

**Bloomberg**

**Note: You can search for equity-linked OTC products using the OVME functionality in Bloomberg. The BDRV and IRSM functionality are unfortunately restricted with the academic Bloomberg license.**

# **Understanding Structured Products**

By  
Erik But

# Bloomberg

## Table of Content

- How to Find Structured Notes Related Information on Bloomberg
- Range Accrual Notes
- Equity Linked Note
- Autocallable Note
- Dual Currency Deposit

# Bloomberg

## Bloomberg Derivatives Portal – BDRV

IRSM – Function to offer links to the Bloomberg Derivatives in FX, interest rates, credit derivatives and equity derivatives

<HELP> for explanation, <MENU> for similar functions.

90) Request Demo

1) Home

Learn More

2) Overview Brochure

3) Structuring Guide

4) Documentation Center

Terminal Solutions

5) Foreign Exchange Deriv...

6) Interest Rate Derivatives

7) Credit Derivatives

8) Equity Derivatives

9) Convertibles

10) Commodity Derivatives

11) Valuation Service

What's New

12) Subscribe to Alerts

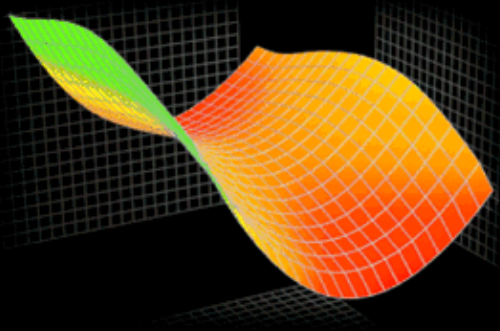
13) Recent Enhancements

14) Pricing Methodology Ch...

15) Upcoming Seminars & E...

### BLOOMBERG DERIVATIVES

The BLOOMBERG PROFESSIONAL service includes a suite of market-standard models, high-quality data and transparent pricing and risk analytics for the derivatives and structured notes markets.



Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 12:50:43

# Bloomberg

## Range Accrual Notes - SWPM

- **Payoff description**

$$P \times \frac{n}{N}$$

where

- n is the number of days a specified index is within a given range
- N is the total number of days of the observation period
- P is the payout for any given day where the index is in the range
  
- Index could be an interest rate (e.g. 3 months LIBOR), FX rate or financial index, etc

# Bloomberg

## Range Accrual Notes

### ■ Example

- Let's take an example of a 5 years range accrual note linked to USD 3 months Libor, with range set as [0%; 6.00%] and a conditional coupon of 5%. Let's assume the note to start on January 1, 2011 and the coupon payment to happen on July 1, 2011.
- An investor who buys USD 100m of this note will have the following cash flows:
- First coupon — Between January 1 and July 1, 2011, if USD 3m Libor fixes between 0.00% and 6.00% for 130 days, then the rate applied for the first semester will be:
- $5.00\% \times 130/181 = 3.5912\%$  (there are 181 days in total between January 1, 2011 and July 1, 2011).
- The coupon paid on July 1, 2011 would be:  $\text{USD } 100\text{m} \times 3.5912\% \times 0.5 = \text{USD } 1,795,600$

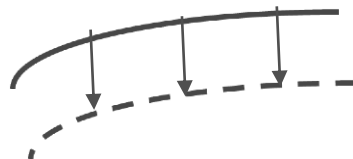
# Bloomberg

## Range Accrual Notes

- **View** : An investor views that an index will stay within a given range.
- **Structure** : Deposit + vanilla swap (receiving fixed and paid 3 month LIBOR) + selling a series of digital floors and caps.
- **Sensitivity to Interest Rate Movements**

Structure increases  
in value

Downward Shift



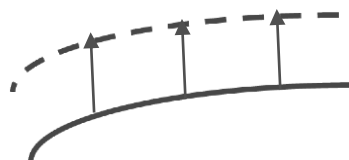
OR

Curve Flattening



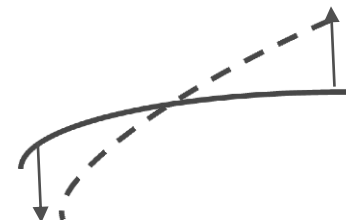
Structure decreases  
in value

Upward Shift



OR

Curve Steepening



# Bloomberg

## Range Accrual Notes

<HELP> for explanation. N152 Index SWPM

90) Actions 91) Swaps & Options 92) Str. Notes 93) Mkt Data 94) Help Swap Manager

Range Accrual Counterparty IRS CNTRPARTY Ticker / IRS Series Deal ID 21) Detail

31) Load 32) Save 34) Send 36) Ticketing 37) Add to Portfolio

Leg 1 Rcv Fixed RACL

Notional 10MM Day Count 30I/360

Currency USD Coupon 4.600000 %

Effective 02/15/2011

Maturity 02/15/2018

Pay Freq SemiAnnual

Daily Range

Index US0003M

Floor 0.00000 % Ceiling 5.00000 %

MV 9,687,763.32 Accrued 0.00

Option

Type None

Market

Curve Date 02/12/2011 Valuation 02/15/2011

Disc Curve 23 Bid USD Bloomberg Curve (IC Fwd Curve 23 Bid USD Bloomberg Curve (I

