

GROUND RULES FOR THE MANAGEMENT OF THE FTSE 100 AND FTSE 250 SHORT INDICES



TABLE OF CONTENTS

Section	Subject	
1.	Introduction	3
1.1	General	3
1.2	Methodology	3
2.	The Index	5
2.1	Index Calculation Formula	5
2.2	Base date and base values	5
2.3	Computational Accuracy	5
2.4	Frequency of Calculation	5
2.5	Adjustment due to extreme market movements	5
2.6	Interest calculation	6
2.7	Trading suspension	6
3.	Glossary	7
3.1	SONIA – Sterling Overnight Interbank Average Rate	7
4.	Appendix	7
4.1	Example Calculation	7

1. Introduction

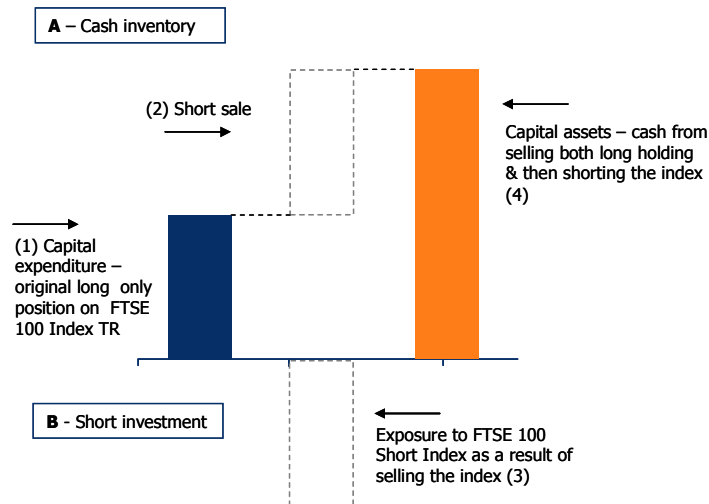
1.1 General

- 1.1.1 The FTSE 100 and FTSE 250 Short Indices aim to replicate the payoff to a shorting investment strategy. They are derived from the underlying headline FTSE 100 and FTSE 250 Total Return Indices respectively. As a result, corporate actions and dividends are reflected in the FTSE Short Indices as they occur and as they are captured in the underlying FTSE Indices.
- 1.1.2 The FTSE 100 and FTSE 250 Short Indices attempt to replicate the inverse returns experienced by an investor attaining the negative daily performance of the underlying headline index i.e. by short selling the index with a daily rebalance. The cost of dividends and benefit of earning interest for the short position are taken into account in the index calculation of the short index. These indices can serve as benchmarks for the creation of ETFs, structured products or other passive investment vehicles that enable investors to gain short exposure to the market or hedge portfolio exposure without the need to short or use derivative instruments. The short indices are derived from the existing underlying headline FTSE 100 and FTSE 250 Total Return Indices. As a result corporate actions and constituent changes are reflected in the short indices as they occur. Dividends used in the index total return calculations are those declared by the company and applied on the ex-dividend date. Treatment of dividends and the calculation of the underlying total return indices can be found in the Guide to Calculation Methods of the UK Series of the FTSE Actuaries Share Indices which can be found on the internet at www.ftse.com/Indices/UK_Indices/Downloads/uk_calculation.pdf.

