# **Smart Quant Reference Guide**

Version 2015. 6

CONFIDENTIAL

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### Chapter 5. Product Handbook

# **Chapter 1. Smart Quant Install**

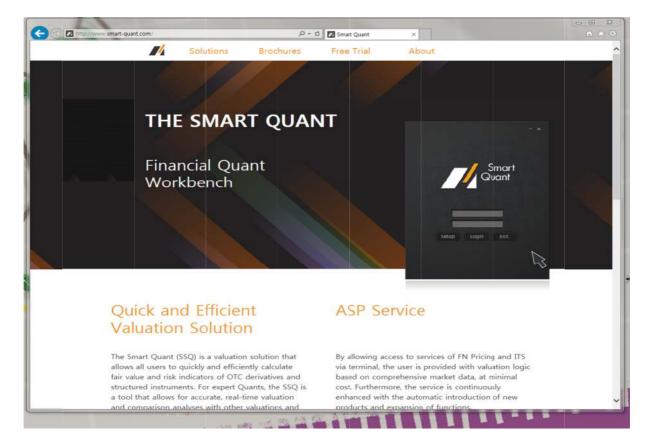
To access Smart Quant (SSQ), the user must register and receive a temporary ID and password at www.smart-quant.com.

# **1.1 SSQ Install Specifications**

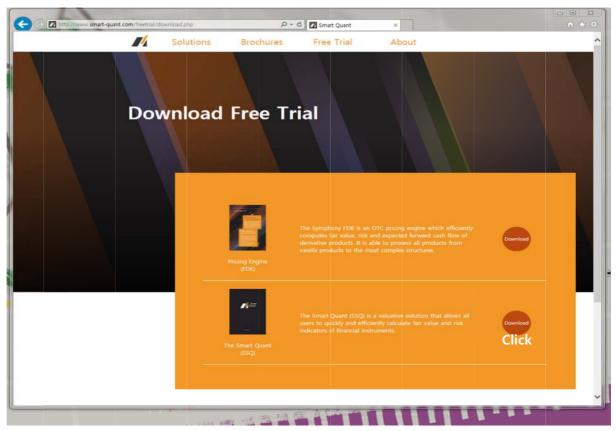
Item	Specification
OS	Windows Net 4.0 and higher / Windows XP and higher
Memory	• 4GB and above
Hard Disk	• SSQ 50MB and above / 100MB if Window .Net Framework install needed

# 1.2 SSQ Install Program Download

Smart Quant Homepage



#### Click the Free Trial



### 1.3 SSQ Install

- Double-click the setup.exe file.
  - 1. The SSQ install program is composed of the setup.exe and SMART-Quant.msi files.



- 2. When a user control alert pops up, click Yes to continue.
- Install the Microsoft.Net Framework 4.0 (Optional).
  - 1. If the user's PC does not have the .Net Framework 4.0 installed, its install is prompted before the SSQ is installed. Click Accept to continue.

For the following components:	
Microsoft .NET Framework 4 (x86 and x64)	
Please read the following license agreement. Press the page down key to see the following license agreement.	n <mark>e res</mark>
	-
MICROSOFT SOFTWARE	
SUPPLEMENTAL LICENSE TERMS MICROSOFT .NET FRAMEWORK 4 FOR MICROSOF	T,
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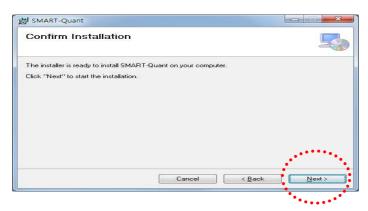
- Install the SSQ.
  - 1. When the SMART-Quant Setup window appears, click Next.



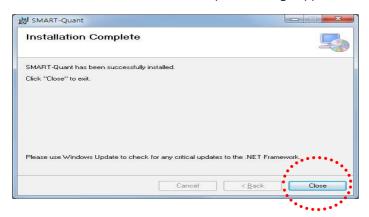
2. Select the installation folder and click Next. (We recommend folder "C:\ITS\SmartQuant" to avoid any user authority issues upon installation).

Fo install to a different folder, enter it below or click "Browse". Browse	Select Installation Folder		5
Browse	he installer will install SMART-Quant to the following fo	lder.	
	o install in this folder, click "Next". To install to a differ	ent folder, enter it below	v or click "Browse".
Dick Cost	<u>F</u> older:	:	
Disk Cost	Eolder:  C:₩ITS₩SMART-Quant₩		B <u>r</u> owse
<u>Disk Cost</u>	Eolder:		
			Browse Disk Cost
	- The second		

3. Click Next to confirm and start the installation.



4. Click Close once the Installation Complete message appears.



5. Upon installation, the SSQ icon appears on the desktop. Double-click to open.



# **Chapter 2. Smart Quant Getting Start**

# 2.1 SSQ Login

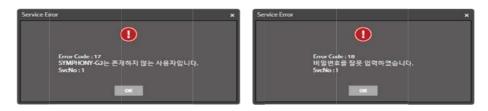
Double-click the SSQ icon on the desktop.



To log in, enter the User ID and Password and click the LOGIN button.



If the User ID or Password is incorrect, an error message appears as shown below. Click OK enter the correct information.



- For first-time logins, the user must enter the User ID and temporary Password sent via E-mail. (It is impossible to change the User ID received)
- After the first login, the user will automatically be prompted to register a new Password. A new Password is mandatory.

### - ×





# 2.2 SSQ Task Panel

Upon login, the SSQ Task Panel appears as shown below.

Smart Quant	- ×		
	ssword Notification an ID SmartQuantCIY Company ASP	} }	A. System information and notifications B. User Information
Product Control Market Information	arve tting Underlying Setting		C. SSQ Application Icons
	LOGOUT	}	D. Logout

A. System information and notifications	<ul> <li>Info: Smart Quant system access information</li> <li>Password: Change password</li> <li>Notification: User notifications</li> </ul>
B. User information	<ul> <li>Name: User Name</li> <li>ID: User ID</li> <li>Group: User Group Name</li> </ul>
C. SSQ application icons	<ul> <li>Product Control: "Product Control" Application Icon</li> <li>Parameter Setting: "Parameter Setting" Application Icon</li> <li>Curve Setting: "Curve Setting" Application Icon</li> <li>Underlying Setting: "Underlying Setting" Application Icon</li> <li>Market Information: "Market Information" Application Icon</li> </ul>
D. Logout	• Exit SSQ

- A password change is possible after first logging in.
  - 1. Click the Password link on the SSQ Task Panel.



2. On the CHANGE PW tab, enter the current password and enter the new password in both of the NEW PW and CONFIRM PW fields. Click OK.



# 2.3 Smart Quant Applications

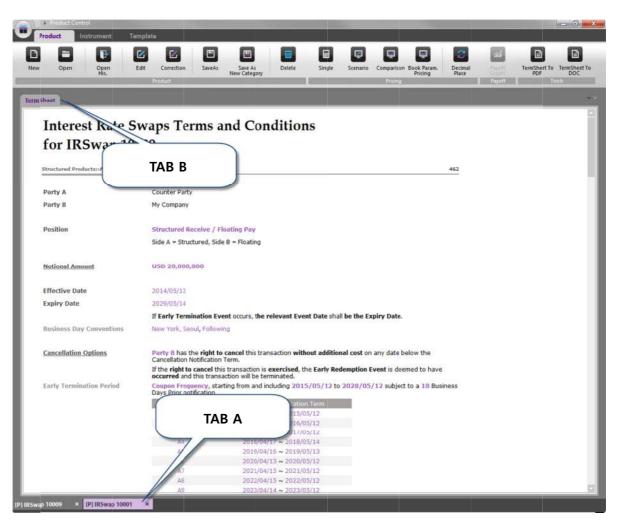
Five SSQ Applications and Functions

Applications	Functions
Product Control	<ul> <li>Product and product template design</li> <li>Product management (registration/edit/delete), term sheet and payoff chart generation</li> <li>Product valuation (fair value/risk measure/cash flow estimation)</li> <li>Scenario and comparison pricing simulation</li> </ul>
Parameter Setting	Pricing parameter details, user parameter registration and management
Curve Setting	Curve details, user curve registration and management
Underlying Setting	Underlying details, user underlying registration and management
Market Information	Market data search, various analyses

- A maximum of 12 applications may run simultaneously on the SSQ. The user may also launch an application that is already open.
- With the launching of an application, the window is displays the top menu bar and workspace below.

	= Product Control					
U	Product Instrument Terr	nplate				
			Save As As New Category	Single Scenario Comp	arison Sook Param. Pitcing Place Payoff King Place	TermSheet To PDF Tools
			Menu			
			Wor	kspace		

The workspace generates tabs at the bottom of the objects to which the user may apply any actions (Tab A), and tabs at the top to display the results of the completed action (Tab B).



Tab A	<ul> <li>Tabs of objects (individual or groups) to apply actions (E.g. For the Product Control icon, separate tabs are generated for each Product, Instrument, and Template.)</li> <li>Tabs labelled by the name of the Product, Instrument or Template that is open</li> <li>For the Curve Setting icon, separate tabs are generated for each group: Rate Curves, Volatility Curves, Coefficient Correlation Matrix, etc.</li> <li>Tabs labelled as: Curves (Rate Curves), Curves (Volatility Curves), Curves (Corr. Matrix)</li> </ul>
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Tab B	<ul> <li>Tabs of results of the completed action</li> <li>For each Tab A (object), one or more Tab B's (results) are generated (E.g. Applying the Product Control icon, tabs generated are: Term Sheet/Pricing 1, 2,/ Scenario Pricing 1, 2,/ Payoff Windows etc.)</li> <li>Applying the New or Open icon, the Term Sheet tab is generated (one tab only)</li> <li>Applying the Pricing Menu icon, pricing results tabs are generated (multiple tabs possible)</li> <li>Applying the Payoff Chart icon, the Payoff Chart tab is generated (one tab only)</li> </ul>
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# **Chapter 3. Product Control**

- The Product Control Application is used for product design, product registration, term sheet and payoff graph generation, as well as computation of fair value, sensitivity, scenario analyses, etc.
- Financial instruments are distinguished as a "Product" or "Instrument" within the Product Control Application.
  - For "Instruments", the user is able to design new instruments and apply them to pre-trade analyses.

[Instrument Categor	ies]	
Asset Group	Instrument Group	Payoff Pattern
	Caps/Floors	Standard, Asian, Barrier, Digital, Range, Standard Strategy
	Forwards	Forward Rate Agreement
	Notes	Vanilla Floating, Floater, Custom Floater
Interest Rate	NOLES	Accrual, Accrual Floater, Custom Accrual, Volatility, Combination
Interest Nate		Vanilla Swap, Basis Swap, Structured Swap, IR Swap
	Swaps	Currency Fixed Swap, Currency Vanilla Swap, Currency Basis Swap
		Currency Structured Swap, Currency Swap
	Swaptions	Vanilla
		Zero Coupon, Simple Coupon, Compounding Coupon
Fixed Income	Notes	Simple & Compounding Coupon, Compounding & Simple Coupon
Tixed Income	NOLES	Fixed Coupon, Fixed Coupon with Simple Grace Coupon
		Fixed Coupon with Compounding Grace Coupon
	Forwards	Cash, Standard, Asian, Barrier, Forward Start, Ratchet, Accrual
Foreign Exchange	Options	Standard, Asian, Barrier, Binary, Touch, Forward Start, Ladder,
	options	Lookback, Ratchet, Accrual, Accrual Binary
	Options	Standard, Asian, Barrier, Binary, Touch, Forward Start, Ladder,
Equity	options	Lookback, Ratchet, Accrual, Accrual Binary, Rainbow, Warrants
Equity	Notes	Star, Periodic Star, Dispersion, Options Combinations
	Swaps	Star, Periodic Star, Dispersion, Options Combinations
	Notes	Hybrid Floater, Hybrid Accrual, Hybrid Combinations
Hybrid	Notes	Hybrid Star, Hybrid IrStar, Hybrid Options Combinations
	Swaps	Hybrid Floater, Hybrid Accrual, Hybrid Combinations
	Swaps	Hybrid Star, Hybrid IrStar, Hybrid Options Combinations
Credit	Notes	Credit Fixed, Credit Floater
	Swaps	Credit Default Swap, Credit Linked Swap

- "Products" are standardized financial instruments and the user is able to apply them to pre/pro-trade analyses.
- The "Template" is used to input and register the specifications of financial instruments. (The user may also fix certain input fields to generate standardized templates to speed up future registrations. This practice also optimizes ease of use and minimizes errors in entering inputs.)

#### Product Control Application Menu

	Men	u	
Tab	Group	Menu	Description
		(3.1.1.1) New	Instrument New Registration
		(3.1.1.2) Open	• Instrument Open
	(2.1.1)	(3.1.1.3) Edit	• Instrument Edit
	(3.1.1)	(3.1.1.4) Save As	• Instrument Save As New Instrument
	Instrument	(3.1.1.5) Save As New Category	• Instrument Save As New Category
		(3.1.1.6) Delete	Instrument Delete
		(3.1.2.1) Single	Single Pricing
(3.1)	(3.1.2)	(3.1.2.2) Scenario	Scenario Pricing
Instrument	Pricing	(3.1.2.3) Comparison	Comparison Pricing
	5	(3.1.2) Decimal Place	Decimal Place
	(3.1.3) Payoff	(3.1.3.1) Payoff Graph	• Payoff Graph
	(3.1.4)	(3.1.4.1) Term Sheet to PDF	• Term Sheet to PDF
	Tools	(3.1.4.2) Term Sheet to DOC	• Term Sheet to M/S Word
		(3.2.1.1) New	Product New Registration
		(3.2.1.2) Open	Product Open
		Edit	Reference (3.1.1.3)
	(3.2.1)	(3.2.1.3) Correction	Product Correction
	Product	(3.2.1.4) Save As	Product Save As Registration
		(3.2.1.5) Save As New Category	• Product Save As New Category
		Delete	Reference (3.1.1.6)
(3.2)		Single	Reference (3.1.2.1)
Product		Scenario	Reference (3.1.2.2)
		Comparison	Reference (3.1.2.3)
	Pricing	(3.2.1.6) Book.Param. Pricing	Book Parameter Pricing
		Decimal Place	Reference (3.1.2)
	Payoff	Payoff Graph	Reference (3.1.3.1)
		Term Sheet to PDF	Reference (3.1.4.1)
	Tools	Term Sheet to DOC	Reference (3.1.4.2)
		(3.3.1.1) New	Template New Registration
		(3.3.1.2) Open	Template Open
(3.3)	(3.3.1)	Edit	Reference (3.1.1.3)
Template	Product	Save As	Reference (3.1.1.4)
		Save As New Category	Reference (3.1.1.5)

	Delete	Reference (3.1.1.6)
Payoff	Payoff Graph	Reference (3.1.3.1)
(2, 2, 2)	(3.3.2.1) Market Group	Market Group Registration
(3.3.2)	(3.3.2.2) Product Group	Product Group Registration
Tools	(3.3.2.3) Product Type	Product Type Registration
T  -	Term Sheet to PDF	Reference (3.1.4.1)
Tools	Term Sheet to DOC	Reference (3.1.4.2)

### 3.1 Instrument

The Instrument Menu is used for product design, registration, edit and delete functions.

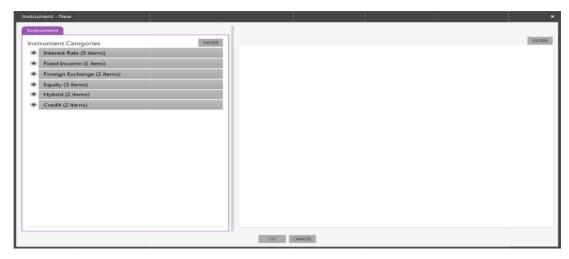
### 3.1.1 Instrument

■ [SSQ Task Panel] ▶ [Product Control] ▶ [Instrument]

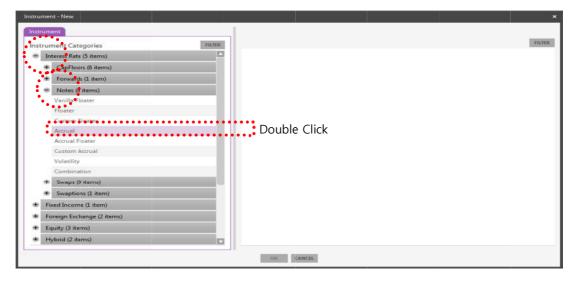


#### 3.1.1.1 New

- 1. Select product type.
  - Click the New icon to open the Instrument New pop-up window.



• From the drop down menu under Instrument Categories, select the desired asset group, instrument group and double click the payoff pattern of the new instrument.



- Once the template list appears on the right, there are two methods to register the instrument: 1) through New Blank (blank template) or 2) by an existing template.
  - 1) Select New Blank at the top of the list and click OK.

trur	ment Categories	FILTER	Instrumer			FIL
In	terest Rate (5 items)		ы		Owner	PØ.Sect
۰	CapFloors (6 items)			New Blank	0	Instrument
۰	Forwards (I item)			Callable RAccual (USLIB3m) SRAccual (KR10y-US10y) USD	Trader1(5ym1)	Template
	Notes (8 items)			RAccrual (US10y) USD Callable	Trader1(Sym1) Trader1(Sym1)	Template
	Vanilla Floater		11111	RAccrual (CD91d) Callable KRW	Trader1(Sym1)	Template
	Floater		22220	RAccrual (CD91d) NoCall KRW	Trader1(Sym1)	Template
	Custom Floater		100000	SRAccrual (KR10y-US10y) KRW	Trader1(Sym1)	Template
	Accrual				Trader1(Sym1)	Template
	Accrual Roater		417	DSRAccrual (KTB3y-KR3y, CD91d) KRW	Trader1(Sym1)	Template
	Custom Accrual		415	DRAccrual (CD91d, USLIB3m) KRW	Trader1(Sym1)	Template
	Volatility		413	DSRAccrual (EU20y-2y, CD91d) KRW	Trader1(Sym1)	Template
	Combination					
æ	Swaps () items)					
۰	Swaptions (1 item)					
Fi	xed Income (1 item)					
Fo	oreign Exchange (2 items)					
E	quity (3 items)					
-	ybrid (2 items)					

2) Select an existing template as desired from the list and click OK.

stru	iment Categories	FILTER	Instrumer	its		13
- 13	nterest Rate (5 items)		ld	Instrument	Owner	PD.Sect
	CapFloors (6 items)			New Blank	0	Instrument
	Forwards (1 item)			Callable RAccrual (USLIB3m)	Trader1(Sym1)	Template
- 6	Notes (8 items)			SRAccrual (KR10y-US10y) USD RAccrual (US10y) USD Callable	Trader1(Sym1) Trader1(Sym1)	Template
1	Vanilla Floater			Recordar (US10y) USD Callable Recordar (CD91d) Callable KRW	Trader1(Sym1)	Template
	Floater			RAccrual (CD91d) NoCall KRW	Trader1(Sym1)	Template
	Custom Floater			SRAccrual (KR10y-US10y) KRW	Trader1(Sym1)	Template
	Accrual			SRAccrual (GD91d-USLIB3m) KRW	Trader1(Sym1)	Template
	Accrual Roater			DSRAccrual (KTB3y-KR3y, CD91d) KRW	Trader1(Sym1)	Template
	Custom Accrual			DRAccrual (CD91d, USLIB3m) KRW	Trader1(Sym1)	Template
	Volatility			DSRAccrual (EU20y-2y, CD91d) KRW	Trader1(Sym1)	Template
	Combination					
9	Swaps () items)					
	Swaptions (1 item)					
6	Fixed Income (1 item)					
	oreign Exchange (2 items)					
•	Equity (3 items)					
• 10	Hybrid (2 items)					

- 2. Input the instrument details.
  - In the new form (shown below as Tab A), enter the basic information of the new instrument.
  - Click Generate to create additional forms (Tab B).

