RAIN

- » Measures Rand strength/weakness versus that of our main international trading partners.
- » Users can observe the competitiveness of South African goods in international import and export markets.
- » Gauge the volatility of the South African Rand versus that of its prominent international trading partners.

## Index rules

- » The JSE will be the sole calculation agent and will calculate the index on a daily basis.
- » The index will consist of the top 5 international trading partners of South Africa as published by the (South African Revenue Service) SARS.
- » Review of currency inclusion and changes in individual currency weightings will take place on an annual basis. New audited data is released by the SARS two months in arrears, thus figures for the total year will be available in the beginning of March the following year. Taking these changed weightings into account the index will be adjusted after the March Currency Futures Closeout. Currency Futures Closeout takes place two business days preceding the 3rd Wednesday of March, June, September and December.
- » The JSE will send out a market notice detailing the changes (number of contracts and resulting weight changes) that will be made to the index after closeout. The index weighting change will then take effect on the day following the March Currency Futures Closeout.
- » Should the number of future contracts representing any one currency change after an index reweighting then an index jump, up or down, may occur. If this happens two indices will be run concurrently. The previously listed index will continue to run until there is no more open interest. The index with the new number of future contracts will start to run after the March Currency Futures Closeout day.
- » The number of contracts of each currency to be included in the index is determined through a rounding process. An extensive example of this process is available under the Currency Derivative Market Products tab.

Should you need any further information on the currency index please do not hesitate to contact [derivativestrading@jse.co.za](mailto:derivativestrading@jse.co.za) or (011) 520 7487.

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