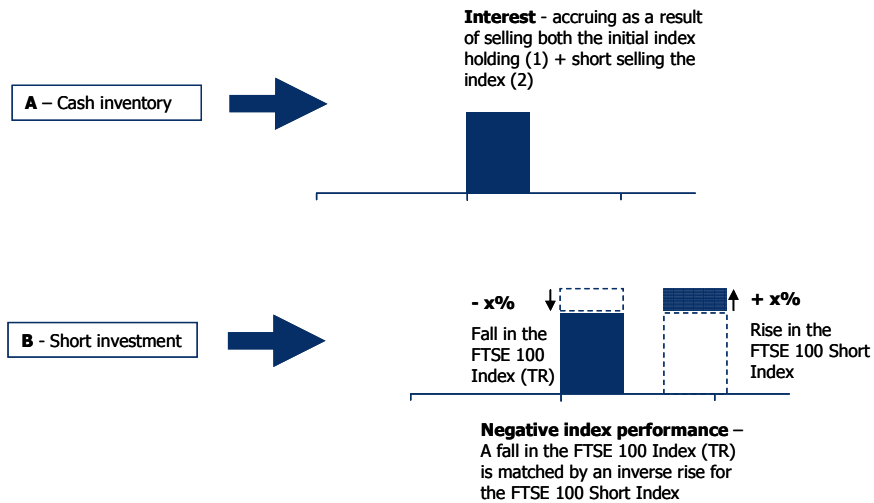
1.2 Methodology

- 1.2.1 The objective of the FTSE 100 and FTSE 250 Short Indices is to replicate the payoff to shorting investment strategies. The FTSE 100 and FTSE 250 Short Indices take into account the three main components of the payoff to the shorting investment strategies. In practice points 1 and 2 are captured in the Total Return Indices of the underlying indices:
1. Capital gains associated with the underlying equity securities
 2. Cash dividends paid by the underlying securities
 3. Interest earned on the initial capital as well as the proceeds of the short sale

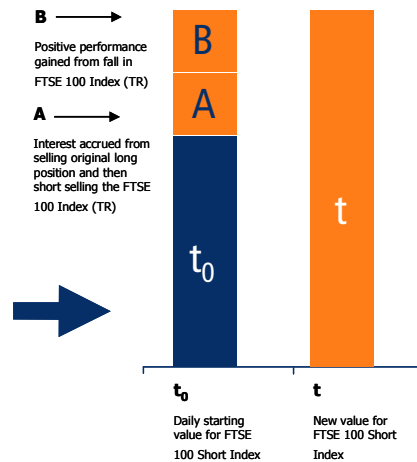
1.2.2 Initial Investment



1.2.3 Interest and inverse performance components



1.2.4 New Short Index value



2. The Index

2.1 Index Calculation Formula

$sIndex_t = InversePerformanceTerm + InterestIncomeTerm$

$$sIndex_t = sIndex_{t_0} \cdot \left[-1 \cdot \frac{TRI_t}{TRI_{t_0}} + 2 \right] + sIndex_{t_0} \cdot \left[\frac{SONIA_{t_0}}{365} \cdot d \cdot 2 \right]$$

Where:

- sIndex = Short Index Value
- TRI = Underlying Total Return Index
- SONIA = Sterling Overnight Interbank Average Rate (risk free rate) e.g. 550bps
- t = Time of calculation
- t₀ = Close of last trading day prior to t
- d = Number of calendar days between t and t₀

2.2 Base date and base values

Index Name	Base Date	Base Value
FTSE 100 Short Index	31 Dec 1992	10,000
FTSE 250 Short Index	31 Dec 1992	10,000

Source: FTSE Group

2.3 Computational Accuracy

- 2.3.1 The index will be calculated to 15 decimal figures and published to 4 decimal places.

2.4 Frequency of Calculation

- 2.4.1 Initially the FTSE 100 and FTSE 250 Short Indices will be calculated end-of-day (EOD); after the close of the underlying index.
- 2.4.2 It envisaged that the index will be available in real-time at some future date and will be calculated during the same period that the underlying index is being calculated.