Notional 50 V 1000000 Potition Eng V AccualType Enge V AccualType Enge V AccualType Enge V Amortization Enge V Execution Enge V Period Enge V Period Enge V AccualType Enge V	Instrument - "Interest Rate:N		
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Period     Acrual/Type     Recentration     Condition     Recentration     Sector     Recentration     Recentration <td></td> <td></td> <td></td>			
AcrualType Reg  AcrualType AcruadType AcrualType AcrualType AcruadType			
Accual Type Base Sociology Food Comparison Compa	Period		
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Instrument     Instrument     rest     Notional   USD   Position     Long     Period   201605/07   Cancellation   Galaciele + Puttable     Notional     Sime Amount     Redemption     Nate     Sintching     Figger Switching     Floater     Cancellation			
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Amortization Same Amount Cancellation Callable + Puttable Redemption IV/A Cancellation Floater Cancellation Callable + Puttable	Instrument Notional Position	lotessAccruat test USD ▼ 1,000,000,000 Long ▼ 2015/05/07   ~ 2016/05/06	IR Note Period Accrual Amortization Cancellation Switching
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	Instrument Notional Position Period Accrual Type	IotesoAcoruat test USD V 1,000,000,000 Long V 2015/05/07 C 2016/05/06 C London London Fange V Same Amount	IR Note Period Accrual Amortization Cancellation Switching
	Instrument Notional Position Period Accrual Type Amortization Cancellation Redemption	IotessAcoruat test USD  1,000,000,000 Long 2015/05/07 2016/05/06 Canada Modified Following Range Same Amount Callable + Puttable 1//A	IR Note: Period. Amort2a1000 Catecellation Switcharg
	Instrument Notional Position Period Accrual Type Amortization Cancellation	IotessAcoruat test USD  1,000,000,000 Long 2015/05/07 2016/05/06 Canada Modified Following Range Same Amount Callable + Puttable 1//A	IR Notes Period Accrual Amortzanion Cubicallation Switching Suitching
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	Instrument Notional Position Period Accrual Type Amortization Cancellation Redemption	IotessAcoruat test USD  1,000,000,000 Long 2015/05/07 2016/05/06 Canada Modified Following Range Same Amount Callable + Puttable 1//A	IR Notes Period Accrual Amortzanion Cubicallation Switching Suitching
	Instrument Notional Position Period Accrual Type Amortization Cancellation Redemption	IotessAcoruat test USD  1,000,000,000 Long 2015/05/07 2016/05/06 Canada Modified Following Range Same Amount Callable + Puttable 1//A	IR Notes Period Accrual Amortzanion Cubicallation Switching Suitching
	Instrument Notional Position Period Accrual Type Amortization Cancellation Redemption	IotessAcoruat test USD  1,000,000,000 Long 2015/05/07 2016/05/06 Canada Modified Following Range Same Amount Callable + Puttable 1//A	IR Notes Period Accrual Amortzanion Cubicallation Switching Suitching
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• Please note: If Tab A values are revised after generating the additional forms, click GENERATE again to reflect the revision in all forms.

3. Select each tab and enter instrument details in all forms.

							IR Notes
Period							Period
Period	2014/05/12~2029/0	/12	Seoul		F	ollowing	Accrual
							Amortization
Coupon Frequency	Annually	- Adjusted	- 15 Coup	on Periods			Cancellation
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Coupon Period	Forward		14/05/12 🗂 Sam	e Period 🐨		CC	
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	3 2016/05	12 2017/05/1	2  2017/05/12	2017/05/12	673		
	4 2017/05	12 🛅 2018/05/1	2 🛅 2018/05/14	2018/05/14	623		
	5 2018/05	12 📺 2019/05/1	2 🛅 2019/05/13	2019/05/13	133		
	6 2019/05	12 📰 2020/05/1	2 🛅 2020/05/12	2020/05/12	100		
	7 2020/05	12 2021/05/1	2 🛅 2021/05/12	E 2021/05/12	63		
	8 2021/05	12 2022/05/1	2 🛅 2022/05/12	2022/05/12	E3		
	9 2022/05	12 2023/05/1	2 🛅 2023/05/12	2023/05/12	673		
	10 2023/05	12 2024/05/1	2 2024/05/13	2024/05/13	-		
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	12 2025/05	12 111 2026/05/1	2 FT1 2026/05/12	ITT 2026/05/12	m		
	13 2026/05	12 🛅 2027/05/1	2 🛅 2027/05/12	2027/05/12	623		
	14 2027/05	12 🗂 2028/05/1	2 🛅 2028/05/12	2028/05/12	123		
	15 2028/05	12 💼 2029/05/1	4 🛅 2029/05/14	2029/05/14	03		
						APPLY	

4. Click SAVE to view the term sheet of the new instrument.

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reet			
Ir Notes Term	s and Condit	ions	
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for SRAccrual	(KRI0y-USI	Jy) USD	
nterest Rate::Notes::Accrual		829	
Party A	Burrier - Counter Darts D		
	Buyer : Counter Party P	sition	
Party B	Seller : My Position		
n	Third		
Position	Short		
	1100 10 000		
Notional Amount	USD 10,000		
Effective Date	2014/05/12		
Expiry Date	2029/65/14		
Expiry Date		nt occurs, the relevant Event Date shall be the Expiry Date.	
Buchman Para Committee	Seoul, Following	it occurs, the relevant event date shall be the expiry date.	
Business Day Conventions	Sood, Following		
Cancellation Options	Party II has the right to	cancel this transaction at the 100.0000% price without additional cost on any	
cancentation opposite	date below the Cancella	ion Notification Term.	
	If the right to cancel the occurred and this trans	transaction is exercised, the Early Redemption Event is deemed to have ction will be terminated.	
Early Termination Period	Coupon Frequency, sta	ting from and including 2015/05/12 to 2028/05/12 subject to a 10 Business	
	Days Prior notification		
	Calculation Period	Cancellation Notification Term 2015/04/24 ~ 2015/05/12	
	3	2013/04/27 ~ 2015/05/12 2016/04/27 ~ 2016/05/12	
	3	2017/04/25 ~ 2017/05/12	
	4	2018/04/27 ~ 2018/05/14	
	5	2019/04/26 ~ 2019/05/13	
	6	2020/04/23 ~ 2020/05/12	
	7	2021/04/27 ~ 2021/05/12	
	8	2022/04/27 ~ 2022/05/12	
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	10	2024/04/26 ~ 2024/05/13	

#### 3.1.1.2 Open

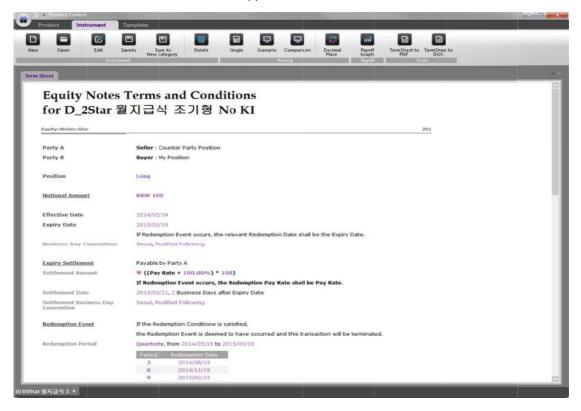
- 1. To view a pre-registered instrument:
  - Click the Open icon to open the Instrument Open pop-up window.
  - There are two methods to open a product: 1) by selecting the product from its category list and 2) by running a Quick search.
    - 1) From the Instrument tab, select through the applicable instrument categories and [double-] click the desired instrument from the list on the right.

trument Categories	FILTER	ots		17	FILT
International Contractory of Contractory	id Id	lostument	Owner	PD.Sect	
Interest Rate (5 items)	201	D_25tar 뭘지급식 조기형 No Ki	(@system)	Instrument	_
Fixed Income (1 item)	200	Protective Put 25tar	(@system)	Instrument	
Foreign (xchange (2 items)	176	D_StepDown 별지급식	(@system)	Instrument	
Equity (3 items)	175	D_Notional zero payment_star range	(@system)	Instrument	
<ul> <li>Optiens (14 items)</li> </ul>	169	D_Knockout Call 2Gearing (MC)	(@system)	Instrument	
- Notes (6 items)	168	D_3Star 퀄지급식 일시상황 조기령 with KI	(@system)	Instrument	
ALL 3	167	D_Put (MC)	(@system)	Instrument	
Basker	166	D_양방향 Knockout(MC)	(@system)	Instrument	
Star	161	D_Range Digital(MC)	(@system)	Instrument	
Periodic Star	160	D_Up&Out Call(MC)	(@system)	Instrument	
Dispersion	158	D_Future (MC)	(@system)	Instrument	
Options Combination	157	D_양방황 Digital(MC)	(@system)	Instrument	
+ Swaps (5 items)	156	D_Call (MC)	(@system)	Instrument	
Hybrid (2 items)	155	D_Bull Spread(MC)	(@system)	Instrument	
Credit (2 items)	154	D_2Star UP&Out Call	(@system)	Instrument	
	153	T_2Star Down8in	(@system)	Instrument	
	151	T_2Star Reverse Convertible	(@system)	Instrument	
	150	T_부분보장 2Star Up8Out Call(LeveragedBonus)	(@system)	Instrument	
	149	T. M M H XI 25rar Shonring11n	(menetam)	Instrument	

2) From the Quick tab, enter a keyword included in the instrument name and click SEARCH. Double-click on the desired product from the search results that appear on the right.

strument Quick	Instrumen	115		FILTE
"검색대상 : Instrument - Name	ld	Instrument	Owner	PD.Sect
•••		D_Moving Barrier call	(@system)	Instrument
	150	T. 부분보장 2Star Up 2Dur Call(LeveragedBonus)	(@system)	Instrument
	154	D_25tar UP&Out Call	(@system)	Instrument
	156	D_Call (MC)	(@system)	Instrument
	160	D_Up&Out Call(MC)	(@system)	Instrument
	169	D_Knockout Call 2Gearing (MC)	(@system)	Instrument

2. The term sheet of the selected instrument appears as below.



### 3.1.1.3 Edit

- 1. Edit details of a pre-registered instrument.
  - The Edit icon is enabled for the instrument that is opened in the workspace.

		ment - Open			
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Party A     Buyer : Counter Party Position       Party B     Seller : My Position       Position     Short       Notional Amount     USD 10,000       Effective Date     2014/05/12       Expiry Date     2029/05/14       If Early Termination Event occurs, the relevant Event Date shall be the Expiry Date.       Business Day Conventions     Seoud, Following       Cancellation Options     Party B has the right to cancel this transaction at the 100.0000% price without additional cost on any date below the Cancellation Notification Term.       If the right to cancel this transaction is exercised, the Early Redemption Event is deemed to have occurred and this transaction will be terminated.       Early Termination Period     Cancell-Shon MotificationTerm.       1     2015/04/24 + 2015/05/12 to 2028/05/12 subject to a 10 Business       2     2016/04/27 + 2016/05/12       2     2016/04/27 + 2016/05/12       3     2017/04/27 + 2016/05/12	Party A       Buyer : Counter Party Position         Party B       Seller : My Position         Position       Short         Notional Amount       USD 10,000         Effective Date       2014/03/12         Expiry Date       2029/05/14         df Early Termination Event occurs, the relevant Event Date shall be the Expiry Date.         Business Day Conventions       Secul, Following         Cancediation Options       Party B has the right to cancel this transaction at the 100.0000% price without additional cost on any date below the Cancellation Notification Term.         If the right to cancel this transaction is exercised, the Early Redemption Event is deemed to have. occurred and this transaction will be terminated.         Early Termination Period       Costool Sci (2000) Costo (2000) (		•		
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	8 2022/04/27 ~ 2022/05/12 9 2023/04/26 ~ 2023/05/12	V Open Edit Sa Instance Sheet Instance Ins	Every Sea As New Category     Delete     Delete     Sea As     Sea     Sea As     Sea As     Sea As     Sea As     Sea As     Sea As	Single Scenario Comparison Decimal Piece 2000 Pitcop 2000 USD s, the relevant Event Date shall be the Explry Date. his transaction at the 100.0000% price without add tabion is exercised, the Early Redemption Event is dee be terminated. and including 2015/05/12 to 2028/05/12 subject Collation Motification Term 15/04/24 ~ 2015/05/12 16/04/27 ~ 2015/05/12 16/04/27 ~ 2018/05/12 18/04/27 ~ 2018/05/12 18/04/27 ~ 2018/05/14 18/04/27 ~ 2018/05/14	Terminet to Terminet to DOC
and a strip and the strip and the strip and the	9 2023/04/26 ~ 2023/05/12	V Open Edit Sa Instance Sheet Instance Ins	Every Category     Delete     Theor Category     Delete     Theor Category     Delete     Theor Category     Delete     S and Conditions     (KR10y-US10y) I      Buyer : Counter Party Position     Seller : My Position     Short     USD 10,000 2014/05/12 2029/05/14     Tearly Termination Event socure     Socul, Following  Party B has the right to cancel at     ata below the Cancellation Notif     If thery Formination Event socure     Socul, Following  Party B has the right to cancel at     ata below the Cancellation Notif     If the right to cancel this transition     Coupon Frequency, starting from     Days Prior notification     Coupon Frequency, starting from     Days Prior notification     Coupon Frequency, starting from     Days Prior notification	s, the relevant Event Date shall be the Expiry Date. his transaction at the 100.0000% price without add ication ferm. tion is exercised, the Early Redemption Event is deel be terminated. and including 20.15/05/12 to 2028/05/12 subject collabor Notification Term 15/04/24 ~ 20.13/05/12 18/04/27 ~ 20.13/05/12 18/04/27 ~ 20.13/05/14 19/04/26 ~ 20.19/05/12	Terminate to Terminate to DOC
B 2022/04/27 ~ 2022/05/12	10 2024/04/26 ~ 2024/05/13	V Open Edit Sa Instance Sheet Instance Ins	Event See and Conditions     Event Category     Event     Event Category     Event     Event Category     Event	Single Scenario Comparison Decimal Piece 2000 Pince 2000 USD	Terminet to Terminet to DOC
9 2023/04/26 ~ 2023/05/12		V Open Edit Sa Instance Sheet Instance Ins	Even See and Conditions     See and Conditions     (KR10y-US10y) I      Buyer : Counter Party Position     Seller : My Position     Short     USD 10,000 2014/05/12 2023/05/14 If Early Termination Event secure     Secure And the transaction with     Short     Development of the Cancel the transaction     Short     Secure And the transaction with     Secure And the transaction     Development of the Cancel the transaction     Short     Secure And the transaction     Short     Secure And the transaction     Secure And t	s, the relevant Event Date shall be the Expiry Date. his transaction at the 100.0000% price without add faction is exercised, the Early Redemption Event is dee be terminated. and including 2015/05/12 to 2028/05/12 subject collabor Notification Term 15/04/24 ~ 2015/05/12 10/04/27 ~ 2015/05/12 10/04/27 ~ 2013/05/13 20/04/23 ~ 2013/05/13 20/04/23 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2021/05/12 20/04/27 ~ 2022	Terminate to Terminate to DOC
		V Open Edit Sa Instance Sheet Instance Ins	Event See and Conditions     Event Category     Event     Event Category     Event     Event Category     Event	Single Scenario Comparison Decimal Piece 2000 Pince 2000 USD	Terminet to Terminet to DOC
		Edit Same Sheet Insh	Every Category     Delete     Theor Category     Delete     San Ad Conditions     (KR10y-US10y) I      Buyer : Counter Party Position     Seller : My Position     Seller : My Position     Short     USD 10,000 2014/05/12 2029/05/14 If Early Termination Event occurr     Saoud, Following  Party B has the right to caecel to     data below the Cancellation Notif     the right to caecel the transactor with     Coupon Freenellation Notif     the right to caecel to     data below the Cancellation Notif     the right to caecel to     data below the Cancellation Notif     the right to caecel to     data below the Cancellation Notif     the right to caecel to     data below the Cancellation Notif     the right caecellation	s, the relevant Event Date shall be the Expiry Date.	Terminet to Terminet to DOC

• Click the Edit icon to open the input form in a pop-up window and enter or revise the desired inputs. Click SAVE upon completion.

Instrument - "Interest Rate:"	lotes:Accrual*					
					IR Notes	
Instrument	SRAccrual (KR10y-US10y) USD		829		Period	
					Accruat	
Notional	USD 🐨	10,000			Cancellati	00))
Position	Short 🐨					
Period	2014/05/12 🛅 ~ 2029/05	5/12 📺				
	Seoul	Q. Following	Ŧ			
Accrual Type	Range	. w				
Amortization	N/A	w				
Cancellation	Callable	· •				
Redemption	N/A	Y				
Switching	N/A	<b>v</b>	~	GENERATE		
				GENERATE	· .	
		SAVE	ANCEL			

2. The term sheet of the revised instrument appears as below.

and the second sec	femplate	
	IVEAs Save As De	velete Single Scenario Comparison Decimal TermSheet to TermSheet to
- Internet	New Category	Place PDF DOC
heet		
Ir Notes Term	s and Condit	tions
for SRAccrual	(KR10v-US1	10v) USD
	()	
Interest Rate::Notes::Accrual		829
Party A	Buyer : Counter Party F	Position
		F Gandra
Party B	Seller : My Position	
Position	Short	
Notional Amount	USD 10,000	
Effective Date	2014/05/12	
Expiry Date	2029/05/14	
Expiry Date		
		vent occurs, the relevant Event Date shall be the Expiry Date.
Business Day Conventions	Seoul, Following	
Cancellation Options	Party 8 has the right to date below the Cancella	to cancel this transaction at the 100.0000% price without additional cost on any
		his transaction is exercised, the Early Redemption Event is deemed to have
	occurred and this trans	saction will be terminated.
Early Termination Period	Coupon Frequency, sta Days Prior notification	tarting from and including 2015/05/12 to 2028/05/12 subject to a 10 Business
	Calculation Period	Cancellation Notification Term
	1	2015/04/24 ~ 2015/05/12
	2	2010/04/27 ~ 2010/03/12
	3	2017/04/25 ~ 2017/05/12
	4	2018/04/27 ~ 2018/05/14
	5	2019/04/26 ~ 2019/05/13
	6	2020/04/23 ~ 2020/05/12
	7	2021/04/27 ~ 2021/05/12
	8	2022/04/27 ~ 2022/05/12
	9	2023/04/26 ~ 2023/05/12

#### 3.1.1.4 Save As New

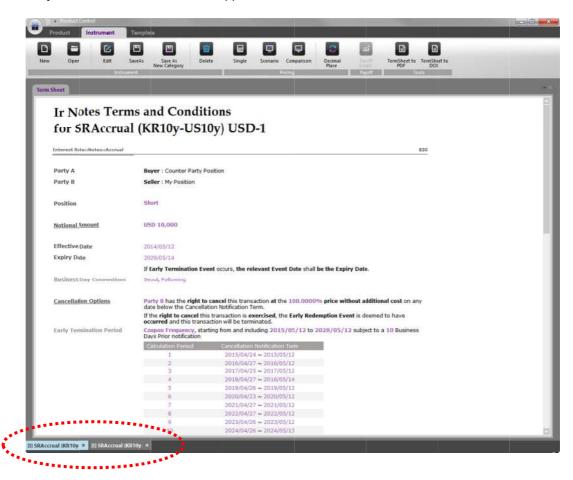
- 1. Input the details of the instrument to be newly saved.
  - The Save As icon is enabled for the instrument that is opened in the workspace.

roduct. Instrument	emplate		
	New Category	iete Single Scenario Comparison Decimal Place Provide Terrethypet to Post	Tem:heet to DOC
heet			
Ir Notes Term	s and Condi	tions	
for SRAccrual	(KR10y-US)	loy) USD	
	· · · · · · · · · · · · · · · · · · ·		
Interest katenNotesnAccrual			829
Party A	Buyer : Counter Party	Position	
Party B	Seller : My Position		
Position	Short		
Notional Amount	USD 10,000		
Notional Anisana	050 10,000		
	100000000000000000000000000000000000000		
Effective Date	2014/05/12		
Expiry Date	2029/05/14		
	If Early Termination E	vent occurs, the relevant Event Date shall be the Expiry Date.	
Business Day Conventions	Seoul, Following		
Cancellation Options	date below the Cancel		ny
	If the right to cancel the	his transaction is exercised, the Early Redemption Event is deemed to have saction will be terminated.	
Early Termination Period		arting from and including 2015/05/12 to 2028/05/12 subject to a 10 Busines	5
	Calculation Period	Cancellation Notification Term	
	1	2015/04/24 ~ 2015/05/12	
	2	2010/04/27 ~ 2010/03/12	
	3	2017/04/25 ~ 2017/05/12	
	4	2018/04/27 ~ 2018/05/14 2019/04/26 ~ 2019/05/13	
	6	2019/04/26 ~ 2019/05/13 2020/04/23 ~ 2020/05/12	
	7	2021/04/27 ~ 2021/05/12	
	8	2022/04/27 ~ 2022/05/12	
	9	2023/04/26 ~ 2023/05/12	
	9	EQTUINATO 🐱 TOTOLOGITE	

• Click the Save As icon and open the Save As New Instrument pop-up window. Make desired inputs or revisions and click SAVE.

= Product C	ontro		81.012	pression and	Manager St.					The second	-	0	193.
Product	Instrument	Templa	tio										
•	2	2	2	8			-	3	111				
New Open	Edit	SaveAs	Save As	Delete	Single	Scenario	Comparison	Decimal	Page11.	TermSheet to			
	SaveAs New In	strument – Tri	erest Rate:No	tes:Accrual*								*	
arm Shoet													
	Instrume	int.		SRAccrual (KR10y-	11510-01150						100	1	
Ir No				Contraction ( March)	03101/030							- 6	
for S				USD	w	10,000						1	
101 5	Position			Short	w.								
InterestRat	2000												
	Period				1 ~ 2029/05/	12 E							
Party A				Seoul		1 46 PO	nowing	Ŧ					
Party E	Accrual1			Range									
Position	Accruary	Abe		Hange		Ŧ							
520/03/03/20***	Amortizi	tion		N/A		*							
Notional A				Callable		w							
	Redemp			N/A									
Effective (	20000000	g		N/A		Ψ		×			_ 8		
Expiry Dat										GENE	RATE		
Business f													
Cancellatie													
Early Tern													
1.1													
						-	-	10			_		
							CANCEL	<u>11</u>					
			6			3 ~ 2020/0 7 ~ 2021/0							
			8		2022/04/2	7~2022/0	5/12						
			9			6 ~ 2023/0 6 ~ 2024/0							
		_	10		2024/04/2			-					_

2. The newly saved instrument term sheet appears on a new tab as shown below.



#### 3.1.1.5 Save As New Category

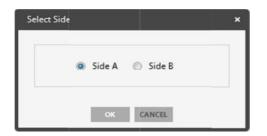
- 1. Set a Set a new category for an instrument.
  - The Save As New Category icon is enabled for the instrument that is opened in the workspace.
  - Click the Save As New Category icon and open the Save As New Category pop-up window.