VCUB Bid USD Bloomberg Curve Model HW1F

1) Calculate Premium

Par Cpn 5.233811 Option Prem 0.00000 DV01 8,788.73

Principal 9,687,763.32 Underlying Prem 96.87763 Gamma (1bp) 3.32

Accrued 0.00 OAS (bp) 100.00 Vega (1%) 1,437.88

Market Value 9,687,763.32 Premium 96.87763 Theta (1-day) 491.37

3) Main 4) Curves 5) Cashflow 6) Option 7) Leg Detail 10) Reset Rates 11) Risk 13) Scenario 14) Chart

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

Copyright 2011 Bloomberg  
SN 610462 6365-395-0 12-Feb-2

**Range of the Accrual Notes**

Click here to add a fixed leg

Click here to add a float leg

**Credit spread of the issuer**

**Theoretical price of the note**

# Bloomberg

## Range Accrual Notes

<HELP> for explanation.

N152 Index SWPM

90) Actions 91) Swaps & Options 92) Str. Notes 93) Mkt Data 94) Help Swap Manager

Range Accrual Counterparty IRS CNTRPARTY Ticker / IRS Series Deal ID

Cashflow Fixed RACL Currency USD 99) Export to Excel

Historical Cashflows Zero Rate Equiv. Coupon

Pay Date	Accrual Start	Accrual End	Days	Notional	Principal	Nominal Payme	Range Value	Payment	Discount	PV
08/15/11	02/15/11	08/15/11	180	10,000,000.00	0.00	230,000.00	-0.33	229,999.67	0.993344	228,468.70
02/15/12	08/15/11	02/15/12	180	10,000,000.00	0.00	230,000.00	-533.16	229,466.84	0.985196	226,069.89
08/15/12	02/15/12	08/15/12	180	10,000,000.00	0.00	230,000.00	-4,221.78	225,778.22	0.974438	220,006.87
02/15/13	08/15/12	02/15/13	180	10,000,000.00	0.00	230,000.00	-16,440.95	213,559.05	0.960196	205,058.59
08/15/13	02/15/13	08/15/13	180	10,000,000.00	0.00	230,000.00	-22,296.68	207,703.32	0.943443	195,956.20
02/18/14	08/15/13	02/18/14	183	10,000,000.00	0.00	233,833.33	-38,553.73	195,279.61	0.923930	180,424.76
08/15/14	02/18/14	08/15/14	177	10,000,000.00	0.00	226,166.67	-38,141.93	188,024.74	0.904037	169,981.30
02/17/15	08/15/14	02/17/15	182	10,000,000.00	0.00	232,555.56	-53,522.55	179,033.01	0.881740	157,860.57
08/17/15	02/17/15	08/17/15	180	10,000,000.00	0.00	230,000.00	-65,988.50	164,011.50	0.859309	140,936.49
02/16/16	08/17/15	02/16/16	179	10,000,000.00	0.00	228,722.22	-76,789.49	151,932.73	0.835627	126,953.06
08/15/16	02/16/16	08/15/16	179	10,000,000.00	0.00	228,722.22	-86,791.59	141,930.64	0.812401	115,304.63
02/15/17	08/15/16	02/15/17	180	10,000,000.00	0.00	230,000.00	-95,232.74	134,767.26	0.788283	106,234.71
08/15/17	02/15/17	08/15/17	180	10,000,000.00	0.00	230,000.00	-97,594.82	132,405.18	0.765334	101,334.22
02/15/18	08/15/17	02/15/18	180	10,000,000.00	10,000,000.00	10,230,000.00	-102,775.98	10,127,224.02	0.741878	7,513,167.34

Ex Ca

Zoom 75%

Expected Cashflow

3) Main 4) Curves 5) Cashflow 6) Option 7) Leg Detail 10) Reset Rates 11) Risk 13) Scenario 14) Charts

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000  
 Copyright 2011 Bloomberg Finance L.P.  
 SN 610462 6365-395-0 12-Feb-2011 18:26:08



# Bloomberg

## Range Accrual Notes

### Samples of Yield Enhancing Method

- Add callable features
- Narrow the accrual range

# Bloomberg

## Range Accrual Notes

<HELP> for explanation. N152 Index SWPM

90) Actions 91) Swaps & Options 92) Str. Notes 93) Mkt Data 94) Help Swap Manager

Range Accrual Counterparty IRS CNTRPARTY Ticker / IRS Series Deal ID 21) Detail

31) Load 32) Save 34) Send 36) Ticketing 37) Add to Portfolio

Leg 1 Rcv Fixed RACL

Notional 10MM Day Count 30I/360  
 Currency USD Coupon 4.600000 %  
 Effective 02/15/2011  
 Maturity 02/15/2018  
 Pay Freq SemiAnnual  
 Daily Range  
 Index US0003M  
 Floor 0.00000 % Ceiling 5.00000 %  
 MV 9,687,763.32 Accrued 0.00

Click here to add a fixed leg  
 Click here to add a float leg

Option

Type Cancellable 7 YR NC 5 YR Style European Notification Days 2 B  
 Position Short Expiration 02/11/2016 Settlement 02/16/2016