2.5 Adjustment due to extreme market movements

- 2.5.1 In order to alleviate the risk of total loss due to extreme market movements, a test is carried out on the last received price for the underlying Total Return Index compared to the previous trading day's closing level. If the change is greater than or equal to a 25% movement up in the underlying index, the inverse performance will be adjusted intraday. This is achieved by effectively stopping the index calculation at that point and reapplying the short position

as though starting a new day. No additional interest is earned from the new short and selling the portfolio. This applies to the real-time index only.

$$t = t_0 \quad \text{i.e.} (TRI_t = TRI_{t_0}, sIndex_t = sIndex_{t_0}) \\ d = 0$$

2.6 Interest calculation

2.6.1 Interest income is calculated on a simple basis.

2.6.2 For sterling based indices a day count of 365 days will be used, in line with market convention. Hence, interest income per day would be

$$\frac{r_f}{365}$$

Where: r_f = Annual interest rate

2.6.3 The actual interest income for d calendar days would be:

$$d \cdot \left(\frac{r_f}{365} \right)$$

Where: d = number of calendar days between t and t_0 .

2.7 Trading suspension

2.7.1 The FTSE 100 and the FTSE 250 Short Indices are calculated on the same days as the underlying FTSE 100 and FTSE 250 Total Return Indices, and in the case of real-time indices, during the same time. If there is suspension of the underlying FTSE 100 or FTSE 250 Total Return Indices both the FTSE 100 and FTSE 250 Short Indices will be calculated using the latest prices available.

3. Glossary

3.1 SONIA – Sterling Overnight Interbank Average Rate

3.1.1 SONIA is the weighted average rate of all unsecured sterling overnight cash transactions brokered in London between midnight and 4.15pm with all counterparties in a minimum deal size of £25m. It is the weighted average overnight deposit rates for each business day and the index is published at 1700hrs each day.

It was established in 1997 by the Wholesale Markets Brokers' Association (WMBA) in Great Britain. Prior to the SONIA the WMBA had no Sterling overnight funding rate. This void created volatility in England's overnight interest rates. When the SONIA was created, it gave stability to overnight rates and also encouraged the creation of the Overnight Index Swaps markets and the Sterling Money Markets in Great Britain.

Details of daily SONIA rates can be found at <http://www.wmba.org.uk/indices.php>.

4. Appendix

4.1 Example Calculation

4.1.1 Calculate the FTSE 100 Short Index value for Tuesday 06 May 2008

Model Inputs:

SONIA	= 502.92 bps
Day count basis	= 365
Prev FTSE 100 Short Index Value ($sIndex_{t_0}$)	= 10000 (for simplicity)
Prev Closing FTSE 100 TRI (TRI_{t_0})	= 3669.9522
Current Closing FTSE 100 TRI (TRI_t)	= 3670.1216
Prev Trading Day (t_0)	= 02 May 2008 (05 May was a public holiday)

Model Outputs

Number of Days Interest (d)	= 4
Inverse Performance Term	= 10000.4604
Interest Income Term	= 11.0562
New Short Index Value ($sIndex_t$)	= 10011.5166

Contacting FTSE

Further information on the FTSE 100 and FTSE 250 Short Indices is available from FTSE, who will also welcome comments on these Ground Rules and on the Index Series.

Enquiries should be addressed in the first instance to:

FTSE

Client Services
FTSE Group
12th Floor,
10 Upper Bank Street,
Canary Wharf,
London,
E14 5NP

Tel: +44 (0)20 7866 1810

Fax: +44 (0)20 7866 1804

e-mail: info@ftse.com

Web site: www.ftse.com

© FTSE International Limited ("FTSE") 2009. All rights reserved. "FTSE®", "FT-SE®" and "Footsie®" are trade marks jointly owned by the London Stock Exchange Plc and The Financial Times Limited and are used by FTSE under licence. The FTSE indices referred to within this document ("Indices") are calculated by FTSE. All know-how, copyright and database rights in the Indices vest in FTSE and/or its licensors. All information is provided for information purposes only. No responsibility or liability is accepted by FTSE for any errors, loss or liability arising from the use of this publication. Distribution of FTSE index values and the use of the FTSE Indices to create financial products require a licence from FTSE.

APH 18/06/2008