Open Edit Sa	veAs Save As New Catego	ny Delete Single Scenario Comparison	Place	TermSheet to TermSheet to PDF DOC	
heat		Pricing	Panelt	IValt	
Ir Notes Term	s and Co	onditions			
for SR Accrual	(KR10v	-US10y) USD-1			
IOI SIGACCIUM	(IRITIO)	-0510y) 050-1			
Internat Rater/Notes/(Accrual				830	
		Save As (New Categories) - Select Categories	3	ĸ	
Party A	Buyer : Co	ource Instrument Interest RaterNotes:Accrual			
Party B	College Mark	830 SRAccrual (KR10y-U510y) USD- lestination Instrument	1		
		Instrument			
Position	Short	to a second construction	FILTER	1	
		Instrument Categories	Inclos		
Notional Amount	USD 10,00				
		<ul> <li>Swaps (9 kems)</li> </ul>			
Effective Date	2014/05/13	Basis Swap			
Expiry Date	2029/05/14	IR Swap	_		
and the second	If Early Ter	Structured Swiip			
Business Day Conventions	Seoul, Polic	Vanilla Swap			
outinities out conventions		Currency Basis Swap			
Cancellation Options	Party B ha	Currency Fixed Swap		ost on any	
Cancenation Options	date below	Currency Swap		ost on any	
	If the right occurred a	Currency Structured Swap		tave	
Early Termination Period	Coupon Fre	Currency Vanilla Swap		Business	
	Days Prior I	CONTRACTOR OF A			
	Calculation	OK CANCEL			
	2	2016/04/27 ~ 2016/05/12			
	3	2017/04/25 ~ 2017/05/12			
	4	2016/04/27 ~ 2018/05/14			
	5	2019/04/26 ~ 2019/05/13			
	6	2020/04/23 ~ 2020/05/12 2021/04/27 ~ 2021/05/12			
	8	2021/04/27 ~ 2021/05/12 2022/04/27 ~ 2022/05/12			
	9	2023/04/26 ~ 2023/05/12			

- Of the Instrument Groups, the user may change the product from a Note to a Swap or from a Swap to a Note.
- To change from a Note to a Swap, select the desired payoff pattern from the list as shown.

burce Instrument Interest RatesNotessAccrual 830 SRAcrual (KR10y-US10y) USD-1 Interest RatesSwaps3R Swap Instrument	
Instrument Categories	FILTER
😑 Interest Fate (1 item)	A
<ul> <li>Swars (9 items)</li> </ul>	
Basis Śwap	
IR Swzp	
Structured Swap	
Wanilly Swap	
Currency Basis Swap	
Currency Fixed Swap	
Currency Swap	
Currency Structured Swap	
Currency Vanilla Swap	

• To change from a Swap to a Note, select from Side A or Side B to be applied to the Note.



- 2. Input the details of the instrument to be newly saved.
  - Once the new category is selected, the pop-up window for inputting product details is opened.
  - Revise inputs and click SAVE.
- 3. The newly saved instrument term sheet appears on a new tab as shown below.

### 3.1.1.6 Delete

- 1. Delete an instrument.
  - The Delete icon is enabled for the instrument that is opened in the workspace.
  - Click the Delete icon to delete the instrument that is currently open.

		tete Single Scenario Comparison Decimal Place Port TemSheet to Tem	>
neet			
Ir Notes Term	and Condi	tions	
	o min oomm		
for SRAccrual	(KR10v-US1	(0v) USD-1	
or or uncer and	(inito) ou	())	
nterest Rate::Notes::Accrual		830	
Party A	Buyer : Counter Party	Position	
Party B	Seller : My Position	Constru	
Fairy D	Seller 1 My Posicion		
2002200	1000		
Position	Short		
Notional Amount	USD 10,000		
Effective Date	2014/05/12		
Expiry Date	2029/05/14		
		vent occurs, the relevant Event Date shall be the Expiry Date.	
Business Day Conventions	Seoul, Following	ten outos, me relevant even bate shar be the capity bute.	
presidents out conventions	Sever Following		
Cancellation Options	date below the Cancel	o cancel this transaction at the 100.0000% price without additional cost on any ation Notification Term.	
		nis transaction is exercised, the Early Redemption Event is deemed to have	
Early Termination Period		saction will be terminated. arting from and including 2015/05/12 to 2028/05/12 subject to a 10 Business	
carry reconnector renou	Days Prior notification	indig nom and including 2015/05/12 to 2020/05/12 subject to a 10 business	
	Calculation Period	Cancellation Notification Term	
	1	2015/04/24 ~ 2015/05/12	
	2	2016/04/27 ~ 2016/05/12	
	3	2017/04/25 ~ 2017/05/12	
	4	2018/04/27 ~ 2018/05/14	
	5	2019/04/26 ~ 2019/05/13	
	6	2020/04/23 ~ 2020/05/12	
	7	2021/04/27 ~ 2021/05/12	
	8	2022/04/27 ~ 2022/05/12	
	9	2023/04/26 ~ 2023/05/12	
	10	2024/04/26 ~ 2024/05/13	

• In the pop-up alert, confirm the name of the product to be deleted and click OK to delete permanently.

Information				×
		$\bigcirc$		
		$\bigcirc$		
		•		
Do	you want to delete	instrument ([P] IR	wap 10007)	
	OK	CANCEL		

### 3.1.2 Pricing

The Pricing Menu is used for computations and running simulations on fair value and indicators including sensitivity, IRR, YTM, Par Swap Rate, etc.

Single	• Fair value, sensitivity, indicators (IRR, Par Rate, etc.)
Scenario	• Comparison pricing applied to set scenarios (price/IR/FX/Index/volatility etc.)
Comparison	<ul> <li>Comparison pricing applied to parameters (price/IR/FX/Index/volatility/date/model/parameter sets etc.)</li> </ul>

- The Decimal Place ON/OFF icon allows the user to view results with all decimal places (ON) or rounded to set decimal places (OFF). The set decimal places are 4 decimals for percentages, 6 decimals for prices, and 2 decimals for sums.
  - 1. Decimal Place ON

			126.1018 %	12,610.18								
			124.6547 % 🙀	12,465.47	Fair Value (C	apital CF)	87.8316 % ₩	8,783.16	Par Swi	sp Pate	8.2395 %	
		1	1.4471 %	144,71	Fair Value (In	terest CF)	38.2702 % ₩	3,827.02	Internal Rat	e of Return	2.6396 %	
CashFlows												
CF Date		Start Date	End Date	₽V(₩)	CashFlow(₩)	IRate	Interest(₩)	Accrual(₩)	Capital(₩)	DF	DRate	Notional(\)
2015/07/01	1	2014/07/01	2015/07/01	1,260.45	1,288.3	12.883 %	1,288.3	144,71	0	0.978386	2.4616 %	10,000
2016/07/01	2	2015/07/01	2016/07/01	823.24	862.53	8.6135 %	862.53	0	0	0.954445	2,4664 %	10,000
2017/07/03	3	2016/07/01	2017/07/03	662,15	71251	7.096 %	712.51	0	0	0.929315	2.5314 %	10,000
2018/07/02	4	2017/07/03	2018/07/02	566.53	626.66	6.2838 %	626.66	0	0	0.904036	2.5914 %	10,000
2019/07/01	5	2018/07/02	2019/07/01	9,297.81	10,585.96	5.8757 %	585.96	0	10,000	0.878316	2.6531 %	10,000

2. Decimal Place OFF

F			126.101803908458	% ₩ 12,610.18039	906458							
0			124.654677028706	% ₩ 12,465.46770	028706	air Value (Capital CF)	87.8315933554	i388 % ₩ 8,783.1	5933554388	Par Swap	Rate 8.	23947049145322 %
Aco			1,44712687975154	% ₩ 144,7126879	975154		38.2702105530	1215% ₩ 3,827.0	2105530215	Internal Rate (	of Return	2.6396484375 %
CashFlows												
CF Date	Period			PV(₩)								Notional(\)
2015/07/01	1	2014/07/01	2015/07/01	1,260.45065469735	1,288.29588075442	12.8829588075442 %	1,288.29588075442	144.712687975154	ų – į	0 0.976386/00861155	2.4616098954223	1 % 10,000
2016/07/01	2	2015/07/01	2016/07/01	823.240036460235	862.533140354286	8.61346765589198 %	862.533140354286	(	)	0 0.954444528499079	2,466434774615	4 % 10,000
2017/07/03	3	2016/07/01	2017/07/03	662.149459693375	712.513215065787	7.09602352805606 %	712513215065787	(	)	0 0.929315338568487	2.5314203455267	4 % 10,000
2018/07/02	4	2017/07/03	2018/07/02	566.525808098216	626.662810954489	6.28384412083486 %	626.662810954489	(	)	0 0.904036 07129674	2.5913710009476	4 % 10,000
2019/07/01	5	2018/07/02	2019/07/01	9,297.81443189662	10,585.9566890359	5.87566460159628 %	585.956689035902	(	) 10,00	0 0.878315933554384	2.653129112387	3 % 10,000
								1				

#### 3.1.2.1 Single Pricing

- 1. Input pricing conditions and run single pricing.
  - Click the Single Pricing icon and open the Singe Pricing pop-up window. The pricing is applied on the instrument that is currently open.
  - Input the desired conditions and click OK.

Single Pricing			×
Model	Black : MC	•	
Greeks	N/A	Ŧ	
Parameter Set			٩
Calc.Date	2014/02/24 🛅		
Market Ref.Date	2014/02/24 👘		
		OK CANCEL	

Model	<ul> <li>Select from the drop-down list of models provided The list is automatically filtered according to compatibility with the open product.</li> </ul>
Greeks	<ul> <li>Select sensitivity method from the drop-down list provided</li> <li>The list is automatically filtered according to compatibility with the product. (Please see the table of Models and Greeks below).</li> <li>Select N/A to exclude sensitivity calculations</li> </ul>
Parameter Set	<ul> <li>Select Pricing Parameters managed by the Parameter Setting Application</li> </ul>
Calc. Date	Date of the calculation.
Market Ref. Date	Reference date of the market data applied in the calculation

#### [Models and Greeks]

Product Group	Model	Greeks			
	Forecast	Differential Greeks, Effective Greeks(1234)			
Interest Rate	Black	Differential Greeks			
	HW, BDT	Effective Greeks(1234)			
	Discount	Differential Greeks, Effective Greeks(1234)			
Fixed Income	Forecast	Differential Greeks, Effective Greeks(1234)			
	HW, BDT	Effective Greeks(①②③④)			
Foreign Exchange	Black	Differential Greeks, Effective Greeks			
Equity	Black	Differential Greeks, Effective Greeks			
Hybrid	Black, HW/BDT	Effective Greeks(1234)			
Credit	Gaussian, HW/BDT	Effective Greeks(1234)			

- IR/FI Effective Greeks
  - Effective Greeks: Upon computation of the Delta/Gamma, sensitivity calculated by Interest Rate parameter type (Spot/YTM).
  - Effective Greeks (Spot Delta): Upon computation of the Delta/Gamma, sensitivity calculated after all Interest Rate parameter types (Spot/YTM) are converted to Spots.
  - Effective Greeks (Accumulation Delta): Identical computation as (1) with accumulation accrual delta calculation in addition.
  - Effective Greeks (Spot: Accumulation Delta): Identical computation as (2) with accumulation delta calculation in addition.
- IR/FI Differential Greeks : Duration, Convexity, Modified Duration, Basis Point
- IR/FI Effective Greeks : Delta, Gamma, Vega, Theta
- IR/FI (2) Effective Greeks : Delta, Gamma, Theta (Forecast, Discount Model)
- EQ Differential/Effective Greeks : Delta, Gamma, Vega, Theta, Rho
- FX Differential/Effective Greeks : Spot Delta, Forward Delta, Gamma, Vega, Theta, Rho, Phi
- HB Effective Greeks : Delta, Gamma, Vega, Theta, Rho
- CR Effective Greeks : Delta (Rate, Credit Spread), Theta
- CR (2) Effective Greeks : IR Delta, IR Gamma, IR Vega, Theta (CLS)

- 2. Confirm the pricing results.
  - Depending on the product and model, pricing computations may take up to several minutes.
  - Results appear as shown below.

Oper	Edit	SaveAs	Save As New Category	Delete	Single Scenar	io Comparison	Decimal Place	Payoff Graph	TermSheet to	TermSteet to DOC	
		istrument				Pricing		Payntt	100	n in the second s	_
ng 1 Term She	set										
Values	Care Value A	er Owiers)	All united Continue	Value(W) Pari5	nan Data 100	-					
97.5221 %	9.75		1.797 %	179.7	0.9373 % 2.4643 %						
Value & Sensitiv		S11				2					
Total	~		100								
		air Valuettei	Toir Value(W)	Option Valuetia	Conion Value (W)	1					
Touch	0.07 %	0.067 %	6.7	0.96	C	1000 1000					
No Touch R1	56.33 %	53.9224 %	5,392.24	0.96	c	ř.					
No Touci R2	43.6 %	43.5334 %	4,353.34	1,797 %	179,7	6					
ELSE	0.96	0.96	0	0.99	0	ř.					
Parameters < Pa	rameter No	1 >									
Parameter	12	Rick Factor	Value		Parameter Cos	stion Rule	1	Paramete	Group		
EQ Price	USD De	illar index	61.466	Last Price							
Volatility	USD De	illar Index	43957 %	Historical Volatility	1Y Ref.		S	itatistics Volatii	ty Parameters		
Dividend	USD Do	illar Index		11/A							
Rate	USD In	WHIST.	0.6549 %	Composite Rate=U	SD USDCC_IRS_PREI	L_MID_pm4	i i	Esk Free Rate C	ieves.		
Rate				Rate Curve=USD_U	BOR_BBA / Linear II	nterpolation					
Rate					S_PREB_MID_pmi4.)						
Rate	KRW in	terest.	2,4643 %	Composite Rate=Ki			E	Discount Rate C	urves		
Rate					D_KOF / Linear Inte						
Rate					S_PREB_MID (YTM						
Model				Simulation County	5,000 / Fixed Numb	er Seed / Sampling		Hack : Monte Ci			
Model				Standard Error					rip Simulation		
Fx VolatilityQuar				Historical Volatility	TY Ref.		1	itatistics Volatil	ty Parameters		
	into) Dollar I	ndex & [1630] *	08W/USD 0.128156								
CalcDate				2014/06/11							
Ref.Base.Date				Market Data, 2014/	08/11						
											Calculation Time : 2015/05/22

Results	Explanation	Related Product Category
Values	• Fair value and other details.	All
Values Per Series	• Fair value and other details by FX Series	FX
Swap Values	<ul> <li>Underlying asset of Swaption</li> <li>Swap fair value and other details</li> </ul>	IR: Swaption
Values & Sensitivities Details Per Redemption & Coupon Periods	• Fair value and Delta/Gamma sensitivity calculations by redemption and coupon periods	eq, hb
Value & Sensitivities Details On Expiry Date	• Fair value and Delta/Gamma sensitivity calculations by profit conditions upon maturity.	eq, hb
Values & Sensitivities Detail for Combination Options	<ul> <li>Fair value and Delta/Gamma sensitivity calculations by product composition options</li> </ul>	eq, hb

Performance Per Fixing Periods	• Details by fixed periods of underlying assets	EQ
Sensitivities	Delta/Gamma sensitivity calculations	All
Sensitivities (Duration/Convexity)	<ul> <li>Duration/Convexity sensitivity calculations</li> </ul>	IR, FI
Sensitivities Per Cap/Floors Let	Cap/Floors sensitivity calculations	IR:Caps/Floors
Sensitivities Per Series	• Delta/Gamma sensitivity calculations by FX series	FX
Cash Flows	• Cash flow by interest rates	IR, FI, HB, CR
Cash Flows (Pay, Receive)	• Cash flow by Pay/Receive and by interest rates	IR, FI, HB, CR
Parameters	<ul> <li>Information on parameters and model applied to the computation</li> </ul>	All

#### 3.1.2.2 Scenario Pricing

- 1. Input conditions and run scenario pricing.
  - Click the Scenario icon and open the Scenario Pricing pop-up window. The pricing is applied on the instrument that is currently open.
  - Input the desired conditions and click OK.

Scenario Pricing	
Model	Forecast : Tree
Greeks	Effective Greeks 💌 🗹 Delta/Gamma 🗹 Vega 🗹 Theta
Parameter Set	Parameter No1 Q. 3
Calc.Date	2015/05/29
Market Ref.Date	2015/05/29
Scenario	Rate Curve Parallel Scenario
Risk Factor 🔘	Ccy Risk Factor
	KRW KR_IRS_10Y USD US_IRS_10Y
Base Value	Parameter Value
Direction	UP
Count	20 per direction
Interval Value	5 bp
	OK CANCEL

Model		
Greeks		
Parameter Set	Same as the information provided in the Single Pricing section     above.	
Calc. Date	above.	
Market Ref.Date		
Scenario	Selection of market parameter scenario from those applicable	
Scenano	according to product type. (Please see the table of scenarios below).	
	• Factors for which to apply selected scenario. (May not be available	
Risk Factor	depending on the selected scenario. Please see the table of	
	scenarios below).	
Base Value	Selection of the scenario base price value: parameter value or	
	manually inputted by the user.	
Direction	Selection of the scenario direction: UP, DOWN, UP/DOWN.	
Count	Number of computations by direction.	
Interval Value	• Inputting of the interval value applied to the scenario.	

% The above Scenario Pricing input window shows a base value set to a parameter value of the S&P200 to compute the prices for scenarios in which the parameter value changes by + 1%, + 2%, + 3%, +4%, + 5%.

Scenario	Risk Factors	Related Product Category
Rate Curve Parallel Scenario Rate Curve Scenario	Rate Index (Underlying) Rate for Currency Pair Primary Currency Rate for Currency Pair Secondary Currency HW Calibration Rate Discount Rate	IR, FI, FX, CR, HB
Volatility Scenario Volatility Curve Parallel Scenario Volatility Curve Scenario	HW Volatility	IR, FI, FX, CR, HB
Yield Scenario Bond Price Scenario	N/A	FI
Stock Price Scenario Stock Volatility Scenario	Underlying	EQ, FI, HB
Rate Scenario	Risk Free Rate for Underlying Discount Rate	EQ, HB
FX Rate Scenario FX Rate Volatility Scenario	Underlying (Currency Pair)	FX
CDS Curve Parallel Scenario CDS Curve Scenario	Reference Asset	CR
Time Scenario	N/A	All

- 2. Confirm the scenario pricing results.
  - The results of scenario pricing are displayed in the same format as single pricing, in multiple scenarios.

Product	Instrument	Template		_											
D Dper	E dit	SaveAs	Save As Save As New Calegory	-		enario Co	mpatison	Decimal Place	10		TermSheet PDF	to Termi	heet to		
natio 3 Ten	m Shevt														
Summary								_	_						
«Parameter	ScenariosUS_IRS	_10Y >								20				2	
Sourcecture		Descripto					1 1	N.	1	1	Fair Valu Caprical P	ie :		i)	
	Curve S0.00bp										Interest Par Swai	PV			
2	Curve 40.00bp										Internal	Rate of Rea	am		
	Curve 30,000p														
+	Corve 26.00bp			8											
5	Curve 10.005p			Nail.											
						+	+ +	+	1	+					
						30	2 3 5cen	ario	3	.0					
Walanes				-							-				
	Fait Valuetter	Fair Values 21	Ciwan Valuetter	Clean Valuel S	Acqual	10-010-01	Account former		14132		Cacital	Non It.	autor PV St	Internet PUNCT	Interest PM
1	-104.1701 %	-10,417,01				0 %			Concernance of	0.5392 %		4872 %	-9,948.72	-4.6828 %	-46
3	-104.1701 %	-10,417.01	-104.1701 9	+ -10,417/	in the second seco	0.96		0	4,7068 %	0.5392.96	-99.	4872.9%	-9,948.72	-4.6828 %	-40
	-104.1701 %	-10,417,01	-104.1201 9	-10,417.	01	D %6		0	4,7068 %	0.5392 %	-99,	4872.96	-9,948.72	-4.6828 %	-46
4	-104.1701 %	-10,417,01	-104.1701 9	-10,417.	01	0.16		0	4.7068 %	0.5392 %	-99,	4872.96	-9,948.72	-4,6020 %	-46
s	-104,1701 %	-10,417.03	-104,1701 9	6 -10,417.	01	D 76		0	4,7068 %	0.5392 %	-92/	4872 %	-9,948.72	4.6826 11	-46
.6	+104.1701.96	-10,417.01	-104.1701 %	• -10,417/	01	0.76		0	4,7068 %	0.5392 %	-99.	4872 %	-9,948,72	+4.6628 91	-46
0															1
Cashtiows									_						
- Group St	centerical (14 sterres)	he													
	Remod 1 5	aniait - I sta	et Date 🔋 Eist Da		asfifition [2]	illate	Milerell(E)	400000	(8) I C	citized (citized)	DF	Elflater	(ADD (TARCE)	Class (N(S))	HIV(S)
CT Date	12. 2	1 2015	2016/05/12 2016/05/1	12 -10,417.01	-10,470.68	4,7068 %	-470.68		0	-10,000	0.994902	0.5336 %	10,000	-468.28	-468.28
2016/05/1		T 2016	/06/13 2017/05/1	12 0	0	0.99	0		0	0	0.989198	0.5552 %	0	-487.67	-487.67
2016/05/1 2016/05/1 2017/05/1	2 3				0	0.96	0		0	0	0.971165	0.9679 %	0	-481.44	-481,44
	7.		V65/13 3018/05/1	14 0											
2017/05/7	4	1 2017	/65/13 2018/05/1 /05/14 2019/05/1		0	0.%	0		0	0	0.945529	1,4145 %	0	-464.85	-464.85
2017/05/0 2018/05/1	4 4 3 5	1 2017 1 2018		13 0			0		0		0.945529 0.915883		0	-464.85 -450.28	-464.85 -450.20

#### 3.1.2.3 Comparison Pricing

- 1. Input conditions and run comparison pricing.
  - Click the Comparison icon and open the Comparison Pricing pop-up window. The pricing is applied on the product that is currently open.
  - Input the desired conditions and click OK.

