

**Dividend Neutral (N-Contract) Example**

This example shows how a N Contract can be used in the JSE's EQ Derivative Market to hedge out any potential dividend risk. It shows the combined cashflows for the buyer and seller that are made up of: SSF (Q) and Div Future (F) variation margin. It also shows the underlying EQ market transactions and divs. It is assumed the SSF Buyer is a retail client and the SSF Seller is a liquidity provider who will hedge by buying the underlying share. It assumes that the share's price stays constant at R100 until div ex-date when it drops to R95. It assumes the SSF is 1 contract = 1 share and a 1 year contract or expiry.

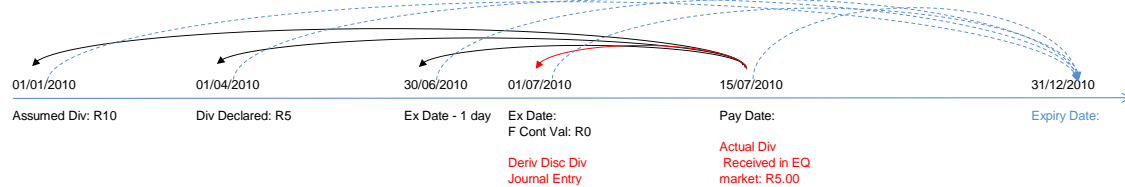
**Interest on SSF Timeline**

The SSF (Q Contract) is priced at a annually compounded interest rate of 10%.



**Assumed and Actual Dividend Timeline:**

The assumed dividend in the beginning is R10. The actual declared/paid dividend later is only R5. In order to calculate the Dividend Future (F-Contract), all discounted dividends must be forward valued to expiry date. The Dividend Future (F contract) is first Present Valued (PV) from pay date and then Forward Valued (FV) to expiry date. In both PV and FV a 10% annually compounded interest rate is used.



**SSF (Q-Contract) Formula - This formula assumes you will reinvest dividend received on pay date until the expiry date at the same interest rate.**

Annually Compounded Interest Formula:  $(\text{Spot} - \text{Discounted Dividend}) * ((1 + r/n)^{t*n})$  -> Used in example below

Continuous Compounding Formula:  $(\text{Spot} - \text{Discounted Dividend}) * (\text{Exp}(r*t))$

**Dividend Future (F-Contract) - After discounting the assumed or actual dividend from pay date, it needs to be forward valued to the expiry date.**

Annually Compounded Interest Formula:  $((\text{Dividend}) / ((1 + r/n)^{t*n})) * ((1 + r/n)^{t*n})$  -> Used in example below

Continuous Compounding Formula:  $((\text{Dividend}) / \text{Exp}(r*t)) * (\text{Exp}(r*t))$

Cashflow for Buyer and Seller are shown below through variation margins, the new div payment journal entry in the derivative market and the cashflow in the underlying equity market:

Date	Explanation	Underlying Market Values				Long SSF Buyer - Retail Investor			Short SSF - Liquidity Provider		
		Stock Price	Dividend	MtM Q	MtM F	Q Cashflow	F Cashflow	Total Cashflow	Q Cashflow	F Cashflow	Total Cashflow
2010/01/01	N Contract traded: Priced by just adding interest to spot. System will create Q contract at the price N was traded and a F contract at 0	100	10	110.00	-	No cashflows as this line represents the N-contract trade on Safex during the day...					
2010/01/01	EOD JSE MtM - Assumed a dividend of R10	100	10	99.55	10.45	-10.45	10.45	-	10.45	-10.45	-
	Underlying equity spot market transaction: Liq Provider hedge by buying physical share										-100.00
2010/04/01	Div Declared (Only R5 and not R10 as assumed)	100	5	102.22	5.23	2.67	-5.23	-2.55	-2.67	5.23	2.55
2010/06/30	Last date to trade (LDT)	100	5	99.72	5.23	-2.50	-	-2.50	2.50	-	2.50
2010/07/01	Ex Date: Exchange makes F contract value 0	95	5	99.68	-	-0.05	-5.23	-5.27	0.05	5.23	5.27
	New derivative journal entry. Also refer to as a resetting transaction: Forward Value dividend from Pay Date to Contract Expiry date							5.23			-5.23
2010/07/15	Div Pay Date: Spot price fell from R100 to R95	95	5	99.31	-	-0.36	-	-0.36	0.36	-	0.36
	Underlying equity spot market transaction: Actual Div Received in EQ market										5.00
2011/01/01	Closeout Date	95	N/A	95.00	-	-4.31	-	-4.31	4.31	-	4.31
	Underlying equity spot market transaction: Cash Settled: Liq Provider remove hedge by selling physical share Physical Settled: Liq Provider sell shares to long SSF holder via OX Trade type										95.00
	Interest on initial cash borrough for hedge.										-10.00
	The dividend received on 15/07/2010 had to be reinvested until closeout date. This entry represents the interest earn on the reinvestment.										0.23
						-15.00	-	-9.77	15.00	-	-

The JSE recommends that broking firms consolidates the Q and F contract's cashflows in order to simplify the product for retail clients...



Valuation C