Market

Curve Date 02/12/2011 Valuation 02/15/2011  
 Dscnt Curve 23 Bid USD Bloomberg Curve (IC) Fwd Curve 23 Bid USD Bloomberg Curve  
 Vol Cube VCUB Bid USD Bloomberg Cube Model HW1F

Valuation

1) Calculate

Par Cpn 5.233011 Option Prem -0.83688 Delta (Hedge) -0.03664  
 Principal 9,604,075.32 Underlying Prem 96.87763 Gamma (1bp) 0.77  
 Accrued 0.00 OAS (bp) 100.00 Vega (1%) -5.278.75  
 Market Value 9,604,075.32 Premium 96.04075 Theta (1-day)

3) Main 4) Curves 5) Cashflow 6) Option 7) Leg Detail 10) Reset Rates 11) Risk 12) Calibration 13) Scenario 14) Charts

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000  
 Copyright 2011 Bloomberg Finance L.P.  
 SN 610462 6365-395-0 12-Feb-2011 18:27:36

**Sell an European Call Option**

**Value of the option sold**

# Bloomberg

## Equity Linked Note

- A debt instrument, usually a bond, that differs from a standard fixed-income security in that the final payout is based on the return of the underlying equity, which can be a single stock, basket of stocks, or an equity index.
- In general, a typical ELN is principal-protected, i.e. the investor is guaranteed to receive 100% of the original amount invested at maturity

# Bloomberg

## Equity Linked Note

- **Example**

**For example, if the underlying equity gains 50% during the investment period and the participation rate is 80%, the investor receives 1.40 dollars for each dollar invested.**

**If the equity remains unchanged or declines, the investor still receives one dollar per dollar invested (as long as the issuer does not default).**

- **Equity-linked note can be thought of as a combination of a zero-coupon bond and an equity option.**
- **Indeed, the issuer of the note usually covers the equity payout liability by purchasing an identical option.**
- **In some equity-linked notes, the payout structure is more complicated, resembling an exotic option. Equity-linked notes are one type of Structured product .**

## Capital Protected Note - OVSN

<HELP> for explanation. N146

Enter all values and hit <Go>, 1<Go> Calculate

3 Actions 4 Strategies 5 Str. Notes 6 Data & Settings Equity Structured Notes

Capital Protected

10 Deal 12 Pricing/Greeks 13 Cashflow/Charts 14 Curves 15 Equity 18 Correlation 20 Scenario

**Deal Parameters**

Notional	100.00
Currency	HKD
Option Type	Call
Strike Date	03/25/2013
Expiry Date	03/25/2016
Maturity Date	03/25/2016

☒ Equal Weights  
☐ Asian (Average)  
☐ Fixed Coupon Strea

**Basket**

Ticker	Strike	Strike	Weight
5 HK Equity	ATM	83.35000	33.3333%
1 HK Equity	ATM	111.00000	33.3333%
13 HK Equity	ATM	81.25000	33.3333%

**Coupon Parameters**

Cap	<input type="checkbox"/>
Floor	0.00%
Protection	100.00%
Participation	100.00%

Value of Note

Valuation 03/25/13 Zoom 100%

Valuation

1 Calculate Price (%) Funding Spread (bp) 0.00 bp Accrued 0.00

Model Black Scholes Price (%) 110.15 Option Value 11.83

Paths 20000 Price 110.15

Protection = 100%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
 SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 13:21:06

# Bloomberg

## Capital Protected Note

<HELP> for explanation.  
 1<Go> Calculate, Click on Ticker to View Dividend Details

3) Actions ▾ 4) Strategies ▾ 5) Str. Notes ▾ 6) Data & Settings ▾ Equity Structured Notes

Capital Protected ▾

10 Deal 11 Pricing/Greeks 12 Scenario 13 Cashflows 14 Curves 15 Underlying 16 Calibration 17 Correlation

3) Equity			
Ticker	Spot Price	Vol. Source	Vol Surface
31 1 HK Equity	120.400	Bloomberg	View
32 13 HK Equity	94.450	Bloomberg	View
33 5 HK Equity	85.400	Bloomberg	View

Volatility Setting

Dividend Forecast

Dividend		
1 HK Equity	Type	Piecewise Cot
	Source	Implied
Date	Dividend Yield	Forward
05/20/2014	4.627	117.841
09/09/2014	3.608	117.387
05/19/2015	3.258	115.512
09/08/2015	3.212	114.759
05/24/2016	3.149	113.314
09/06/2016	3.153	112.769

Discounted Annual Flow	3.477
Discounted Total Flow	10.432
Dividend Yield (%)	3.020
Forward	112.443