Comparison Pricing	×
Model Greeks Parameter Set Calc.Date Market Ref.Date	Forecast : Tree       Effective Greeks       Image: Constraint of the state of the stat
Comparison	Parameter Scenario :: Rates Comparison(IR)
Risk Factor 🔹	Risk Factor         Parameter Group           KR11PRM10Y         Reference Rate           US11ISMSB10Y         Reference Rate
Rate Curve	No Rate:Curve Id Id I USD Global Bank AAY 597
	OK CANCEL

	Model	
	Greeks	
Pa	arameter Set	• Same as the information provided in the Single Pricing section
	Calc. Date	above.
Ma	arket Ref.Date	
(	Comparison	• Selection of parameters for comparison from those applicable according to product type. (Please see the table of comparison scenarios below).
	Risk Factor	• Factors for which to apply selected scenario. (May not be available depending on the selected comparison. Please see the table of comparison types below).
	Initial Value	<ul> <li>Selection of the comparison base price value: parameter value or manually inputted by the user.</li> </ul>
Spot	Direction	Selection of the scenario direction: UP, DOWN, UP/DOWN
Price	Interval Value	• Inputting of the interval value applied to the comparison.
	Count	Number of computations by direction.

- % The above comparison pricing input window shows a base value set to a parameter value of the S&P200 to compute the price with respect to changes in the parameter value by + 1%, + 2%, + 3%, +4%, + 5%.
- X Unlike the Scenario Pricing input form, the Comparison Pricing input fields differ according to the selected comparison type.

Comparison	Risk Factors	Related Product Category
	Rate Index (Underlying)	
Datas Comparison (ID)	Rate for Currency Pair Primary Currency	IR, FI, FX
Rates Comparison (IR)	Rate for Currency Pair Secondary Currency	CR, HB
	Discount Rate	
Rates Comparison (FI)	N/A	FI, HB
	Risk Free Rate for Underlying	
Datas Comparison	(Rate for Currency Pair Primary Currency	
Rates Comparison	Rate for Currency Pair Secondary Currency)	eq, hb, fx
	Discount Rate	
Spot Prices Comparison	Underlying	EQ, FI, HB, FX
Spot Ladder Analysis	N/A	EQ
Volatilities Comparison	Underlying	eq, fi, Hb, fx
CDS Comparison	Reference Asset	CR
Models Comparison		
Dates Comparison	N/A	All
Time Scenario		

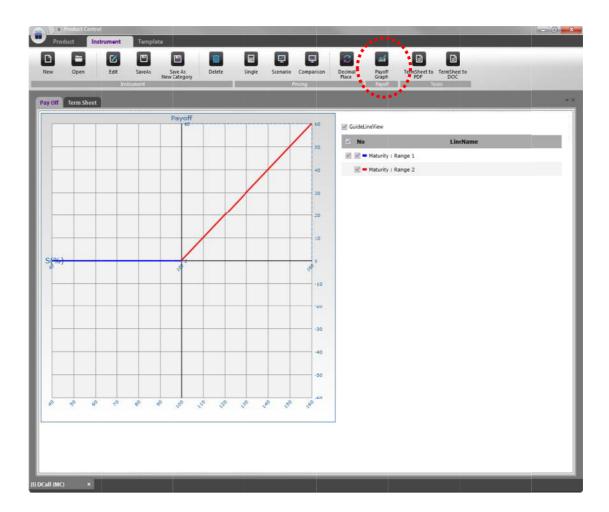
- 2. Confirm the comparison pricing results.
  - The results of comparison pricing are shown in the same format as scenario pricing.

# 3.1.3 Payoff Graph

• The Payoff Graph icon is used to generate a chart view of the payoff structure to maturity.

# 3.1.3.1 Payoff Graph

- 1. Click the Payoff Graph icon. The resulting chart is displayed in the workspace.
- 2. A payoff graph is not generated for all products. (Products without a payoff structure like that of coupon payments to maturity are excluded.)
- 3. The Payoff Graph icon is enabled when a product has been opened.

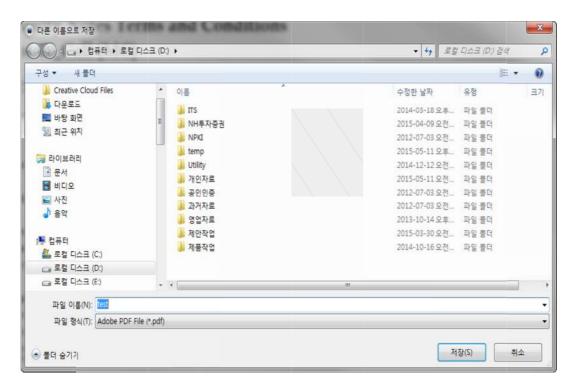


# 3.1.4 <u>Tools</u>

• The Tools menu allows the user to extract and save the product term sheets.

#### 3.1.4.1 Term Sheet to PDF

- 1. Select the desired location and input file name.
  - Click the Term Sheet to PDF icon to open the Save As window.
  - Select the desired location and input the file name. Click Save.
  - The Term Sheet to PDF icon is enabled when a product has been opened.



2. The PDF opens automatically once the term sheet has been saved.

#### 3.1.4.2 Term Sheet to DOC

- 1. Select the desired location and input file name.
  - Click the Term Sheet to DOC icon to open the Save As window.
  - Select the desired location and input the file name. Click Save.
- 2. The MS Word document opens automatically once the term sheet has been saved.

# 3.2 Product

The Product Tab icons allow the user to register, edit, and delete product information as well as compute fair value and pre/pro-trade risk analyses.

# 3.2.1 Product



#### 3.2.1.1 New

- 1. Select product type.
  - Click the New icon to open the Product-New pop-up window.
  - From the list of product types, select and click OK or double-click the desired type to open the product details input window.

Product Type Lists					FILTER
MarketGroup	Product Group	Product Type	ld	Template Name	
Derivatives froducts	ELW	KRX ELW Call	119	KRX ELW Call	
Derivatives Products	ELW	KRX ELW Put	120	KRX ELW Put	
Structured Products	Option Structure Product	KnockOut Call	11	KnockOut Call	
Structured Products	Option Structure Product	KnockOut Call+Bonus	12	KnockOut Call+Bonus	
Structured Products	Option Structure Product	KnockOut Put	13	KnockOut Put	
Structured Products	Accrual Note	RAccrual (CD91d) KRW	99	RAccrual (CD91d) Callable KRW	
Structured Products	Accual Swap	RAccrual (CD91d) KRW Swap	70	RAccrual (CD91d) KRW Callable Swap	
Structured Products	Accrual Note	RAccrual (CD91d) NoCall KRW	100	RAccrual (CD91d) NoCall KRW	
Structured Products	Accual Swap	RAccrual (JPLIB6m) KRW Zero Swap	74	RAccrual (JPLIB6m) KRW Callable Zero Swap	
Structured Products	Accrual Note	RAccrual (US10y) USD	106	RAccrual (US10y) USD Callable	
Structured Products	Accual Swap	RAccrual (US10y) USD Swap	72	RAccrual (US10y) USD Callable Swap	
Structured Products	Accual Swap	RAccrual (US10y,9y,8y2y,1y) USD Swap	73	RAccrual (US10y,9y,8y2y,1y) USD Callable Swap	
Structured Products	Accual Swap	RAccrual Floater (US10y) FF KRW Swap	71	RAccrual Floater (US10y) FF KRW Callable Swap	
Derivatives Products	IR Option	Range Cap (CD91d)	112	Range Cap (CD91d)	
Structured Products	Floater Structure Note	Ratchet Floater (KTBSy) Combi KRW	94	Ratchet Floater (KTBSy) Combi KRW	
Derivatives Products	IR Option	Risk Reversal (CD91d)	115	Risk Reversal (CD91d)	
Structured Products	Accrual Note	SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable	176	SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable	

• In the case that the desired product type is not listed, the user must create a new product template and register the product type in order to proceed. (See section 3-3 Template.)

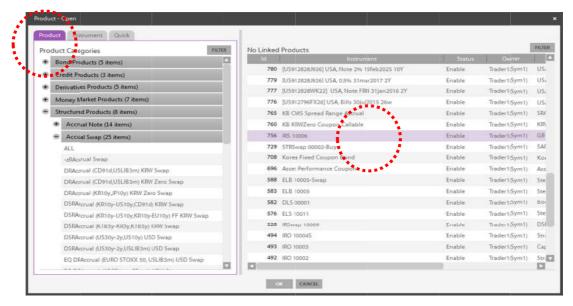
- 2. Input product details.
  - Input instructions are the same as those in section 3.1.1.2 Instrument New. However, fields for determining the product structure are fixed and the GENERATE button does not exist, as all additional tabs (Tab B) are ready.

Instrument	RAccrual (US10y) USD Cal	able Swap		Account
Notional	USD	10,000,000		Period B
Position	Structured Pay / Floating	Receive 🐨		Vanilla Floater
Period	2014/05/12 📺 ~ 20	29/05/12		• Cancellation
	New York,Seoul	Q. Following	V	
Amortization	N/A	~		
Cancellation	Structured Side	v		
Payoff Pattern Accrual	Accrual Range	Ψ Ψ		
Redemption Switching	N/A N/A		V	
		(	No GENE Butto	

3. Confirm the product details.

#### 3.2.1.2 Open

- 1. To view a pre-registered product:
  - Click the Open icon to open the Product-Open Pop-up window.
  - There are three methods to open a product: 1) by selecting the product from Product Categories, 2) by selecting from Instrument Categories and 3) by running a Quick search.
    - 1) From the Product tab, select through the applicable product categories and double-click the desired product from the list on the right.



2) For the list of instrument categories, first select the Instrument tab. Select through the applicable instrument categories and double-click the desired product from the list on the right.

nstr	ument Categories	FILTER Products			FILT
e l	Interest Rate (5 iters)	▲ 1d	lostrument	Owner	PD Sect
1	CapPloors (7 items)		[KR310214G4B1] KDB, 19/12/02	Trader1(Sym1)	Product
	+ Forwards (2 items)		[KR310214G4B1] KDB, 16/11/24	Trader1(Sym1)	Product
			[KR310213G4A4] KD8, 15/10/29	Trader1(Sym1)	Product
	Notes (9 items)	2010	[KR356203G4A9] KDB, 15/10/17	Trader1(Sym1)	Product
	ALL	810	[KR65153B1335] DAESHIN SEC, USLIB3m 28/03/27	Trader1(Sym1)	Product
	Vanilla Floater	809	[KR65153B2366] DAE5HIN SEC, USLIB3m 28/06/28	Trader1(Sym1)	Product
	Floater	805	[KR380801K414] EX-IMPORT BANK KOREA, USLIB3m+63 17/0	Trader1(Sym1)	Product
	Custom Floater	804	[KR380801G479] EX-IMPORT BANK KOREA, USLIB3m+S5 17/0	Trader1(Sym1)	Product
	Accrual	777	[U5912828WK22] USA, Note FRN 31jan2016 2Y	Trader1(Sym1)	Product
	Accrual Floater	730	FRN 00001-Buy	Trader1(Sym1)	Product
	Custom Accrual	714	STRBond 00001-Buy(Q)	Trader1(Sym1)	Product
	Volatility	713	STRBong 00001-Sell	Trader1(Sym1)	Product
	Combination	461	IRNove 10001	Trader1(Sym1)	Product
	<ul> <li>Swaps (10 items)</li> </ul>	441	DLB 20003	Trader1(Sym1)	Product
	+ Swaptions (2 items)				
•	Fixed Income (1 item)		**************************************		
٠İ	Foreign Exchange (2 items)				
+İ	Equity (3 items)				

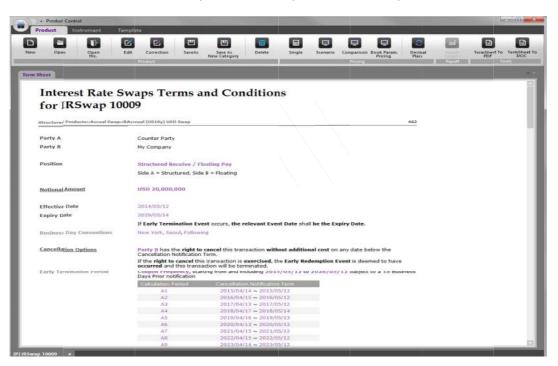
3) From the Quick tab, enter a keyword included in the product name and click SEARCH. Doubleclick on the desired product from the search results that appear on the right.

검색: IRS SEARCY	Product		FILTER
검색대상: Product-Name	ld Instrument	Status	Owner 🔄
382 0.000 FF FF (8.000 FF) (9.000 FF) = -	756 IR5 10006	Enable Trad	er1(Sym1) GB
	792 IRS 20001	Enable Trad	ler1(Sym1) USI
	528 IRSwap 10009	Enable Trad	ler1(Sym1) DSI
	462 IRSwap 10009	Enable Trad	er1(Sym1) RAc
	453 IRS 10005	Enable Trad	ler1(Sym1) USI
	452 185 annos	Enable Trad	er1(Sym1) USI
	451 IRS 10003	Enable Trad	er1(Sym1) KRi
	450 IRS 10002	Enable Trad	ler1(Sym1) KR\
	449 IRS 10001	Enable Trad	er1(Sym1) KR
	438 IRSwap 10010	Enable Trad	er1(Sym1) USI
	437 IRSwap 10004	Enable Trad	ier1(Sym1) RAc
	435 IRSwap 10008	Enable Trad	er1(Sym1) DSI
	434 IRSwap 10007	Enable Trad	ler1(5ym1) DR
	433 IPSwap 10006	Enable Trad	er1(5ym1) SR/
	432 (RSwap 10005	Enable Trad	ler1(Sym1) RAc
	430 IRSwap 10003	Enable Trad	ier1(Sym1) RAc
	429 IFSwap 10002	Enable Trad	ler1(Sym1) RAc
	390 IRSwap 10001	Enable Trad	er1(Sym1) RA(

2. The term sheet of the selected product appears.

#### 3.2.1.3 Save As (New Product or Instrument)

- 1. Input the details of the product to be newly saved.
  - The Save As icon is enabled for the product that is opened in the workspace.



• Click the Save As icon and open the Save As New pop-up window. Confirm to save as a product or instrument.

	2 2	•	<b></b>	(m)	3	6 B
Open Open I	Edit Correction SaveAs	Save As Delete New Category	Single Scenario	Comparison Book Param. Pricing	Decinal	TermSheet To Term
ms	Product	New Category		Pilling	Place	
heet						
Latamant Data C	Tomas an	d Condition	0			
Interest Rate S	waps rerms an	u Condition	5			
for IRSwap 100	009					
Structured ProductmAccual Swapin	RAccrual (US10y) USD Swap				462	
Party A	Counter Party					
Party B	My Company					
Position	Structured Receive / Flo	SaveAs - "Interest Rate:Swaps:5	Structured Swap*	×		
	Side A = Structured, Side I		d 1926/2011 - 2020			
				1		
Notional Amount	USD 20,000,000	Product	Instrument			
				14 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -		
Effective Date	2014/05/12					
Expiry Date	2029/05/14	ax	CANCEL			
	If Early Termination Event	occurs the relevant Even	t Date shall be the F	miry Date		
Business Day Conventions	New York, Seoul, Following	octory and renormalized	e bate shor be bie e	april y butter		
Business only conventions	New York, Sebul, Pollowing					
	25.00.025	24-12	200 2	1.1.2.2.2		
Cancellation Options	Cancellation Notification Te	ncel this transaction with m.	out additional cost of	h any date below the		
	If the right to cancel this b	ransaction is exercised, the	e Early Redemption	Event is deemed to have		
Franks, Wassell and Tana Barrier at	occurred and this transact			ten addates a so har		
Early Termination Period	Days Prior notification	g from and including 2015	/05/12 to 2028/05	/12 subject to a 18 Bus	iness	
	Calculation Period	Cancellation Notification	Term			
	AI	2015/04/14 ~ 2015/05	5/12			
	A2	2016/04/15 ~ 2016/05				
	A3	2017/04/13 ~ 2017/05				
	A4	2018/04/17 ~ 2018/05				
	A5	2019/04/16 ~ 2019/05				
	AG	2020/04/13 ~ 2020/05				
	A7	2021/04/15 + 2021/05				
	AB	2022/04/15 ~ 2022/05				

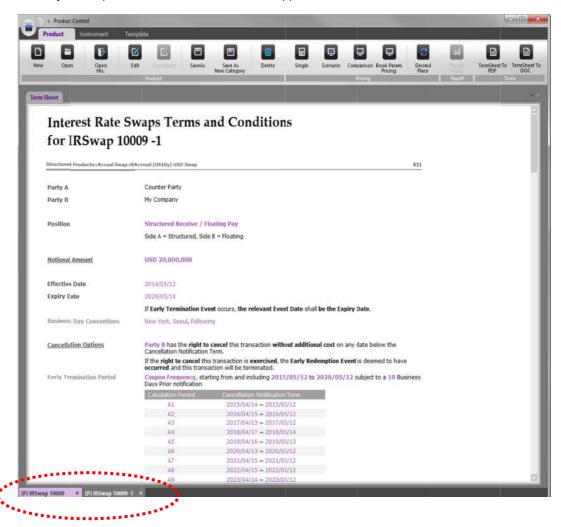
• When saving as a product, in the same form as registering a new product, make desired inputs or revisions and click SAVE.

Open	Open Edit	Correction	SaveAs	Save As New Category	Delete	Single	Scenario	Comparison	Book Param. Pricing	Decima Place	aid Payoff	TermSheet To PDF	o TermShe DOC
Shoet	iaveAu New Product - "Struct	ured Products	i-Accual Swap-904	korual (US10y) U	SD Swap*						IRS	•	
Intere	Instrument		IRSwap 10009								Partod		
for IF				*	20,000,000						Accruti		
Structured Pr	Notional Position			ceive / Floating P							Violitatio		
Party A Party 8	Period		2014/05/12 New York Seou	[1] ~ [2029/05	0, Follow	00	Ŧ				Gencafiator		
Position	Amortization		N/A.	Le .									
Notional An	Structured	Floating											
Effective Da	Payoff Pattern		Acoust		~								
Expiry Date	Accrual		Range		Ŧ								
Business De	Redemption Switching		31/0. 		* *		~		Ŧ				
Cancellation			1.000										
Early Termi										••••			
. L									•••••	•••			
					SAVE							,	1
		A7 A8			4/15 ≈ 2021/05/ 4/15 ≈ 2022/05/								

• When saving as an instrument, in the same form as registering a new instrument, make desired inputs or revisions and click SAVE.

	D 🗹 🖸				<b>\$</b>	
v Open	Open Edit Correc Hits.	tion SaveAs Save As New Category	Delete Single		on Book Param. Decima Pricing Place	TermSheet To Term
Sheet	SaveAs New Instrument - Tinterest Rate	::Swaps:Structured Swap*		Pice		Ayun 1001
Middlehad						- PS
Inter	Instrument	IRSwap 10009				Access
for II	Notional	USD	00,000			- Public
Structured Pr	Position	Structured Receive / Floating Pay	*			Variatia Chatta
Party A	Period	2014/05/12 ml ~ 2029/05/12	10			Cancellation
Party 8		New York,Seoul	Q, Following	Ŧ		
Position	An and a start of	N/A	-			
Position	Amortization Cancellation					
Notional At		_				
	Structured Fibraing					
Effective D	Payoff Pattern	Accrual	¥			
Expiry Date	Accrual	Range	▼ 			
Business D	Redemption Switching	11/4 N/A	✓	~	~	
Cancellatio					··	
					GENERATE	
Early Term					· · · · · · · · · · · · · · · · · · ·	• •
			CANCEL CANCEL	E.		
		14 DEC 1975 1975	~ 2020/05/12			
		A6 2020/04/13				

• The newly saved product/instrument term sheet appears on a new tab as shown below.



#### 3.2.1.4 Save As New Category

- 1. Set a new category for a product.
  - The Save As New Category icon is enabled for the product that is opened in the workspace.
  - Click the Save As New Category icon and open the Save As New Category pop-up window.

roduct Instrument Te	mplate								
	Edit Correction SaveAs	Sare As New Category	Single	CC Scenario	Comparison Boo	k Param. Icing	Decimal Place	ad Sector	TermSheetTo Ter PDF
heet.									
Interest Rate S	waps Terms a	nd Condition	15						
for IRSwap 100									
ior monup io									
Structured Products::Accual Swap::/	Accrual (US10y) USD Swap						462		
Party A	Counter Party								
Party B	My Company								
Position	Structured Receive / Fl	acreatinge			1				
	Side A = Structured, Side	ιθ =							
Notional Amount	USD 20,000,000	Side A	Side B						
Effective Date	2014/05/12		1000000000						
Expiry Date	2029/03/14	il Callin	CANCEL						
		ent occurs, the relevant Eve	nt Date shall	be the Exp	iry Date.				
Business Day Conventions	New York, Seoul, Followi	na							
Cancellation Options	Cancellation Notification	s transaction is exercised, t							
Early Termination Period		ting from and including 201	5/05/12 to 2	2028/05/	12 subject to a	18 Busin	255		
	Calculation Period	Cancellation Notificatio	n Term						
	A1	2015/04/14 ~ 2015/0							
	A2	2016/04/15 ~ 2016/0							
	A3	2017/04/13 ~ 2017/0							
	A4	2018/04/17 ~ 2018/0							
	A5	2019/04/16 ~ 2019/0							
	A6	2020/04/13 ~ 2020/0							
	A7	2021/04/15 ~ 2021/0							
	AB	2022/04/15 ~ 2022/0 2023/04/14 ~ 2023/0							
	A.0	20222 MALA	15/112						

- To save as a different product type, the user may change a Swap to a Note.
- Select from Side A or Side B to be applied to the Note.

Select Side	×
💿 Side A 💿 Side B	
	_
OK CANCEL	
OK CHICLE	

- 2. Input the details of the product to be newly saved.
  - Once the new category is selected, the pop-up window for inputting product details is opened.
  - Revise inputs and click SAVE.

#### 3. Confirm new save.

• The newly saved product term sheet appears on a new tab.

#### 3.2.1.5 Correction

- 1. The Edit function is applied before the trade and Correction is applied after trade.
- 2. Changes are made to pre-registered products by the Edit or Correction functions.
- 3. Apply the Correction function.
  - The Correction icon is enabled for the product that is opened in the workspace.
  - Click the Correction icon to open the Correction pop-up window.

	Product		e As Delete tegory	Single Scenari	o Comparison Book Param Pricing	Place	Payott	TermSheet To Ter PDF
Sheet			_		intering.	_		
	Correction							
Interest Ra	Correction							
for IRSwa							-	
Structured Products::Acco		Product Error Correction	<b>V</b>					
Party A	Correction Reason							
Party B								
Position								
							_	
	Linked Rook Lists		9/ 10/09/9/14 1 S		990 I T		- 1	
Notional Amount	Linked Book Lists	Ebok 1d Co IRSwap 10009 90 USD		Book Type Star Derivatives (Swap) Book	the second second second second second second second second second second second second second second second se			
	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
<u>Notional Amount</u> Effective Date Expiry Date	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date	Linked Sook Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date Business Day Convent <u>Cancellation Options</u>	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date Business Day Convent	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date Business Day Convent <u>Cancellation Options</u>	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			
Effective Date Expiry Date Business Day Convent <u>Cancellation Options</u>	Linked Book Lists	A REAL PROPERTY AND A REAL PROPERTY AND A			the second second second second second second second second second second second second second second second se			

- Confirm the product details to correct and enter the reason for making the correction. Click OK to open the Edit pop-up window.
- Enter or revise the desired inputs. Click SAVE upon completion and the term sheet of the revised product appears.

#### 3.2.1.6 Book Param. Pricing

- 1. The Book Parameter Pricing is the re-pricing of a product that has been traded, using a previously applied parameter.
- 2. The Book Param. Pricing icon is enabled for the product that is opened in the workspace.
  - Click the Book Param. Icon to open the Book Param. Pricing pop-up window.

Product Control						00
Product Instrument Te	mplate					
	2 🛛 🖱			<b>a</b>	<b>3</b>	
	Edit Correction SaveA		Single Scenario	Comparison Book Param.	Decimal Parent	TermSheet To TermS
His.	Pindut	New Category		Pricing	Place	PDF DI
			·			1000
Param 1 Term Sheet						
<b>Interest Rate S</b>	wans Terms	and Condition	ns			
for IRSwap 100	009					
Structurec Products::Accual Swap::/	Accrual (US10y) USD Swap				462	
	Counte Book Param. Pr	iona.		×		
Party A	0.000000000	*** <b>*</b>				
Party B	My Com Instrument I	d 462				
	Book	IRSwap 10009	•			
Position	Structu Book Id	90				
	Side A + Parameter Ty	De Sook Reval. Parameter	Evaluation Parameter	0		
	Calc.Date	2014/08/11				
Notional Amount	USD 20 Evaluation T					
and a second second second second second second second second second second second second second second second	in the second	OK CANCEL	1			
Effective Date	2014/03/22	There is a second	-			
Expiry Date	2029/05/14					
Expiry bute						
1201.040 Million - 1000	the second of the second second	vent occurs, the relevant Eve	ent Date shall be the Ex	piry Date.		
Busines: Day Conventions	New York, Seoul, Follo	wing				
Cancellation Options	Party 8 has the right Cancellation Notification	to cancel this transaction with in Term	hout additional cost on	any date below the		
		his transaction is exercised, t	he Early Redemption E	vent is deemed to have		
	occurred and this tran	saction will be terminated.				
Early Termination Period	Coupon Frequency, st Days Prior notification	arting from and including 201	5/05/12 to 2028/05	12 subject to a 18 Bus	iness	
	Calculation Period	Cancellation Notificatio	n Term			
	A1	2015/04/14 ~ 2015/0	05/12			
	A2	2016/04/15 ~ 2016/0				
	A3	2017/04/13 ~ 2017/0				
	A4	2018/04/17 ~ 2018/0				
	A5	2019/04/16 ~ 2019/0				
	A6	2020/04/13 ~ 2020/0				
	A7	2021/04/15 ~ 2021/0				
	A8	2022/04/15 ~ 2022/0	05/12			
	64	2023/04/14 ~ 2023/0				

- For the Parameter Type, the Book Reval. Parameter option applies the parameters that were applied to the book on the Calculation Date for pricing. The Evaluation Parameter option applies the evaluation parameter of the Calculation Date for pricing.
- Select a past date for the Calculation Date.
- For the Evaluation Type, select MtM (Mark to Market) or Front evaluation parameters.
- Complete all inputs and click OK to view pricing results as shown below.

	pen Open Hit,	Edit			Save New Cat		Delete	Single	Scenario	Comparison 1	look Param. Pricing	Decimal Place	au Ter	mSheet To PDF	TermShe
ok Param 3	Term Sheet														
Values		Pay Value			_			Value					eive Value		
_	Fair Value	11/2 March 11 Provide	45 % S	-2,209,693.53	-	Fair Value		1.3256 %		265.112.45	257	Value	12374 %		2,474,805:
	Gean Value		129.94 \$	-2,269,69533		Clean Value		15451 %		309,013.14			12374 %	121	2,474,805.
1	Acoual Interest		95 96 5	-43,900.69			57	-0.2195 %		-43.900.69			0%		
-	eded Options Value		65 % 5	6,713,304,62		eded Option		-11.1855 %		237,103.38		OptionsValue	-44.752 %		-8,950,4
	Par Swap Rate			3.1525 %			a varat.					vap Rate		*	3,4722
	rnal Rate of Return			3.7219 %								ite of Riturn			2.9233
13															- T
Sensitivit	ile <sup>s</sup>														
Net Sens	itinty 👻	Total		¥											
( <b>R</b>	sk <sup>Factor</sup>	Detra(%)	Deita (\$)	GammaBEI Gam	vrua(S)	Vega(%)	Vega(S)	Them(%)	Them(\$)	E.Delta(%)	E.Delta(%)	EGomma(m)	Effamma(\$)	EVeganti	EVeg
USD_IRS_	ppEB_MID_pm4	-0.0395 %	-7,899.26	-0.0004 %	-75.7	0.95	0	0%	0	0.1331 %	26,618.22	0.0004 %	79.09	0.99	
USD_LIB(	DR_BEA	-0.0083 %	-1,653.01	D %	0.17	0.95	0	0%	0	-0.0057 %	-1,136,18	0.95	0.17	0.99	
	GIIS_Cuv_MID	0 %	0	D %	0	-0.114 %	-22,799.4	0.96	0	0.96	0	0 %	0	0.1167 %	
TIME(1D)		0.96	0	0.95	0	0.96	0	0.007 %	1,397.5	0.96	0	0.95	0	0.94	
	and Described														1
	(sPay, Receive)													_	
Paramete	ts < MtM_ALL_AI	LALLALL	Parameter	>											
													Calculation Tim	ie : 2015/05/	29 16:205

# 3.3 Template

- The Template Tab icons allow the user to create new, edit or delete product registration Templates.
- Register a Template to a specific Product Category (Product Type).
- Register, edit or delete a Market Group/Product Group within the Product Categories.

# 3.3.1 Template



#### 3.3.1.1 <u>New</u>

- 1. Select product type.
  - Click the New icon to open the Template New pop-up window.
  - From the list of Template Categories on the left, select the desired Asset Group, Instrument Group and Payoff Pattern. (Template Categories are identical to the Instrument Categories).

Templa		FILTER	Template			FILTER
8000	late Caregories Interest Rate (5 items)	Picioi.	id	Template	Owner	
(and				NewBlank	0	
			201	D_25tar 윌지급식 조기형 No Ki	(@system)	
	- Address of the second second		200	Protective Put 2Star	(@system)	
	Notes (8 items)		176	D_StepDown 물지급식	(@system)	
	5 Swaps (9 items)		175	D_Notional zero payment_star range	(@system)	
	Swaptions (1 item)		169	D_Knockout Call 2Gearing (MC)	(@system)	
+ 5	Fixed Income (1 item)		168	D_3Star 쮤지급식 일시상환 조기형 with KI	(@system)	
	Foreign Exchange (2 items)		167	D_Put (MC)	(@system)	
12542	Equity (3 items)		166	D_영방향 Knockout(MC)	(@system)	
			161	D_Range Digital(MC)	(@system)	
1	The second		160	D_Up&Out Call(MC)	(@system)	
	Notes (5 items)		158	D_Future (MC)	(@system)	
	Basket		157	D_영방향 Digital(MC)	(@system)	
	Star		156	D_Call (MC)	(@system)	
	Periodic Star		155	D_Bull Spread(MC)	(@system)	
	Dispersion		154	D_25tar UPB/Out Call	(@system)	
	Options Combination		153	T_2Star Down&In	(@system)	
	Swaps (4 items)		151	T_2Star Reverse Convertible	(@system)	
* 11	Hybrid (2 items)		150	T. ビビビス 25tar. Hol/Out Call/LeveragedRoout)	(Revictem)	

Once the list of templates appears on the right, there are two methods to register a new template:
1) through New Blank or 2) by an existing template.

- 2. Input product details.
  - In the new form (shown below as Tab A), enter the product details. (Same steps as the 3.1.1.1 New Instrument section).
- 3. Fix product detail inputs to the desired Product Type.
  - As shown below, the fixed inputs are in gray and cannot be adjusted.

v Template - Interest Rate:Swap	s=Structured Swap*	185
Instrument		
Notional Position	KRW    KRW	
Period	2015/05/12 🗐 - 2015/05/12 🗐	<b>*</b>
Amortization Cancellation		
Structured Flow	na 💼	
Payoff Pattern	Figater	
Redemption	N/A 👻	
Switching		
		GENERATE
	SAVE CANCEL	

• To fix an input field, press the Ctrl key and the pointer will turn into a pin. Holding down the Ctrl key, click the desired field(s) to fix. The fixed inputs will turn gray. To cancel fixing, re-click the input with the pin pointer.

Instrument							
Notional	KRW 🔪 👻 🗌						
Position	Structured Pay, Floating F	leceive 🐨					
Period	2015/05/12 [20] - 201	5/05/12 [23					
		Q, Modif	ied Following 🐨				
Amortization	N/A	-					
Cancellation	N/A	*					
Structured Floati	na 1						
Structured Fication	Floater	~					
Payoff Pattern Redemption	Floater N/A	Ŧ					
Payoff Pattern	Floater			∀	~		
Payoff Pattern Redemption	Floater N/A	Ŧ		×.	~	BATE	
Payoff Pattern Redemption	Floater N/A	Ŧ		- ][		KATE	
Payoff Pattern Redemption	Floater N/A	Ŧ		-		RAYE	
Payoff Pattern Redemption	Floater N/A	Ŧ		*		RATE:	
Payoff Pattern Redemption	Floater N/A	Ŧ		*		RATE:	

- The user may fix any field that is not already fixed by the system.
- Click SAVE to view the term sheet.

#### 3.3.1.2 Open

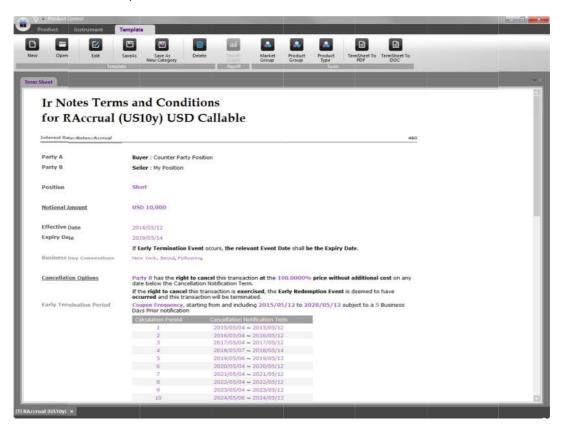
- 1. Find the desired template to open.
  - Click the New icon to open the Template Open pop-up window.
  - There are two methods to open a template: by selecting the template from its category list or by running a Quick search.

Templa	ite Categories	FILTER Templates			FILT
	terest Rate (5 items)	id id	Template	Owner	
۰	Capfloors (7 items)		Floating Coupon Bonds	Trader1(Sym1)	
	Forwards (2 items)		Callable RAccrual (USLIB3m) Floaing Coupon Bonds USD	Trader1(Sym1) Trader1(Sym1)	
	Notes (9 items)		USA Floating Coupon Bonds	Trader1(Sym1)	
	ALL		SAFloater+RAccrual(US30y-US2y/US2y) FF USD Callable	Trader1(Sym1)	
	Vanilla Floater		USLIBORIM FRN	Trader1(Sym1)	
	Floater		SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable	Trader1(Sym1)	
	Custom Floater		RAccual Floater(USIR2y/USIR30y-2y) Callable KRW	Trader1(Sym1)	
	Accrual		SRAccrual (KR10y-US10y) USD	Trader1(Sym1)	
	Accrual Floater		RAccoual (US10y) USD Callable	Trader1(Sym1)	
	Custom Accrual	440	RAccrual (CD91d) Callable KRW	Trader1(Sym1)	
	Volatlity	439	RAccrual (CD91d) NoCall KRW	Trader1(Sym1)	
	Combination	428	Volatility MIN/MAX(KR10y) FF NoCall KRW	Trader1(Sym1)	
۲	Swaps (10 items)	427	Ratchet Floater (KTB5y) Combi KRW	Trader1(Sym1)	
۰	Swaptions (2 items)	426	Spread Avearage (KR10y-Sy/KTB10y-Sy) Combi NoCall Swite	Trader1(Sym1)	
+ Fo	red Income (1 item)	425	SRAccrual (KTBSy-KR3y/KTB10y-US10y) Combi KRW	Trader1(Sym1)	
+ Fo	reign ixchange (2 items)	424	SRAccrual (KR10y-US10y) KRW	Trader1(Sym1)	
	uity (2 items)	423	Spread Avearage (KTB10y-5y/CD91d-KTB3m) Combi KRW	Trader1(Sym1)	
	uny (a norma)	422	Snread Average (ELID304,34) EE KDW	Tradart/Sum1	

- 2. Open the term sheet of the desired template.
  - Select the desired template by either of the two methods mentioned above.

	Template Floating Coupon Bonds	Owner Trader1(Sym1)	1
	Floating Coupon Bonds		
808			
2010.0	Callable RAccrual (USLIB3m)	Trader1(Sym1)	
	Floaing Coupon Bonds USD	Trader1(Sym1)	
	and the second second second second second second second second second second second second second second second		
719	SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable	Trader1(Sym1)	
		Trader1(Sym1)	
711	SPAccoual (KD10y-US10y) USD	Trader1(Sym1)	
460	Accrual (US10y) USD Callable	Trader1(Sym1)	
440	Recrual (CD931) Callable KRW	Trader1(Sym1)	
439	RAccrual (CD91d) NoCall KRW	Trader1(Sym1)	
428	Volatility MIN/MAX(KR10y) FF NoCall KRW	Trader1(Sym1)	
427	Ratchet Floater (KTB5y) Combi KRW	Trader1(Sym1)	
426	Spread Avearage (KR10y-Sy/KTB10y-Sy) Combi NoCall Swin	: Trader1(Sym1)	
425	SRAccrual (KTB5y-KR3y/KTB10y-U510y) Combi KRW	Trader1(Sym1)	
424	SRAccrual (KR10y-US10y) KRW	Trader1(Sym1)	
423	Spread Avearage (KT810y-5y/CD91d-KT83m) Combi KRW	Trader1(Sym1)	
	727 722 719 716 711 460 440 439 420 427 426 425 424	425 SRAccrual (KTBSy-KR3y/KTB10y-US10y) Combi KRW 424 SRAccrual (KR10y-US10y) KRW	727       SAFloater+RAccrual(US30y-US2y/US2y) FF USD Callable       Trader1(Sym1)         722       USLIBOR3M. FRN       Trader1(Sym1)         719       SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable       Trader1(Sym1)         719       SAFloater + RAccrual (US30y-US2y/US2y) FF USD Callable       Trader1(Sym1)         711       SRechail (SAD p-US10y) USD       Trader1(Sym1)         740       Biocrual (US10y) USD Callable       Trader1(Sym1)         740       Biocrual (US10y) USD       Trader1(Sym1)         740       Biocrual (US10y) USD       Trader1(Sym1)         740       Biocrual (US10y) USD Callable       Trader1(Sym1)         740       Biocrual (US10y) USD Callable       Trader1(Sym1)         740       Biocrual (US10y) Callable KRW       Trader1(Sym1)         743       Raccual (CD910) NoCall KRW       Trader1(Sym1)         745       Volatility MII//MAX/IKR10y FF FIACAll KRW       Trader1(Sym1)         745       Volatility MII//MAX/IKR10y FF FIACAll KRW       Trader1(Sym1)         745       Speed Average (RR10y-SW1/TB10y-Sy) Combi KNC       Trader1(Sym1)         745       Spacorual (KB10y-US10y) Combi KRW       Trader1(Sym1)         745       Spacorual (KR10y-US10y) Combi KRW       Trader1(Sym1)         745       Spacorual (K

• Select the desired template (double-click or click OK) to view the term sheet.



## 3.3.2 Tools (Product Categories Management)

- The Tools Menu allows the user to register, edit or delete Product Categories.
- Product Categories are composed of three tiers: Market Group, Product Group, and Product Type.

#### 3.3.3.1 Market Group

- 1. Click the Market Group icon to open the Market Group pop-up window.
- 2. Right-click on the list for Edit, New, and Delete options.

Market Group			×					
Market Group	Lists							
Market Group	I	Name						
BND	Bond Products							
MMP	Money Market							
CRP	Credit Products	Credit Products						
DVP	Derivatives Pro	Derivatives Product-						
STP	Structured Pro	duct	_					
		Edit						
		New						
		Delete						
			_					
	ОК	CANCEL						

- 3. New Market Group
  - Right-click and select New to open the New- Market Group pop-up window.
  - Enter the Market Group Code (3 characters) and name and click SAVE.

New - Market (	Group			×
Market Group				
Name				
	SA	VE	CLOSE	

- The Market Group window is updated to display the newly saved Market Group.
- 4. Edit Market Group
  - Right-click and select Edit to open the Market Group Edit pop-up window.
  - The Market Group Code cannot be edited. Enter the Market Group name and click SAVE.
  - The Market Group window is updated to display the updated Market Group.

#### 5. Delete Market Group

- Select the Market Group to delete. Right-click and select Delete.
- Deleting a Market Group is possible only when there are no Product Groups or Product Types registered in the group.
- The Market Group window is updated the deleted Market Group is not displayed.

#### 3.3.3.2 Product Group

- 1. Click the Product Group icon to open the Product Group pop-up window.
- 2. Right-click on the list for Edit, New, and Delete options.

Instrument Group	Product Group	Name 🔺	1		
CapFloors	IRO	IR Option			
Forwards	FXF	FX Forward			
	FXO	FX Option			
	FXS	FX Swap			
Notes	EQO	Equity Option			
	ELW	ELW(Eugity Linked Warrants			
	DEP	Deposit Contraction			
	CLN	CLN	and the second second		
	ASG	Asia Bond	Provide and		
	UKB	UK TREASURY			
	UST	US TREASURY			
	TXT	test	1 TANKED		
	SNR	Accrual Note			
	SNO	Option Structure Product	itructure Product		
	SNL	Floater Structure Note			
	SNF	Fixed Structure Note			
	SNA	Autocall Note	8 - E		

- 3. New Product Group
  - Right-click and select New to open the New Product Group pop-up window.
  - Enter the Product Group Code (3 characters), name, and select Available Instrument Groups.
  - The selected Available Instruments Groups will be used to determine the trade type upon entering the trade. Click SAVE.