Valuation 11/08/13 Market Data 11/08/13

Valuation

1) Calculate Price (%) Funding Spread (bp) 0.00 bp Accrued 0.00

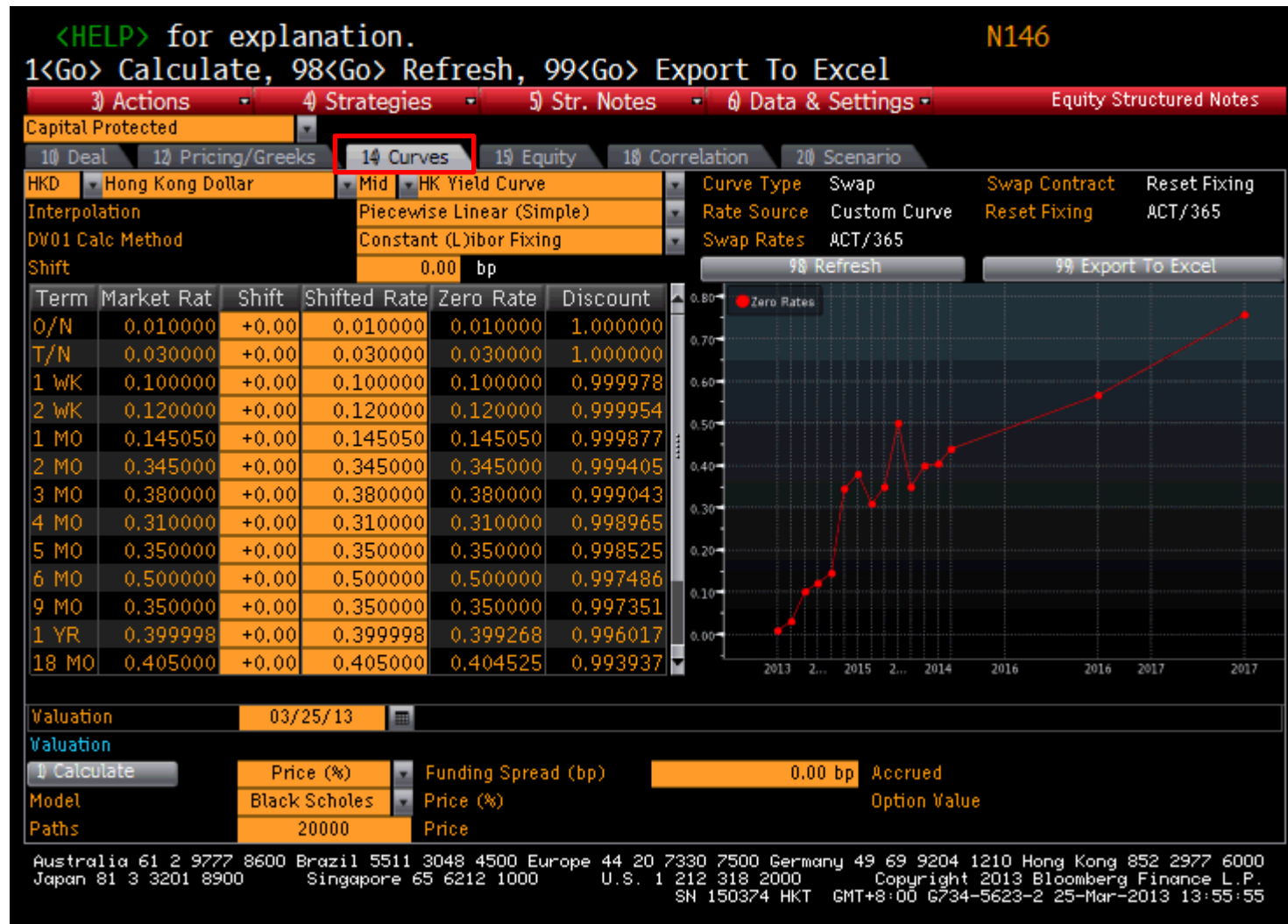
Model Local Volatility Price (%) 107.38 Option Value 9.58

Paths 20000 Price HKD 107.38

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
 SN 514604 HKT GMT+8:00 H640-875-0 08-Nov-2013 16:21:00

# Bloomberg

## Capital Protected Note



# Bloomberg

## Capital Protected Note

<HELP> for explanation.  
1<Go> Calculate

**Coupon Rate**

3 Actions 4 Strategies 5 Str. Notes 6 Data & Settings Equity Structured Notes

Capital Protected

10 Deal 12 Pricing/Greeks 13 Cashflow/Charts 14 Curves 15 Equity 18 Correlation 20 Scenario

31 Charts 32 Payments 33 Details Cashflow Type Payoff Details 99 Export to Excel

Payment Date	Notional	Coupon	Net Payment	Discount Factor	Present Value
06/25/2013	100	3%	.766667	99.904311%	.765933
09/25/2013	100	3%	.766667	99.748579%	.764739
12/26/2013	100	3%	.766667	99.734828%	.764634
03/25/2014	100	3%	.741667	99.601726%	.738713
06/25/2014	100	3%	.766667	99.498315%	.76282
09/25/2014	100	3%	.766667	99.393703%	.762018
12/26/2014	100	3%	.766667	99.261232%	.761003
03/25/2015	100	3%	.741667	99.124812%	.735176
06/25/2015	100	3%	.766667	98.945213%	.75858
09/25/2015	100	3%	.766667	98.750579%	.757088
12/28/2015	100	3%	.783333	98.536373%	.771868
03/25/2016	100	3%	.733333	98.321969%	.721028