New - Product Group	Available Instrument Group *
new module cloup	Instrument Lists
Product Group	Instrument
Product Group	Forwards
	Options
Name	Notes
	Swaps
	CapFloors
	Swaprions
Available Instrument Groups	Q.
	Selected Lists
	Instamen
2	Forwards
	Options
SAVE CL	OR CANCEL

- 4. Edit Product Group
  - Steps are identical to the Edit Market Group instructions above.
- 5. Delete Product Group
  - Steps are identical to the Delete Market Group instructions above.

## 3.3.3.3 Product Type Registration

1. Click the Product Type icon to open the New – Product Type pop-up window.

lew:Product Type				
Product Type	[			
Template			٥	
Market			٩,	
Product Group		Ŧ		
IFRS	Level 3	*		
Copy Available	Г		Q, 🗈	
		OK CANCEL		

- 2. A Product Type is registered by adding the name of the product type to a registered template.
- 3. Click the magnifying glass at each field to select the template to be registered, as well as the Market Group and Product Group to which the new Product Type will belong.
- 4. Enter the IFRS Level (1, 2, 3) to be used as the base price when processing trades.
- 5. In the Copy Available field, select the Product Types to be connected to when applying the Save As New Categories function to a product.

# **Chapter 4. Market Data Information & Configuration Setting**

# 4.1 Market Information

The Market Information menu provides market data including the base asset price, credit, FX, etc. as well as historical volatility and time-series analysis of correlation coefficients, etc.

Link	Market Data Analysis	Function
Market History	<ul><li>Underlying</li><li>Historical Volatility</li><li>Correlation Coefficient</li></ul>	View historical market data
Market Shape	<ul> <li>Rate Curve</li> <li>Volatility Curve</li> <li>GARCH Volatility</li> <li>Dividend Table</li> <li>Custody Cost Table</li> <li>Credit Curve</li> </ul>	Market data analysis
Market Calculation	<ul> <li>Historical Volatility</li> <li>GARCH Volatility</li> <li>Correlation Coefficient</li> <li>Interpolation Rate</li> <li>Mean Reversion</li> <li>Default Rate</li> </ul>	Volatility and other computations
Market Change	<ul> <li>Underlying Instrument</li> <li>Rate Curve</li> <li>Cap Volatility</li> <li>Swaption Volatility</li> <li>Volatility Surface</li> <li>CDS Curve</li> </ul>	Net change comparison analysis

#### 4.1.1 Market History

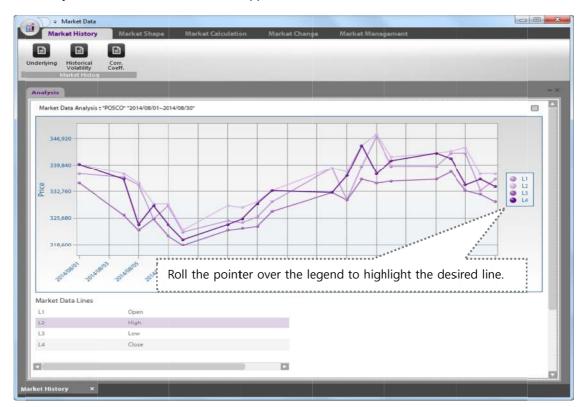
■ Select [SSQ Task Panel] ▶ [Market Information] ▶ [Market History]

(m) -	Market Data		and the second se			
Ma	rket History	Market Shape	Market Calculation	Market Change	Market Management	
Underlying	Historical Volatility	Corr. Coeff.				
	Market History					

#### 4.1.1.1 Underlying

- 1. Click the Underlying icon to open the Market Data Analysis Parameter pop-up window.
- 2. From the Analysis Object drop down menu, select from Underlying Assets, Rate Curves, Volatility Curves, or CDS Curves and click the magnifying glass (search button). The Search Analysis Item window appears. Select the desired item to analyze.
- 3. Enter or select the start and end dates to apply the analysis and click OK.

Market Data Analysis Parameter ×
Analysis Object Underlying Assets Underlying Assets Rate Curves Volatility Curves Cds Curves
Analysis Term 2015/02/09 📰 ~ 2015/02/09 📰 OK CANCEL
Search - Analysis Item ×
Commodity::Commodity (27 items)
Commodity:Commodity (27 items)     Commodity:Commodity Index (5 items)
Equity::Commodity Index (3 items)     Equity::Commodity Index (3 items)
Equity::ETF (9 items)
Equity::Stock (422 items)
Equity::Stock Basket (5 items)     Equity::Stock Index (23 items)     Double click item.
Coy Coy
AUD S&P/ACX 200 Index ASS1 INDEX:152 Equity-Stock Index
EUR CAC 40 Intex CAC INDEX Equity=Stock Index USD NASDAQ Composite Index CCMP INDEX Equity=Stock Index
USD NASDAQ Composite Index CCMP INDEX Equity=Stock Index
Ccy Name Cd Class
AUD S&P/ASX 200 Index ASS1 INDEX:152 Equity:Stock Index
OK CANCEL



4. The analysis results for the selected item appear as shown below.

5. You may also see the chart values by text.

Results may also be displayed in text/numerical form.

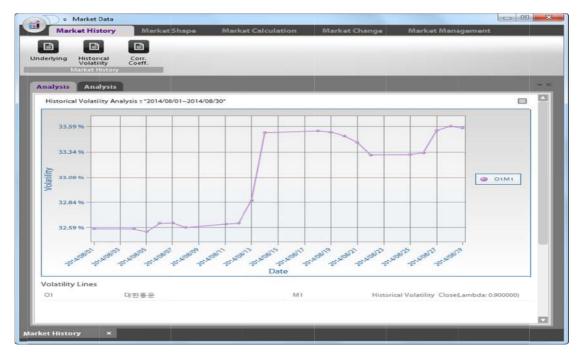
Market History	Market Shape Market Calculation Market Change Market Management
derlying Historical C Volatility C	orr. Jeff.
Market History	
Inalysis	
	5CO* *2014/08/01~2014/08/30*
Date L1 L2	
2014/08/01 337,500 340,00	
2014/08/04 336,500 337,50	• 336,000 336,000 • • • • • • • • • • • • • • • • • •
2014/08/05 334,500 335,00	
2014/08/06 325,500 329,50	
2014/08/07 329,000 329,50	
2014/06/08 322,000 322,50	
2014/06/11 325,000 329,00	0 322 500 32
2014/08/12 324,500 328,50	again for the chart-view.
2014/08/13 326,000 330,00	0 323,500 325
2014/08/14 330,000 333,00	0 327,500 33
2014/08/18 339,000 339,00	0 332,500 33
2014/08/19 330,500 338,00	0 330,500 337,000
2014/08/20 339,500 345,00	0 336,000 345,000
2014/08/21 347,500 348,00	0 335,000 337,500
2014/08/22 339,500 342,00	2 335,300 341,000
2014/08/25 339,500 343,00	
2014/08/26 343,000 343,50	
2014/08/27 343,000 344,50	
2014/05/28 333,000 337,50	
2014/08/29 336,000 337,50	330,000 334,000

#### 4.1.1.2 Historical Volatility

- 1. Click the Historical Volatility icon to open the Historical Volatility Analysis Parameter pop-up window.
- 2. Click the Analysis Object search button and select the desired item for analysis.
- 3. Enter or select the start and end dates to apply the analysis and click OK.
- 4. In the Analysis Historical Volatility field, right-click the blank section under the labelled cells and select Add Row.
- 5. Enter analysis conditions in the new row and click OK.

Historical Volatility Analysi	is Paramete				×
Analysis Object 🔍		Underlying Name	Cd		Class
·***	*********	JISD USDCC_국고채 [1M]	34::1M	Rate Curve::Co	mposite Rate
		****			
	Cli	ck the magnifying glass to	select the item f	or analysis.	
Analysis Term	2014/08/0	1 🛅 ~ 2014/08/30 🛅 🗌 F	Price Analysis		
Analysis His. Vol.		Volatility Type	Ref.Term	Lambda	Reference Price
	M1	Historical Volatility 🔹			Close 💌
		Historical Volatility			
		EWMA Volatility His/EWMA Average Volatility			
		House Volatility (CAPM)			
		ок	CANCEL		

6. The analysis results for the selected item appear as below.



7. Results may also be displayed in text/numerical form.

🗧 🗧 Market Data		
Market History Market	Shape Market Calculation Market Change Market Management	
nderlying Historical Corr. Volatility Market History		
Analysis Historical Volatility Analysis = "2014/08	/01~2014/08/30*	1
Date 01M1		
2014/08/01 32.5786056652741 %		
2014/08/04 32.5774100362086 %		
2014/08/05 32.5485165313968 %	······································	:
2014/08/06 32.6310870566563 %	Click the text-view button to see the data values and	
2014/08/07 32.6383370372494 %		
2014/08/08 32.5902479132512 %	click again for the chart-view.	
2014/08/11 32.6255318545707 %		
2014/08/12 32.6327286584356 %		
2014/08/13 32.8585146588907 %		
2014/08/14 33.5296168740923 %		

#### 4.1.1.3 Correlation Coefficient

- 1. Click the Correl.Coeff icon to open the Historical Corr.Coeff. Analysis Parameter pop-up window.
- 2. Click the magnifying glass (search button) beside the Analysis Object field and select the desired item for analysis.
- 3. Enter or select the analysis start and end dates.
- 4. In the Analysis Corr.Coeff. field, right-click the blank section under the labelled cells and select Add Row.
- 5. Enter analysis conditions in the new row and click OK.

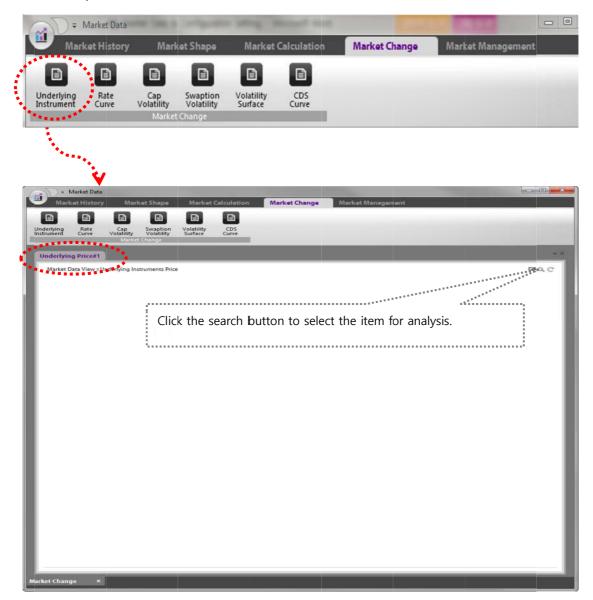
Historical Corr.Coeff. Ar	nalysis Parameter ×
Analysis Object	Name1 Class1 Name2
Symbol	Name1 Class1 Name2
	Click the magnifying glass to select the item for analysis.
Analysis Term	2015/02/09 💼 ~ 2015/02/09 💼 🔲 Price Analysis
Analysis Corr.Coeff.	Corr. Coeff. Type Ref.Term
	M1 Historical CorrCoeff
	Historical CorrCoeff EWMA CorrCoeff
	OK CANCEL

6. Results may also be displayed in text/numerical form.

#### 4.1.2 Market Change

#### 4.1.2.1 Underlying Instrument

- 1. The Market Change menu contains the Underlying Instrument, Rate Curve, Cap Volatility, Swaption Volatility, Volatility Surface, and CDS Curve icons. As user instructions for all six are the same, below is a demonstration of Underlying Instrument icon only.
- 2. Click the Underlying Instrument icon to open the Underlying Price #1 tab. (The number increases as more are opened).



3. The analysis results appear in the tab as shown below.

Market Data View :: Underlying Inst	ruments Price										B Q C
Name	Price	Change(%)	Change	Pre Price	High	Low	Base	Price Type	Class	Cd	Dividend Yie
AUD S&P/ASX 200 Index	5658.5	0.5093 %	28.673	5629.827	5658.5	5617.9	5629.827	Close Price	Equity:Stock Indices	AS51 INDEX:152	
EUR CAC 40 Index	4378.33	-0.032 %	-1.4	4379.73	4403.22	4373.32	4379.73	Close Price	Equity:Stock Indices	CAC INDEX	
USD NASDAQ Composite Index	4598.188	0.3912 %	17.917	4580.271	4598.638	4576.805	4580.271	Close Price	Equity:Stock Indices	CCMP INDEX	3
USD Dollar Index	82.992	0.2949 %	0.244	82,745	83.039	82.753	82.748	Close Price	Equity:Stock Indices	DXY INDEX:149	

4. To delete results, click the  $\overline{\mathbf{s}}$  exit button.

# 4.2 Underlying Setting

- Managed through the Underlying Setting are: Stock, Commodity, Rate Index, Currency Pair, and Reference Asset. The user is able to apply search, register, revise, and delete functions to each Underlying type.
- All users may apply the Underlying Setting. However, the revise and delete functions may only be applied to the user's own registered Underlying Setting.
- The Underlying Setting is further divided in Underlying Group 2 for more detailed Underlying Settings as outlined in the table below.

Underlying Group 1	Underlying Group 2	Details
	• Stock	
Stock	• Stock Index	
SLUCK	• ETF	
	• Stock Basket	
Commodity	Commodity	
Commodity	Commodity Index	
Rate Index	Rate Index	
Currency	Currency Pair	
Reference Asset	• Single	
Reference Asset	• Basket	

# 4.2.1 Underlying Setting

- 4.2.1.1 Stock Registration
  - 1. Select [Stock] ▶ [New] ▶ [Stock]
  - 2. The Stock Underlying is composed of Stock, Stock Index, ETF, and Stock Basket as shown in the four tabs below. Select the desired underlying to register. (This manual outlines steps for registering the Stock Underlying.)

The Underlying Setting				0	23
Stock Commonity	Rate Index Currency Pair	Reference Asset			
	Edit Delete Adj.Stock Price				-
Open fieldsth New	Price Stock Drive				
New Underlying Instruments	: Stocks		×		
Stock Stock Index ETF	Stock Basket				
Stock					
	Equity::Stock				
Market Data					
Market Data	Share Outstanding				
	Share outstanding	4 4 4			
FaceValue					
Calendar		Market Data Search Button			
Decimal Places					
Description					
Logging Info					
	SAVE & NEW	SAVE & CLOSE CANCEL			

3. Click the magnifying glass (search button) beside the Market Data field.

Search-N	Aarket Data (Stocks)				×
				FILTER	REFRESH
	Name	cd			
KRW	Solacia	KR7070300009	KRX		
KRW	Ever Techno	KR7070480009	KRX		
KRW	Hansol Intic	KR7070590005	KRX		
KRW	KIH	KR7071050009	KRX		
KRW	HISTEEL	KR7071090005	KRX		
KRW	INFINITT Healthcare	KR7071200000	KRX		
KRW	RORZE	KR7071280002	KRX		
KRW	KDHC	KR7071320006	KRX		
KRW	UABLE	KR7071530000	KRX		
KRW	SSCP	KR7071660005	KRX		
KRW	A-Tech	KR7071670004	KRX		
KRW	LOTTE Himart	KR7071840003	KRX		
		OK CANO	TEL		

- 4. Select the desired Market Data and click OK to view details such as the Stock Name, Market Data, and Face Value.
- 5. Enter required inputs as shown below

New - Underlying Instruments = Stocks ×				
Stock Stock Index ETF	Stock Basket			
Stock	KRW Dongwon Equity::Stock	KR7003580008		
Market Data	KRW Dongwon 4,714,788 Share Outstanding	Q. KR7003580008		
Face Value Calendar	KRX 5,000 1	]		
Decimal Places				
Description Logging Info				
	SAVE & NEW SAVE & CLOSE CANCEL			

- 6. Market data will be filled in automatically and may be adjusted by the user. If the required market data has not been registered previously, fields appear empty and are manually entered by the user.
- 7. Click SAVE & NEW (save current registration and begin new) or SAVE & CLOSE (save current registration and exit) to complete the underlying registration.
- 8. Please note: for fields with a magnifying glass (search button), the user must make a selection through the search.
- 9. The Logging Info field indicates the registration date and registering user.
- 10. The instructions for the Underlying Setting of the Stock Index and ETF are the same as the Stock Underlying Setting as demonstrated. The Stock Basket Underlying Setting is outlined below.

#### 4.2.1.2 Stock Basket - Registration

1. Select [Stock] ▶ [New] ▶ [Stock Basket]

New - Underlying Instruments :: Studks ×
Stock Stock Index ETF Stock Basket
Stock Basket           Base         H         Representative         Basket Name         Basket Code           Base Date         2015/02/09         Decimal Places         0
Calendar SUM3555 Underlying Group 2 Sym Underlying Asset Search Button
Description
SAVE & NEW SAVE & CLOSE CANCEL

- 2. In the case that the Stock Basket includes underlying assets of more than one currency, a representative currency must be selected, as the Basket Index computation can only run with a single currency.
- 3. The Stock Basket Code is set as desired by the user.
- 4. Click the magnifying glass (search button) to view the list of underlying assets for building the stock basket.
- 5. Double-click the desired underlying assets. They will appear under Selected Lists as shown below and click OK.

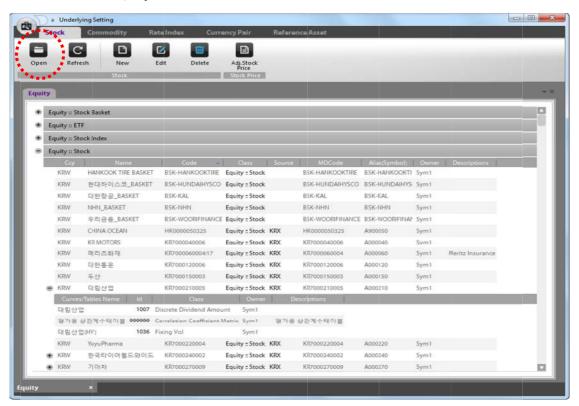
				FILTER	REFRESH
Cay	Name	Cd	FaceValue	Underlying Class	•
KRW	대한항공_BASKET	BSK-KAL		Equity::Stock	
KRW	NHN_BASKET	BSK-NHN		Equity::Stock	
KRW	우리금융_BASKET	BSK-WOORIFINANC		Equity::Stock	
KRW	CHINA OCEAN	HK0000050325	1.00	Equity::Stock	
KRW	KR MOTORS	KR7000040006	500.00	Equity::Stock	
KRW	메리츠화재	KR7000060004:17	500.00	Equity::Stock	
KRW	대한통운	KR7000120006		Equity::Stock	
KRW	두산	KR7000150003		Equity::Stock	
KRW	대림산업	KR7000210005		Equity::Stock	
elected L	ists				
Cay	Name	Cd	FaceValue	Underlying Class	
KRW	대림산업	KR7000210005		Equity::Stock	
KRW	대한통운	KR7000120006		Equity::Stock	
KRW	두산	KR7000150003		Equity::Stock	

6. Enter or adjust values in the Base Price and Ratio cells and click the Save to complete the Stock Basket registration.