Valuation 03/25/13

Valuation

Calculate Price (%) Funding Spread (bp) 0.00 bp Accrued 0.00

Model Black Scholes Price (%) 119.04 Option Value 11.65

Paths 20000 Price 119.04

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 13:58:45



# Bloomberg

## Capital Protected Note

<HELP> for explanation. N146

1<Go> Calculate

3 Actions 4 Strategies 5 Str. Notes 6 Data & Settings Equity Structured Notes

Capital Protected

10 Deal 12 Pricing/Greeks 13 Cashflow/Charts 14 Curves 15 Equity 18 Correlation 20 Scenario

Method	Rolling Window	5 HK	1 HK	13 HK
Price Using	Percentile	1.0000	0.5616	0.5749
Return Type	Logarithmic	0.5616	1.0000	0.7491
Return Freq.	Daily	0.5749	0.7491	1.0000

Period 5 Years  
Range 03/25/08 - 03/25/13  
Window Length 6 Months  
Window Shift 1  
Percentile 50

Parallel Bump 0.00 Exponential Bump 1.00 Set all Show Details

31 Fix Matrix 32 Reset 33 Export to Excel

Valuation 03/25/13

Valuation

Calculate Price (%) Funding Spread (bp) 0.00 bp Accrued 0.00  
Model Black Scholes Price (%) 119.04 Option Value 11.65  
Paths 20000 Price 119.04

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 G734-5623-2 25-Mar-2013 14:00:11

# Bloomberg

## Autocallable Note

Example: Single Stock Linked Autocallable Note

Currency HKD

Issue price 100

Strike date 07-05-2011

Expiration date 07-05-2014

Stock: 5 HK Equity

Early Redemption parameters:

Early Redemption Call Dates	Barrier	Cash Amount
07-05-2012	100%	120
07-05-2013	100%	140
07-04-2014	100%	160

Final Redemption Low Barrier: 50%

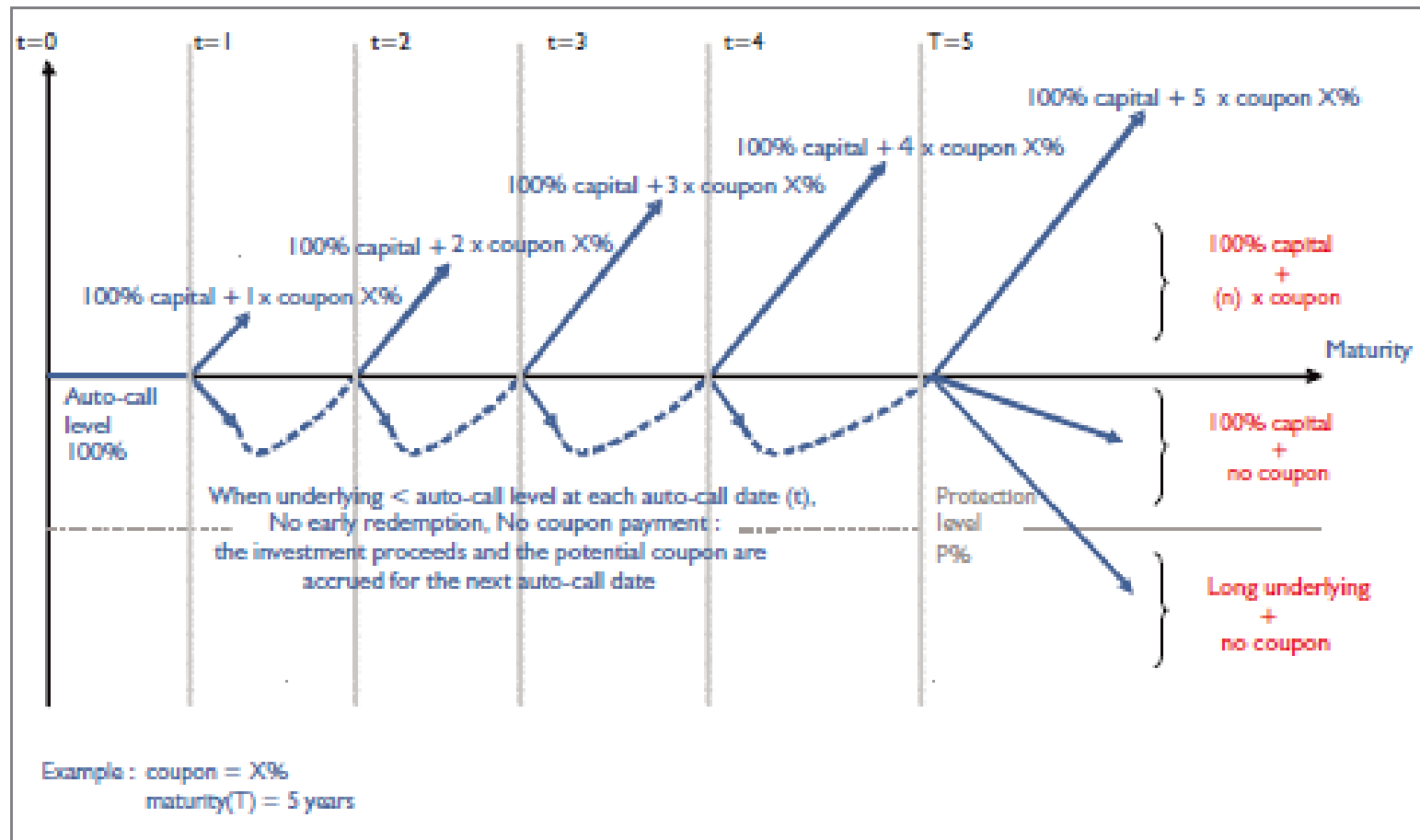
Final Redemption Barrier Type: At Maturity Final Payoff (paid if Low barrier is not triggered)  
100%

Participation (on underlying performance if Low barrier is triggered) 100%

# Bloomberg

## Autocallable Note

### Example of Autocallable Note



# Bloomberg

## Autocallable Note

- A high coupon is paid if the underlying or basket components performs positively in a predefined timeframe. In that case the note is early reimbursed
- Final redemption amount, paid if note is not called at early termination dates, depends on the underlying (or basket component in the case of basket autocallables) breaching a lower barrier
- Each early redemption date has an early redemption barrier
- If at the stated redemption date the underlying price (or the price of the worst performing basket component, in case of basket autocallables) is higher than the early redemption barrier, the note is reimbursed (redeemed early) and the investor receives back the amount invested (100) plus a high coupon

# Bloomberg

## Autocallable Note

### At Expiry Day

- If the “lower barrier” HAS NOT BEEN TRIGGERED by the underlying price (or by the price of the worst performing basket component): note redeems at par (100)
- If a “lower barrier” HAS BEEN TRIGGERED by the underlying price (or the price of the worst performing basket component): investor becomes short of a put option on the underlying (or on the worst performing underlying in case of baskets)
- Autocallable notes have maturities that range from 3 to 5 years, and usually present a set of early redemption dates with yearly or semiannual anniversaries

# Bloomberg

## Autocallable Note

<HELP> for explanation. N146

Enter all values and hit <Go>, 1<Go> Calculate

3) Actions 4) Strategies 5) Str. Notes 6) Data & Settings Equity Structured Notes

Autocallable

10 Deal 12 Pricing/Greeks 13 Cashflow/Charts 14 Curves 15 Equity 20 Scenario

**Deal Parameters**

Notional	100.00
Currency	HKD
Strike Date	03/25/2013
Expiry Date	03/25/2016
Maturity Date	03/25/2016

**Final Redemption**

Final Payoff	100.00%
Participation	100.00%
Floor	0.00%
Barrier Type	Down & In
Observation Type	Continuous
Low Barrier	50.00%

**Early Redemption**

Frequency	Annual
Call Barrier	100.00%
Call Amount Increment	10.00%

**Basket**

Ticker	Strike	Strike
1 HK Equity	ATM	111.20000

**Early Redemption Schedule**

Show Parameters

Observation Dates	Call Payment Date	Call Barrier	Call Amount
03/25/2014	03/25/2014	100.00%	110.00%
03/25/2015	03/25/2015	100.00%	120.00%

Valuation 03/25/13 Zoom 100%

**Valuation**

1 Calculate Price (%) Funding Spread (bp) 0.00 bp

Model Black Scholes Price (%) 97.84

Paths 20000 Price 97.84

**Price for the structure**

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 14:04:31

# Bloomberg

## Autocallable Note

<HELP> for explanation. N146

Enter all values and hit <Go>, 1<Go> Calculate

3) Actions 4) Strategies 5) Str. Notes 6) Data & Settings Equity Structured Notes

Autocallable

10 Deal 12 Pricing/Greeks 14 Curves 15 Equity 20 Scenario

Notional	100.00	Final Payoff	100.00%
Currency	HKD	Participation	100.00%
Strike Date	03/25/2013	Floor	0.00%
Expiry Date	03/25/2016	Barrier Type	Down & In
Maturity Date	03/25/2016	Observation Type	Continuous
Early Redemption		Low Barrier	50.00%
Frequency	Annual		
Call Barrier	100.00%		
Call Amount Increment	10.00%		

Basket

Ticker	Strike	Strike
1 HK Equity	ATM	111.20000

Early Redemption Schedule

Show Parameters

Observation Dates	Call Payment Date	Call Barrier	Call Amount
03/25/2014	03/25/2014	100.00%	110.00%
03/25/2015	03/25/2015	100.00%	120.00%
03/25/2016	03/25/2016	100.00%	130.00%

Valuation 03/25/13 Zoom 100%

Valuation

Calculate Price (%) Funding Spread (bp) 0.00 bp

Model Black Scholes Price (%)

Paths 20000 Price

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 14:10:14

# Bloomberg

## Autocallable Note

<HELP> for explanation.  
1<Go> Calculate, Click on Ticker to View Dividend Details

3) Actions ▾ 4) Strategies ▾ 5) Str. Notes ▾ 6) Data & Settings ▾ Equity Structured Notes