Stock Basket		RW uity::Stoc	▼ k Basket				
Basket Index Type Base Date Calendar	•	2015/02	/09 🔛		ď	Decimal Places	0
	Q,	SUM(St	ock Price * Ratio(%)) Stock	Cd	-	Base Price	Ratio(%)
		U1	대림산업	KR7000210005		88,300	96
		U2 U3	대한통운 두산	KR7000120006 KR7000150003		158,500	96
					i		
Description							

### 4.2.2 Underlying Setting - Open

- The user is able to search and open and view five types of details on Underlying Setting.
  - 1. Select [Stock] ▶ [Open]



2. Select desired underlying asset and right-click for menu options.

-		S C	ew Edit	Delete	Adj.Stock Price										
ww															
• 18	quity ii 1	tock Basket													
	quity ii i	TF													
-		tock Index													
	60	11	Name		Code	Class	Smarce	MECode	AlianGympiolo	Owner	Desc	1010-011			
-	USD.	Dullar Index			DXY INDEX:149	Equity : Stock Index		DXX INDEX	Const Carolina and All	Sym1	and the second s				_
	USD	JPMorgan LIS	Gistomized Mocald	Index (KBV)	JMCINZKA INDEK	Equity : Stock Index		JINCIMZKA INDEX		Symth					
	TWO	Teiwan Weight	bed index		1,7949	Equity : Stock Index		CTW1		Sym1.	대만 기	21			
	HKD	HANG SENG O	HINA ENTERPRISES I	NORCE	DISCE	Equity : Stock Index		LHSCE		Symt	· 田田 H				
	HKD	HSI			LHSI	Equity : Stock Index		1.1.123		e	. 111 / 11				
	KIW	KOSTAR Star h	ules		KOSTAR INDEX	Equity : Stock Index		KO	Nanitiney.						
	KINY	KOSDAQ Com	soolite Index		KOSDAQ INDEX	Equity=Stock Index		New							
	KRW	KOSPIS0 Index			KOSPISO HIDEX	Equity :: Stock Index		Edit							
	HIRDY.	HOSPI10D Inde	÷		HOSPITIOS INDEX	Equity : Stock Index					_				
	KRW	KOSPI Index			KOSPI INDEK	Equity : Stock Index		Delete							
	\$17K_	Bradil Bovetna	bodex		IBOV INDEX	Equity : Stock Index		Analyze Marke				세비스파.			
	RFY .	MIRCEL 225 INC	)EX		151225	Equity = Stock Index		Analyze Marke	t Uata						
	AUD	58P/ASX 200 in	dex		A551 INDEX:152	Equity 15tock Index		Analyze Histor	ical Volatility			PrASIC			
	KIDA	KOS#1 200			1.301	Equity ::Stock Index		Analyze Correl	stine Coefficie			9.0			
	CNH	Shanghai Com			1.SSEC	Equity : Stock Index		Permiyas sources	anon coennee			P-12			
	DEM	XETRA DAX 10			LGDA00	Equity : Stock Index		Analyze GARCH	Volatility			oc-			
	MOON	Mexican IPC In	des			Equity : Stock Index					_	IPC			
	EDH:	CAC 40 Index			CAC INDEX	Equity : Stock Index		Calculate Histo	rical Volatility			CAC			
		FTSE 100 INDE			UTM	Equity = Stock Index		Calculate Com	lation Coeffici	ent		5.8			
	USD		iustrial Average Ind	en .	INDU INDEX	Equity : Stock Index		Carcardie Com	nation coemo			5			
٠	USD	S&P SOO			LGSPC	Equity : Stock Index		Export to Exce	6						
	USD	NASDAQ Comp			COMP PIDEK	Equity : Stock Index					_				
-	EDE	EURO STOXX50	1 Index	_	SXSEINDEX	Equity = Stock Index		Choose Grid Fi	elds			= 50	_		-
• 10	quity ii 1	tock						Save Grid Com	Reputation						
								Reset Grid Con	figuration						

Cell label	Description
Ссу	Currency Code
Name	Underlying Name
Code	Country Code
Class	Underlying Hierarchy
Source	Source of Market Data
MDCode	Market Data Code
Alias(Symbol)	Short Code
Descriptions	Reference

3. Right-click and select Edit to open the Edit pop-up window and view the details.

n		C D tresh New	Edit Delete	Adj.Stock Price						
		Stock		Stoth Price						
	y									
								_		
- 5		Stock Basket								
1000	Equity = I								New New	
1	Equity :: 5	Stock Index			10 2000 12000				Edit	
ļ	Coy.	Dollar Index	nie	Ende	Class Sour	DXY INDEX	Alias(Symbolic		Delete	
	USD		zed Mozaic Index (KRW)	DXY INDEX:149	Equity : Stock Index Equity : Stock Index	JMCIMZKA INDEX		Symt		
	TWD	Taiwan Weighted index		LTWI	Equity :Stock Index	ETWI:		Sym15 Sym1	Analyze Market Data	
	. HKD	HANG SENG CHINA EN		INSCE	Equity : Stock Index	LHSCE		Sym1	C Analyze Historical Volatility	
	HKD	HSI	ENHAGES INDEX	IHSI	Equity : Stock Index	LHSL		Sym1	Analyze Correlation Coefficient	t.
	KRW	KOSTAR Star Index		KOSTAR INDEX	Equity : Stock Index	KOSTAR INDEX		Sym1	Analyze GARCH Volatility	
	KRW	KOSDAQ Composite In	dex	KOSDAQ PIDEX	Equity : Stock Index	KOSDAQ INDEX		Sym1	Calculate Historical Volatility	
	KRW	KOSPIS0 Index		KOSPISO INDEX	Equity : Stock Index	KOSP50 INDEX		Sym1	Calculate Correlation Coefficier	
	KRW	KOSPI100 Index		KOSPI100 INDEX	Equity : Stock Index	KOSPING INDEX		Sym1	calculate correlation coemper	AL
	KRW	KOSPI Index		KOSPI INDEX	Equity :Stock Index	KOSPI INDEX		SymT	Export to Excel	
	6RL	Brazil Bovespa Index		IBOV INDEX	Equity : Stock Index	ISCV INDEX		Sym1	E Choose Grid Fields	
	• PY	NEKKEI 225 NOEK		1/1225	Equity :: Stock Index	121225		Sym1	Save Grid Configuration	
	AUD	S&P/ASX 200 Index		A551 INDEX:152	Equity : Stock Index	AS51 INDEX	AS51 INDEX	Sym1	Reset Grid Configuration	
	· KRW	KOSPI 200		L101	Equity : Stock Index	L101		Sym1	코스티시우	)
	Stock									
l	St	tock Index	HKD HSI				I.HSI			
			Equity::Stock Inde	ex.						
	M	larket Data	HKD 항생				Q, 1.HS	r.		
L			Taiwan Stock Exc	hanna			=			
L			Harwari 2000 Exc	nange						
l	C	alendar	Seoul		C	2				
ł										
	D	ecimal Places								
1										
L	D	escription	항생							
	Le	ogging Info	2014/11/21 10:46	:04 - Sym1						
		0 <b>55</b> 01 <b>5</b> 0015								

### 4.2.3 Underlying Setting - Edit

- Use the search function to open the desired underlying asset to edit. The edit function is only possible for the assets registered by the user that is logged in.
  - 1. Select [Stock] ▶ [Open]
  - 2. Select and right-click the desired underlying asset and click Edit.

Ec	uity :: Stoo	:k Basket									
Ec	uity :: ETF										
Ec	uity :: Stoo	:k Index									
Ec	uity :: Stoo	:k									
	Cay	Name	Code 🔺	CI	ass	Source	MDCode	Alias(Symbol)	Owner	Descriptions	
	KRW	HANKOOK TIRE BASKET	BSK-HANKOOKTIRE	Equity	: Stock		BSK-HANKOOKTIRE	BSK-HANKOOK	1 Sym1		
	KRW	현대하이스코_BASKET	BSK-HUNDAIHYSCO	Equity	: Stock		BSK-HUNDAIHYSCO	BSK-HUNDAIHY	S Sym1		
	KRW	대한항공_BASKET	BSK-KAL	Equity	- Stock		RSK-KAI	BSK-KAL	Sym1		
	KRW	NHN_BASKET	BSK-NHN	Equity	New			NHN	Sym1		
	KRW	우리금융_BASKET	BSK-WOORIFINANCE	Equity	Edit			WOORIFINA	l∱ Sym1		
	KRW	CHINA OCEAN	HK0000050325	Equity	Delete			050	Sym1		
	KRW	KR MOTORS	KR7000040006	Equity	Analyze	e Market D	lata	040	Sym1		
	KRW	메리츠화재	KR7000060004:17	Equity	Analyze	e Historica	l Volatility	060	Sym1	Meritz Insurance	
	KRW	대한통운	KR7000120006	Equity	Analyze	e Correlati	on Coefficient	120	Sym1		
	KRW	두산	KR7000150003	Equity	Analyze	GARCH V	olatility	150	Sym1		
	KRW	대림산업	KR7000210005	Equity			1959 	210	Sym1		
Ĵ	Curves/	Tables Name Id	Class	4			al Volatility				
	대림산업	1007	Discrete Dividend Amou	int	Calcula	te Correla	tion Coefficient				
	평가용 상	관계수테이블 999999	Correlation Coefficient I	Aatrix	Export	to Excel					
	대림산업	(HV) 1036	Fixing Vol		Choose	Grid Field	ls				
	KRW	YuyuPharma	KR7000220004	Equity	Save G	rid Config	uration	220	Sym1		
÷	KRW	한국타이어월드와이드	KR7000240002	Equity	Reset G	rid Config	uration	240	Sym1		

3. The Edit pop-up window opens as shown below.

Edit - Underlying Instruments	:: Stocks	×
Stock Stock Index ETF	Stock Basket	
Stock	KRW 대한항공_BASKET Equity::Stock	BSK-KAL
Market Data	KRW 대한항공_BASKET Share Outstanding	G BSK-KAL
Face Value Calendar	Taiwan Stock Exchange	]
Decimal Places		
Description Logging Info	2014/09/05 20:13:18 - rsjeon	
	SAVE & NEW SAVE & CLOSE CANCEL	

4. Revise inputs and click SAVE.

### 4.2.4 Underlying Setting - Delete

- Use the search function to open the desired underlying asset to delete. The delete function is only possible for the assets registered by the user that is logged in.
  - 1. Select [Stock] ▶ [Open]
  - 2. Select and right-click the desired underlying asset and click Delete.

Ste	ock	Commodity Ra	te Index Curre	ency Pair	Refere	nce Asset			
	С		3 🔟	Ê					
pen	Refre		dit Delete	Adj.Stoo Price					
-	_	Stock		Stock Pr	ce		_		
uity									
		The second second							
+ Ec	uity :: Sto	ock Basket							
+ Ec	uity :: ET	F							
+ Ec	uity :: Sto	ock Index							
- Ec	uity :: Sto	ock							
	Ccy	Name	Code	Class	Source	MDCode	Alias(Symbol)	Owner	Des
	KRW	HANKOOK TIRE BASKET	BSK-HANKOOKTIRE	Equity :: S	ock	BSK-HANKOOKTIR	E BSK-HANKOOKTI	Sym1	
	KRW	현대하이스코_BASKET	BSK-HUNDAIHYSCO	Equity :: 5		BOX HUNDAUMOC	DER HUNDAIHYS	Sym1	
	KRW	대한항공_BASKET	BSK-KAL	Equity :: !	New		L	Sym1	
	KRW	NHN_BASKET	BSK-NHN	Equity ::	Edit	•••••	N	Sym1	
	KRW	우리금융_BASKET	BSK-WOORIFINANCE	Equity :	Delete	lete		Sym1	
	KRW	CHINA OCEAN	HK0000050325	Equity ::	Analyze Marke	et Data	þ	Sym1	
	KRW	KR MOTORS	KR7000040006	Equity :: !	Analyze Histo	rical Volatility	2	Sym1	
	KRW	메리츠화재	KR7000060004:17	Equity ::	Analyze Corre	lation Coefficient	þ	Sym1	Merit
	KRW	대한통운	KR7000120006	Equity ::	Analyze GARC	H Volatility	P	Sym1	
	KRW	두산	KR7000150003	Equity ::	Calculate Hist	orical Volatility	þ	Sym1	
	KRW	대림산업	KR7000210005	Equity :: !		elation Coefficient	2	Sym1	
	Curves	/Tables Name Id	Class	C	2 12 2				
	대림산입	<ul> <li>Invariant Contraction</li> </ul>	)iscrete Dividend Amou		Export to Exce	21			
	평가용성	상관계수테이블 <b>999999</b> (	orrelation Coefficient I	Matrix Syr	Choose Grid F	Fields			
					Save Grid Con	nfiguration			
_	_				Reset Grid Cor	nfiguration			

3. The deleted Underlying Setting no longer appears on the list.

### 4.2.5 Underlying Setting – Other Functions

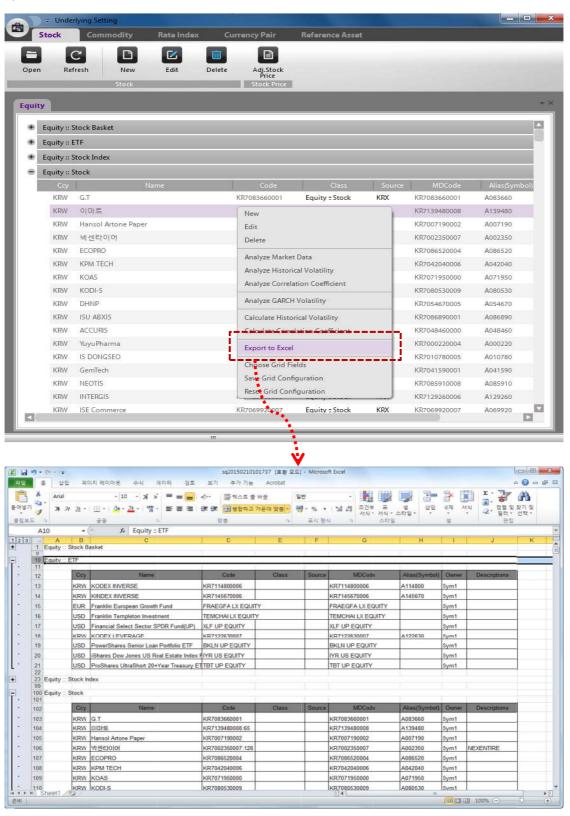
- Running the Market Information/Analysis functions directly from the Underlying Setting.
  - 1. Market Data analysis options are available from the Underlying Setting page. Right-click the desired underlying asset to view analysis options.

	See Street Looks	ying Setting							Ľ	
	Stock	Commodity Ra	te Index Curr	ency Pa	air Re	aference Asset				
-	C			6	3					
Open	Refr	esh New I	Edit Delete	Adj.	stock					
		Stock		Pri Stoci	ce Price					
quit	У									
•	Equity :: St	ock Basket								Ľ
•	Equity :: E1	ſF								_
÷	Equity :: St	ock Index								
•	Equity :: St	ock								
Ĩ	Cay	Name	Code	CI	ass So	ource MDCo	de 🔺	Alias(Symbol)	Owner	Des
- 17	KRW	HANKOOK TIRE BASKET	BSK-HANKOOKTIRE	Equity	:: Stock	BSK-HANK	OOKTIRE B	SK-HANKOOKT	1 Sym1	
	KRW	현대하이스코_BASKET	BSK-HUNDAIHYSCO	Equit	n Carala	new.titikie	AULINECO	K-HUNDAIHY	S Sym1	
	KRW	대한항공_BASKET	BSK-KAL	Equit	New			-KAL	Sym1	
	KRW	NHN_BASKET	BSK-NHN	Equit	Edit			-NHN	Sym1	
	KRW	우리금융_BASKET	BSK-WOORIFINANCE	Equit	Delete			WOORIFINA	₫ Sym1	
	KRW	CHINA OCEAN	HK0000050325	Equit	Analyze Ma	Analyze Market Data		0050	Sym1	
	KRW	KR MOTORS	KBZQQQ	Equit	uit Analyze Historical Volatility			0040	Sym1	
	K		17	Equit	Analyze Cor	relation Coefficient	t	0060	Sym1	Merit
	к	nalysis List		Equit	Analyze GA	RCH Volatility		0120	Sym1	
	К			Equit	Calculate Hi	storical Volatility		0150	Sym1	
3	е к О	ptions for analys	sis	Equit		prrelation Coefficie	ot	0210	Sym1	
		prioris for analys					in.	- <del>h</del> i		
	E.		Amo	unt	Export to Ex	cel				
	평가용	상관계수테이블 999999 (	Correlation Coefficient	Matrix	Choose Grid	l Fields				
31					Save Grid C	onfiguration			3	
_	_				Reset Grid C	onfiguration			_	_

2. Select the desired analysis option to run.

#### Export Data to Excel

1. Open and select the desired Underlying Setting. Right-click and select Export to Excel. The data will open in Excel as shown below.



Choose Grid Fields (Customize columns to view.)

S	tock	Commodity	Rate Index C	urrency Pair	Reference Asset			
pen	-	resh New Stock	Edit Delete	Adj.Stock Price Stock Price	8			
uity						_		_
		itock Basket						
1	Equity :: E			Un	-check labels to	hide co	lumns from	n view
		itock Index						i view.
•	Equity :: S						**********	
	Ccy	Name	-	Code	Class	Source	MDCos	Alias(Symb
	KRW	A&P	New		uity :: Stock	Field Cho	oser	8
	KRW	ACCURIS AD Motors	Edit		uity = Stock		Alias(Symbol)	
	KRW	AD Motors Aimhigh	Delete		uity = Stock		Ссу	
	KRW	AIRPARK	Analyze Market Dat	a	uity = Stock uity = Stock		Class	
	KRW	AUS	Analyze Historical V	olatility	uity :: Stock		Code	
	KRW	ANAPASS	Analyze Correlation	Coefficient	uity = Stock		Descriptions	
	KRW	AVISTA	Analyze GARCH Vol	atility	uity :: Stock		MDCode	
	KRW	BARUN	in the second second	•	uity :: Stock		Name Owner	
	KRW	Barunson	Calculate Historical	and the second	uity :: Stock		Source	
	KRW	BIONEER		n coemcient	uity :: Stock			
	KRW	BohaeBrew	Export to Excel		uity Stock			
	KRW	BS Financial Group	Choose Grid Fields		uity :: Stock			
	KRW	BT&I	Save Grid Configure	ation .	uity :: Stock			
	KRW	C&S ASSET MANAGEMEN	Reset Grid Configur	ation	uity :: Stock	KRX	KR7032040008	A032040
-	KRW	CammSys		KR7050110006	Equity :: Stock	KRX	KR7050110006	A050110

- Save Grid Configuration (Format cells)
  - Format the cells of the selection (order, width, etc.)
  - Format as desired and click Save Grid Configuration to fix for future viewing.
- The Reset Grid Configuration reverts any cell formatting to original settings.

# 4.3 Curve Setting

- Managed through the Curve Setting are: Rate Curve, Volatility Curve, Correlation Matrix, Dividend Table, Credit Curve, Credit Table, and FX Point. The user is able to apply search, register, revise, and delete functions to each curve type.
- All users may apply the Curve Setting. However, the revise and delete functions may only be applied to the user's own registered Curve Setting.
- Curve types are further divided in Group 2 for more detailed Curve Settings as outlined in the table below.

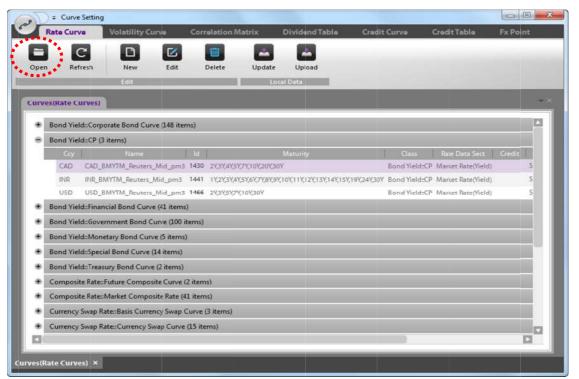
Group 1	Group 2	Description
	Money Market Rate Curve	Money Market Rate Curve sourced from data vendors
	Swap Rate Curve	Swap Rate Curve sourced from data vendors
	Synthetic Swap Rate Curve	Swap Rate Curve composed of several Swap Rate Curves with a new term and maturity
	Bond Yield	Bond Yields of the same type sourced from data vendors
Rate Curve	Market Composite Curve	Market Data Curve composed of user-set interest rates as well as interest rate curves sourced from data vendors
	Entry Composite Curve	Interest Rate Curve composed of user-set interest rates only, unassociated with market rates (continuous updating of rates required)
	Future Composite Curve	Composite Curve composed of national Futures rates
	Spread Composite Curve	Spread Curve of the Interest Rate Curves sourced from data vendors.
	Market Volatility Curve	Volatility Curve sourced from data vendors
Volatility Curve	Internal Volatility Curve	Volatility Curve composed of user-set volatility data only, unassociated with market data
Correlation	Matrix	Correlation Coefficients of various Underlying Assets
Dividend	Dividend Tables	Stock Dividend Tables (periodic dividends, continuous dividends, dividend return rate, etc.)
Table	Custody Cost Tables	Carry Cost of (mainly) commodity-based products
	CDS Curve	Credit Spread Curve sourced from data vendors
Credit	Synthetic CDS Curve	Credit Spread Curve composed of risk-free interest rate curves.
Curve	Entry CDS Curve	Credit Spread Curve composed of user-set spreads only, unassociated with market rates (continuous updating of rates required)
Credit	Recovery Rate Table	Credit-related Recovery Rate Table

Table	Factor Correlation Coefficient Table	Non-payment Correlation Coefficient Table of Reference Assets
	Market FX Point	FX Point sourced from data vendors
FX Point	Internal FX Point	User-set FX Point, unassociated with market FX Point (continuous updating of rates required)

### 4.3.1 Rate Curve

#### 4.3.1.1 Rate Curve - Open

**1.** Select [Rate Curve] ▶ [Open]



Cell label	Description
Ссу	Currency Code
Name	User Curve Name
ID	System-generated Code ID
Maturity	Maturity
Class	Curve Class Hierarchy
Rate Data Sect	Interest Rate Data Sectioning
Owner	User ID linked to curve registration
Source	Source of Market Data
MDCode	Market Data Code
Descriptions	Reference

2. Select the desired curve and right-click to view menu options.



#### 4.3.1.2 Rate Curve - Registration

1. Select [Rate Curve] ▶ [New]

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pen	Helesti Nev	z.ele	Delete Upd	ater . Uptobell /			
-	Edit			Local Data			
N	ew - Rate Curves						
10	Entry Compo	site Curve	Futu	re Composite Curve	T.	Spread Composite Curve	
	Money Market Rate	Swap R	ste Syr	nthetic Swap Rate	BondTield	Market Composite Cu	irve
	Rate Curve						
	Market Data	-				9	
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		Ĩ.				 	
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	Rate Kind	LIBOR	Ŧ	Market D	ata Searc	h Button	
	Rate Kind	LIBOR	Ŧ	Market D	ata Searc	h Button	
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	Day Count Calendar	ACT/ACT_ISDA	▼ Adjusted				
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	Day Count Calendar Rate Type Maturity Description	ACT/ACT_ISDA	▼ Adjusted				

- 2. The user must manually input market data to generate the Entry Composite Curve. For all other curves, click the magnifying glass (search button) beside the Market Data field to select the desired market data.
- 3. To enter values in multiple rows, right-click the blank section under the labelled cells and click Insert Row or Delete Row as needed.