Autocallable ▾

10 Deal 12 Pricing/Greeks 13 Cashflows 14 Curves 15 Underlying 18 Calibration 19 Scenario

3) Equity

Ticker	Spot Price	Vol. Source	Vol Surface
1 HK Equity	120.400	Bloomberg	View

Volatility

Dividend

1 HK Equity	Type	Piecewise Co
	Source	Implied
Date	Dividend Yield	Forward
05/20/2014	4.627	117.841
09/09/2014	3.608	117.387
05/19/2015	3.258	115.512
09/08/2015	3.212	114.759
05/24/2016	3.149	113.314
09/06/2016	3.153	112.769

Discounted Annual Flow 3.477

Discounted Total Flow 10.432

Dividend Yield (%) 3.020

Forward 112.443

Valuation 11/08/13 Market Data 11/08/13

Valuation

1) Calculate Price (%) Funding Spread (bp) 0.00 bp

Model Local Volatility Price (%) 97.41

Paths 20000 Price HKD 97.41

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 514604 HKT GMT+8:00 H640-875-0 08-Nov-2013 16:30:23

Dividend Projection



# Bloomberg

## Autocallable Note

<HELP> for explanation. N146

1<Go> Calculate, 98<Go> Refresh, 99<Go> Export To Excel

3 Actions 4 Strategies 5 Str. Notes 6 Data & Settings Equity Structured Notes

Autocallable

10 Deal 12 Pricing/Greeks 14 Curves 15 Equity 20 Scenario

HKD Hong Kong Dollar Mid HK Yield Curve

Interpolation Piecewise Linear (Simple)

DV01 Calc Method Constant (L)ibor Fixing

Shift 0.00 bp

Curve Type Swap Swap Contract Reset Fixing

Rate Source Custom Curve Reset Fixing ACT/365

Swap Rates ACT/365

98 Refresh 99 Export To Excel

Term	Market Rat	Shift	Shifted Rate	Zero Rate	Discount
O/N	0.010000	+0.00	0.010000	0.010000	1.000000
T/N	0.030000	+0.00	0.030000	0.030000	1.000000
1 W/K	0.100000	+0.00	0.100000	0.100000	0.999978
2 W/K	0.120000	+0.00	0.120000	0.120000	0.999954
1 MO	0.145050	+0.00	0.145050	0.145050	0.999877
2 MO	0.345000	+0.00	0.345000	0.345000	0.999405
3 MO	0.380000	+0.00	0.380000	0.380000	0.999043
4 MO	0.310000	+0.00	0.310000	0.310000	0.998965
5 MO	0.350000	+0.00	0.350000	0.350000	0.998525
6 MO	0.500000	+0.00	0.500000	0.500000	0.997486
9 MO	0.350000	+0.00	0.350000	0.350000	0.997351
1 YR	0.399902	+0.00	0.399902	0.399172	0.996018
18 MO	0.405000	+0.00	0.405000	0.404525	0.993937

Valuation 03/25/13

Valuation

Calculate Price (%) Funding Spread (bp) 0.00 bp

Model Black Scholes Price (%)

Paths 20000 Price

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
 SN 150374 HKT GMT+8:00 G734-5623-2 25-Mar-2013 14:11:27

# Bloomberg

## Autocallable Note

<HELP> for explanation. N146

1<Go> Calculate

3 Actions 4 Strategies 5 Str. Notes 6 Data & Settings Equity Structured Notes

Autocallable

10 Deal 12 Pricing/Greeks 14 Curves 15 Equity 18 Correlation 20 Scenario

Method	Rolling Window	1 HK	5 HK
Price Using	Percentile	1.0000	0.5616
Return Type	Logarithmic	0.5616	1.0000
Return Freq.	Daily		
Period	5 Years		
Range	03/25/08 - 03/25/13		
Window Length	6 Months		
Window Shift	1		
Percentile	50		

Parallel Bump 0.00 Exponential Bump 1.00 Set all Show Details

33 Fix Matrix 33 Reset 33 Export to Excel

Valuation 03/25/13

Valuation

1 Calculate Price (%) Funding Spread (bp) 0.00 bp

Model Black Scholes Price (%)

Paths 20000 Price

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
 SN 150374 HKT GMT+8:00 6734-5623-2 25-Mar-2013 14:12:39

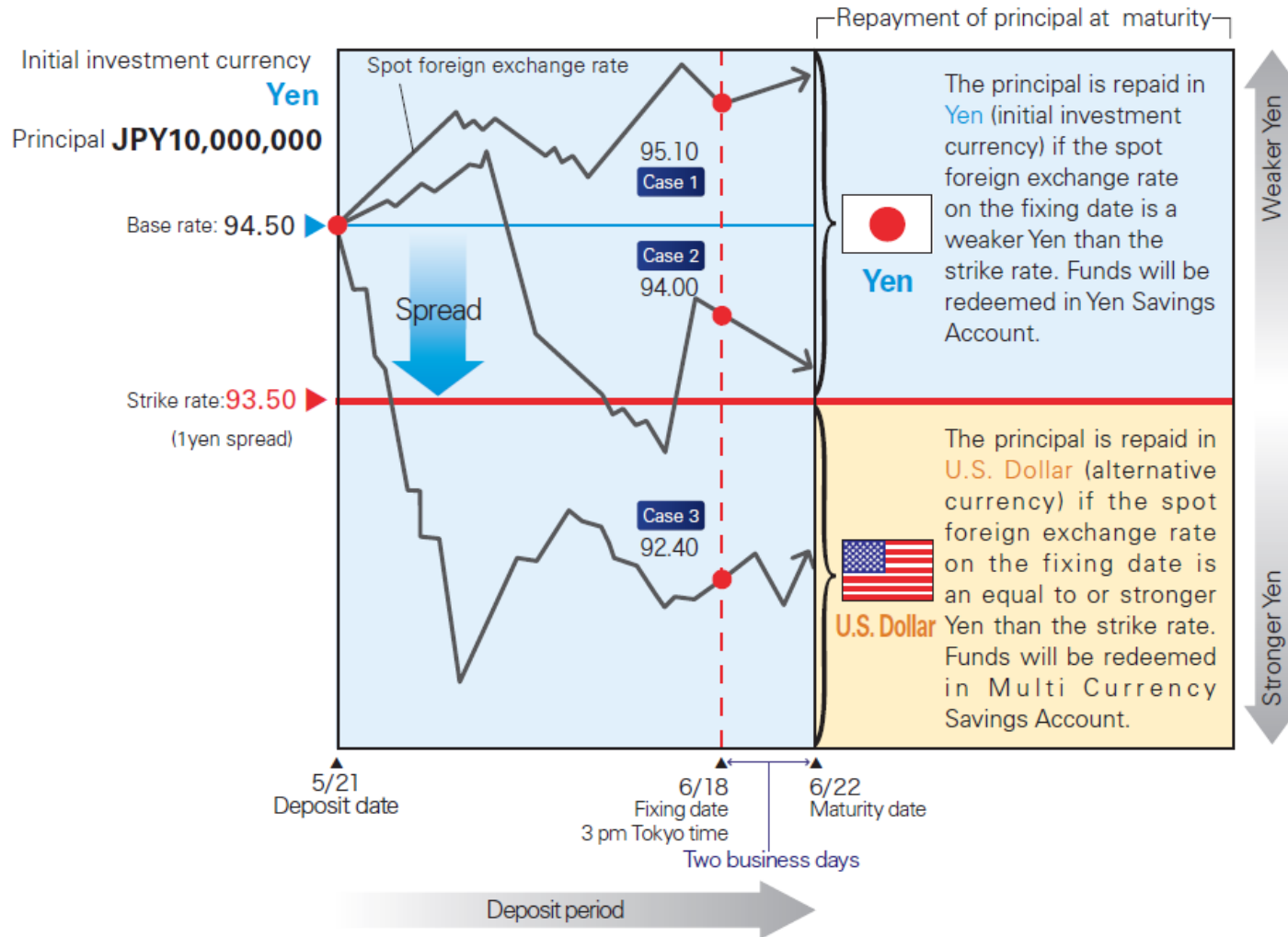
# Bloomberg

## Dual Currency Deposit

- A fixed deposit with variable terms for the currency of payment. Deposits are made in one currency, but withdrawals at maturity occur either in the currency of the initial deposit or in another agreed upon currency.
- Deposit in which the principal may be repaid after being converted into the alternative currency at the strike rate (not at the spot foreign exchange rate) upon the maturity date, depending on the spot foreign exchange rate on the date to which the strike rate is applied
- By specifying the alternative currency and predicting the exchange rate applied on the maturity date at the time of the deposit, a higher interest rate than that of a normal time deposit can be acquired
- Example

A customer deposits 10,000,000 yen in a Dual Currency Deposit for a deposit period of one month, specifying the "strike rate" at 93.50 yen / U.S. Dollar with a 1 yen spread from the "base rate" of 94.50 yen / U.S. Dollar. The resulting interest rate before tax is 6.41% p.a.

## Dual Currency Deposit



# Bloomberg

## Dual Currency Deposit - OVML

<HELP> for explanation. N146

89) Asset	90) Actions	92) Products	93) View	94) Data & Settings	Option Valuation
Solver (Premium)	Load	Save	Add to Portfolio	Matrix	Trade
60) Deal 1	62) +				
50) Pricing					

Strategy 1

Leg 1	
Asset	USDJPY
Vol	BGN 12.415%/12.865%
Vol Spread	0.450%
Style	DCD Vanilla
Direction	Client buys Physical
Deposit Currency	JPY
Maturity	1 month
Strike	94.68
Issue Date	03/27/13
Expiry	04/25/13
Delivery	NY 10:00 04/30/13
Depo Amount	JPY 1,000,000.00
JPY Depo	Act/360 0.002...%

Strike Price

Resulting interest rate

Results	
Coupon %	15.40...%
Convert Coupon	No
Revaluation	Off
Option Price	1.4543% R
Option Premium	14,543 R JPY

Spot Settle Date	03/27/13
Notional	JPY 1,000,000.00
Depo Price	100.0000% P
Depo Value	1,000,000.00 P
Accrued Interest	0.00

50 Rotate H/V    Zoom -    100%

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SN 150374 HKT GMT+8:00 G734-5623-2 25-Mar-2013 14:21:07