Entry Compo Money Market Rate	site Curve Swap Rate		Composite Curve etic Swap Rate	Bond Yield	ead Composite Curve Market Composite Curv
noney manet have	Junoti Hatte		ear small mate	bond neid	manier composite cur
Rate Curve	KRW 🐨				
Rate Kind	Interest Swap Curve	~			
RateType	YTM	-			
					9
Rate Curve 1 C	y Rate Index Cay2	Rate Instea2	Org. Crvid Clausti	Arris	Q.
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			(Technologica)		
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	ACT/ACT_ISDA 👻		Delete Row		Q,
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Day Count	Automotive and a set of the set of the set of the		Delete Row	)	Q.
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Day Count Payment Freq Maturity	Automatical and a second state of the second s		Delete Row		Q.

4. After entering all inputs, click SAVE & NEW (save current registration and begin new) or SAVE & CLOSE (save current registration and exit) to complete curve registration.

#### 4.3.1.3 Rate Curve - Edit / Delete

1. Select [Rate Curve] ▶ [Open]

0									
Refr	resh New	Edit	Delete Update Upload						
_	TAIT	_	toral Date						
s(Rate Cr									
straite Co	invest -	_							
Bond Yiel	doCorporate Bond Curve (	3,48 ite	ema)						
64	Printry	la	Maturity	Class				MDCode Descriptions	
+CPDref	의사에(사) 우보종 865-		3.D. and end, end, if y i Yeek, a y a vessel is called a state of the call				Spint	001132100000	
KRW	비사제(공)-무보증 AA+		1D.3M.6M.9M.1Y.1Y6M.242Y6M.3Y.4V,5Y.7V,10Y,9Y.20				Sym1		
KONV	반국투자증권(의)		ID.3M.M.M.17,176H-37,276M.37,4757,77,107,15300				Sym1	CC0101103049	
KERW	현대즐금(선)		1D,3M,6M,9M,1Y,1Y6M,2X,2Y6M,3X,4Y,5Y,2YC10Y,15Y60				Symit	CC0101100345	
KRN	DAESHINI SECURITIES		1D,3M,664,9M,1Y(1Y6M,2Y(2Y8M,3Y,4Y5Y,7Y10Y5Y26				Sym1	CE0101100354	
KRW	SK 중 원(선)	295	1D.3M.6M.9M.1XTY6M.2X,2Y6M.3 (41,51,77,10X15X20				Sym1	CC0101100151	
KRW	등양중吉(位)		1D3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20				Sym1	CC0101100347	
KBW	대우중급(선)		1D,3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20				Sym1	CC0101100680	
+CEN//	한파즐경(선)		1D.3M.6M.9M.17(1Y6M,2Y,2Y6M,3X,4Y,5Y,7Y,10Y,15Y,20				Sym1	(C0101100353	
KRW	신영증권(位)	300	1D.3M0M,9M17(1Y6M,27,2Y6M,37(4Y,5Y)7(10Y,15Y,30				Sym1	(C0101100172	
KIRA	0101世间向加加各省1位1		1D 3M 6M 6M 1V 196M 3V 396M 3V 49 V 7V 10V 19V 30				Spm1	(C0101119908	
KRW	하나대투즐권(位)		1D.3M.nM.9M.1Y(1Y6N),2Y(2Y6M,3Y(4Y,5Y)7Y(10Y(15Y)20				Sym1	CC0101103075	
KCESIVI	HMC年자를권(位)		1D;3M;6M;9M;1Y;1Y6M;2Y;2Y6M;3Y;4Y;5Y;7Y;10Y;15Y;20				Symt1	CC0101100150	
KRW	상상물경(선)		1D.3M.6M.9M.1Y,1Y5M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20				Symul	CE0101101636	
KRM	교보증권(선)	307	1D3M,6M,9M,1X1Y6M,2X2Y6M,3X4Y,5X7X,10X15X,20				Sym1	CC0101103061	
KRW	理이비(単자중권(선)	308	1D.3M.6M.9M.1Y.1Y6M.2Y.2Y6M.3Y64Y.5Y.7Y.10Y.15Y20	Y Bond Yield:Corporate Bond Curve	e Market Rate(Yield)	Ar.	Sym1	000101103359	
KRW	키용증립(성)	309	10.3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20	9 Bond Yield:Corporate Bond Curve	e Market Rate(Vield)	A+	Sym1	CC0101104364	
+CR6A/	유진투차증권(섭)	310	1D,3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y30Y,15Y,20	Y Bond Yield:Corporate Bond Curve	e Market Sate(Yield)	A	Sym1	(C0101100120	
KRW	신한금음루지(선)	331	1D.3M.6M.9M.1Y.1Y6M.2Y,2Y6M.1Y(4Y,5Y,7Y,10Y,15Y,29	Y Band Vield:Corporate Band Curve	e Market Rate(Vield)	AA	Sym1	CC0101100867	
KBM	各半母母(位)	337	1D.3M.6M.9M.1Y.1Y6M.2Y.2Y6M.3Y.4Y.5Y7Y.10Y.15Y20	Y Bond Yield:Corporate Bond Curve	e Market Rate(Vield)	Α	Symt	CE0101103663	
KRM	에리츠총금종권(선)	338	1D3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20	Y Bond Yield:Corporate Bond Curv	e Market Rate(Vield)	A+	Sym1	CC0101100856	
KIRN	미님부자중권(부)	399	1D3M.6M.9M.1V,1Y6M.2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20	Y Bond Yield:Corporate Bond Curve	e Market Rate(Vield)	BBB+	Synt1	CC0101104826	
KRW	회사책(사)·무보중 B·	400	1D.3M.684.9M.1Y.1Y6M.2Y.2Y6M.3Y,4Y.5Y,7Y,10Y,15Y,20	Y Bond Yield:Corporate Bond Curve	e Market Rate(Vield)	8-	Sym1	CC1152100000	
KERIM	회사채(시)-무보증 問-	401	1D.3M.6M.9M.1Y.1Y6M.2Y,2Y6M.3Y,4Y,5Y,7Y,10Y,15Y,20	* Bond Vield:Corporate Bond Curw	e Market Rate(Vield)	88-	Sym1	0E1142100000	
KRW.	피사차(시)-부보증 #+	402	1D,3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,4Y,5Y,7Y,10Y,15Y,20	Y Bond Yield:Corporate Bond Curv	e Market Rate(Vield)	8+	Sym1	(C1150100000	
KRW	피사제(공)-무보증 테	403	1D.3M.6M.9M.1Y.1Y6M.2Y.2Y6M.3Y.4Y.5Y.7Y.10Y.15Y20	V Bond Vielid:Corporate Bond Curvi	e Market Rate(Vield)	88	Symt	CC0141100000	
KRW	피사체(시)-무보증 BBB-	404	1D;3M;6M;9M;1Y;1Y6M;2Y;2Y6M;3Y;4Y;5Y;7Y;10Y;15Y;20	Y Bond Yield:Corporate Bond Curv	e Market Rate(Yield)	BBB-	Sym1	CC1132100000	
KRW	회산택(공)·무보를 AA	405	1D.3M.6M.9M.1Y.116M.2Y.2HM.3Y.4Y.5Y.7Y.10Y.15Y.20	Y Bond Yield:Corporate Bond Curv	Market Rate(Vield)	AA.	Symt	CE0112100000	
KERNY	회사채(사)·부브등 CCC	407	1D.3M.6M.9M.1Y.1Y6M.3Y.2Y6M.3Y.4Y5Y.7Y.10Y.15Y20	Y Bond Yield:Corporate Bond Curve	e Market Rate(Vield)	000	Sym1	CC1160100000	

2. Select the curve to edit. Right-click and select Edit to open the Edit – Rate Curve pop-up window.

Rate Curve	KRW	한국부자중권(전	5			291 Sym1
		elduCorporate Bond				37263253000
Market Data	KIW B	국부사증권				Q. CC0101103049
	Market	Fare(Vield)				
Rate Kind	Corpor	rete Bond Curve 👒	1			
Day Count		T_ISMA =	Unadjust			
Calendar Rate Type	Seoul YTM			Compounding	Quarterly	~
Maturity	1D,3M	shi,9M,1V,1Y6M,2Y,2Y	6M,3%4Y,5%71	(107,157,207		
Description						
Logging Info	2014/0	2/26 11:45:43 · 5ym1				

- 3. Revise curve details and click SAVE.
- 4. To delete selected curve, right-click and choose Delete.

#### 4.3.1.4 Curve - Update

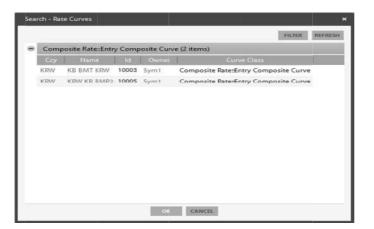
- 1. User-set curves are not automatically updated by the SSQ market data and the user must manually enter updated market data.
- 2. This Update function is applicable to the seven curve types including Rate, Volatility, Correlation Matrix, Dividend Table, and FX Point.
- 3. Select [Rate Curve] ► [Open]

		Edit	Delete Update Upload				
	Entel		LocarData				
uvestRate C	urves)						
+ Bood Viel	d::Corporate Bond Curve (3	48 iter					
HILD CONTRACTOR OF THE	d::CP (3 items)		1010				
	di:Financial Bond Curve (42	terns	0				
	d: Government Bond Curve						
Ser.			Manumy	Cina	Rate Data Sect. Condit	Owner	Shurra
KRW	KRW_KTE_KOF_司吾主?)	26	3M.6M.9M.TT.1Y6M.2Y.2Y6M.3Y.5Y.10Y.2CY	Bond Yield:Government Bond Curve	and the second states of the second states and the	Sym1	Kona Financial Investment Association (KOFIA
HKD	HKD_Gov_Spot	.27	1W(1M.3M.6M.9M.1Y	Bood VieldsGovernment Bood Curve	Market Rate(Vield)	Sym1	
HKD	HKD_Gov_YTM	28	2Y3Y4Y51C7(10)(15Y	Bond Yield:Government Bond Curve	Market Rate(Yield)	5ym1	
BRL.	BRZ_Gov_Spot	30	954,1Y(2Y	Bond Yield:Government Bond Curve	Market Rate(Vield)	Spm1	
6R.	BRZ_Gov_YTM	31	375767107	Bood Vield:Government Bood Curve	Market Rate(Vield)	Sym1	
USD	USD_Gov_Spot	32	1M.3M.6M.1Y	Bond Yield:Government Bond Curve	Market Rate(field)	Sym1	
USD	USD_Gov_YTM	33	27(37(57(77))0(307	Bond Yield:Government Bond Curve	Market Rate(Vield)	Sym1	
SMR.	EMR_GOV_Spot	38	TALIM, MALMW, TY	Bond VeldsGovernment Bond Cerve	Market Rate(Vield)	Symu	
BUR	IUR_Gov_YTM	39	27,37,47,57,67,77,87,97,107,157,207,307,507	Bond Yield:Government Bond Curve	Market Rate(Yield)	Symt	
TWD	TWD_Gov_Spot	-41	1M,2M,386,6M	Bond Yield:Government Bond Curve	Market Rate(Vield)	Sym1	
TWD	TWD_Gov_YTM	.42	2Y(5Y,10Y(20Y)30Y	Bond Yield:Government Bond Curve	Marlort Rate(Vield)	Sym1	
KRW	KRW_运动机	55	1D,3M,6M,9H,1Y,1Y6M,3Y,2Y6M,3Y,4Y,5Y,7Y,10Y15Y,20Y,30	Y Bond Yield:Government Bond Curve	Market Rate(Yield) AAA	Sym1	
KRM	KRW_국고팩2	230	3M,6M,9M,1Y,1Y6M,2Y,2Y6M,3Y,SY,7Y,10Y	Bond Yield:Government Bond Curve	Market Rate(Vield)	Sym1	KIS
374	JPY_Gov_Spot	315	MagMic	Bond Yield:Government Bond Curve	Market Rate(Yield)	Symi	
JPY	JPY_Gav_YTM	316	17,27,37,47,57,67,77,67,97,107,157,207,307,407	Bond Yield:Government Bond Curve	Market Rate(Yield)	59m1	
CHIY	CHO/_Gov_YTM_t	346	11/2//31/51/71	Bond Yield:Government Bond Curve	Market Rate(field)	Sym1	
CHIY	CHY_Gov_YTM_2	347	107,157,207,307	Sond Vield:Government Bond Curve	Market Rate(lield)	Sym1	
CBP	CEP_Cov_Spot	367	186,286,264	Band VieldsGovernment Band Curve	Market Pate(Vield)	Speed	
GEP	G8P_Gov_YTM		1X2X2X4X2X6X2X8X9X10X15X20X25X30X40X50X	Bond Yield:Government Bond Curve		5ym1	
<ul> <li>USD</li> </ul>	USD Tay Notes/Bds		3M/eM/1/23/3//4/5/7/0//9/210/215/20/25/20/	Bond Yield:Government Bond Curve		SymT	
IDR	IDIL_Gov		3M;6M;1X2Y3Y;4Y;5Y;7Y;8Y;9Y;10Y;15Y;20Y;25Y;30Y	Bond YieldsGovernment Bond Curve		Sym1	
KRM	국민주택2를		1D,3M,6M,9H,1V,1Y6M,2V,2Y6M,3Y,4Y,5Y,7Y,10Y15V,20Y	Bond Yield:Government Bond Curre		Sym1	
ROR	IDR_Gov_Spot		1M,3M	Bond Yield:Government Bond Curve		Sym1	
ICR	IDR_Gov_YTM		6M,1Y3Y5Y,10Y,15Y20Y25Y30Y	Bond Yield: Government Bond Curve		Sym1	
M3071	MXN_Gov_Spot	549	1M,3M,6M,9M	Bond Yield:Government Bond Curve	Market Rate(Vield)	Sym1	

4. Select the desired curve to update and click the Update icon to open the Update Rate Curve – Data pop-up window.

Rate Curv	Ve Volatility	y Curve	Correlation Ma	strix I	ividend Ta	ble
=			1		-	
Open Ref	iresh New	Edit	Delete	Update	Upload	
	Edit	_		Local	Data	<b>.</b>
te Rate Curve D	ata					
te Rate Curve D e	ata					

5. Click the magnifying class (search button) and select the desired curve.



6. Double-click the desired curve to open the Update Rate Curve Data pop-up window.

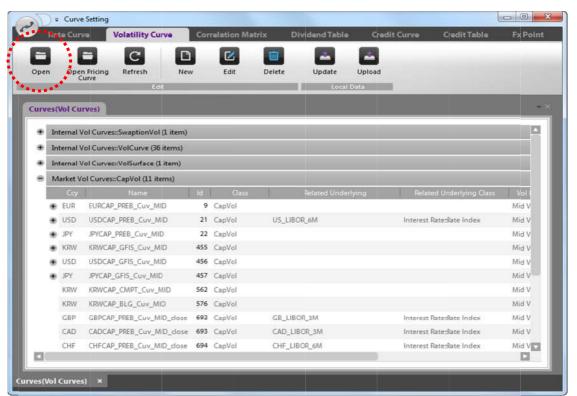
Update Rate Curve D	ata				
Curve	KB BMT KR	W			٩
	10003 Sym1				
Curve Data					
Applied Date	Loggin	9			
<ul> <li>2015/03/23</li> </ul>	2015/03/23 16:51	:41 - Sym1			
		Log o	of recent updates.	 7	
		5	of recent updates.		
Construction of the second second second second second second second second second second second second second	2015/05/19	5	of recent updates.		
Construction of Construction of the	Maturity	Rate	of recent updates.		
Construction of Construction of the	Maturity 1D	E3 Rate 1.98995 %	of recent updates.		
	Maturity 1D 91D	F3 Pate 1,98995 % 2,09452 %	of recent updates.		2
	Maturity 1D 91D 6M	1.99955 % 2.09452 % 1.99966 %			2
Construction of Construction of the	Maturity 1D 91D 6M 9M	209452 % 1.99966 % 1.94747 %			
and the second se	Maturity 1D 91D 6M 9M 12M	209452 % 1.99956 % 1.99966 % 1.94747 % 1.91006 %			Z
Applied Date Curve Data	Maturity 1D 91D 6M 9M	209452 % 1.99966 % 1.94747 %			

- 7. Input market data values and click UPDATE. The window will be refreshed to show the update information on the log of recent updates.
- 8. This form allows the updating of market data of multiple user-set Rate Curves.

### 4.3.2 Volatility Curve

### 4.3.2.1 Volatility Curve - Open

1. Select [Volatility Curve] ▶ [Open]



Cell label	Description
Ссу	Currency Code
Name	User Curve Name
ID	System-generated Code ID
Class	Curve Class Hierarchy
Related Underlying	Volatility-Related Underlying Asset
Related Underlying Class	Volatility-Related Underlying Asset Class Hierarchy
Vol Data Sect	Volatility Data Sectioning
Owner	User ID linked to curve registration
Source	Source of Market Data
MDcode	Market Data Code
Descriptions	Reference

2. To view curve details, select desired curve, right-click and select Edit.

### 4.3.2.2 Volatility Curve - Registration

- 1. The Volatility Curve registration method is different for the Market Volatility Curve and the Internal Volatility Curve.
- 2. The Market Volatility Curve registration requires the user to select market curve data.

	-	_	Dividend Table	Credit Curve	Credit Table Fx Point	
Den Open Pricing Curve	C D New	Edit Dekte	Update U	loload		
Cuive	Edit	_	Local Dat	a		
New - Volatility Curves		_			×.	
Larket Volatility Curve	Internal Volatility Curves				Market Data	Search Butte
Volatility Curve					**************************************	
Market Data				(	] Q.	
Related Underly	ing Pricing Default		Bid	*	] ه	
Maturity					]	
Description Logging Info						
		SAVE & NEW SAV	E& CLOSE CANC	A.		

3. Click the magnifying glass (search button) beside the Market Data field to select the volatility curve.



- 4. The selected Market Data Curve information will automatically appear in the Market Data field.
- 5. Select/input required details of the curve to be registered.

Volatility Curve	USD GFI Swaption Volatility pm4	
	SwaptionVol	
Market Data	USD USD GFI Swaption Volatility pm4	Q US19GFM
	Mid	
Related Underlying		Q.
	Pricing Default	
Maturity	1M,3M,6M,9M,1Y,18M,2Y,3Y,4Y,5Y,7Y,10Y	
	1Y,2Y,3Y,4Y,5Y,7Y,10Y	0 X
Swap Maturity	Maturity/SwapMatur 1Y 2Y 3Y 4Y 5Y 7Y 10Y	
Swap Maturity		
Swap Maturity	1M 0 0 0 0 0 0	
Swap Maturity	3M	
Swap Maturity	3M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
Swap Maturity	3M	
Swap Maturity	3M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	

Field	Description
Volatility Curve	Filled in automatically with Market Data selection, may be manually revised by user.
Market Data	Click the search button to select curve to be registered.
Maturity	Maturity information filled in automatically with Market Data selection.
Swap Maturity	Select the Day Count method to apply to the bond coupon/yield rate calculation.
Description	Reference

- 6. After entering all inputs, click SAVE to complete the Market Volatility Curve registration.
- 7. To register the Internal Volatility Curve, click the Internal Volatility Curve tab. The user must manually enter the curve data.

P Curve Setting						0
💙 Rate Curve 🛛 Vola	atility Curve Correla	tion Matrix Di	vidend Table	Credit Curve	Credit Table	FxPoin
Open Open Pricing Curve	cresh New	Edit Delete	Update	Upload		
New - Volatility Curves	Internal Volatility Curves	1.	- V.	e of the volati	lity curve.	) ×
Volatility Curves		Ranna a start	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Related Underlying		- 1 <sup>4</sup> * * * * * * * *	button			search esired
Vol.Curve Type	Pricing Default Volatility Curve		underi	ying asset.		<u></u>
- ************************************	S Maturity	Volatility	******	۹.		
4. Click the sea the Maturity (	arch button and Count value.	enter 3.	Select typ	be of the volat	ility curve.	
Maturity Generation	×					
ок	CANCEL					
	SAVE	& NEW SAVE & (	LOSE CANCEL	1		

8. After entering all inputs, click SAVE to complete the Internal Volatility Curve registration.

New - Volatility Curves		×
Market Volatility Curves	nternal Volatility Curves	
Volatility Curves	Test_ Internal Volatility Curves	
Related Underlying	KRW 두산	<b>Q</b> KR7000150003
	Equity::Stock	
	Pricing Default	
Vol.Curve Type	Volatility Curve 🔍	
	🔍 Maturity Volatility	
	3M 0.3 %	
	6M 0.32 %	
	1Y 0.6 %	
Description	Test Curve	
	SAVE & NEW SAVE & CLOSE CANCEL	

## 4.3.3 Correlation Matrix

### 4.3.3.1 Correlation Matrix - Open

1. Select [Correlation Matrix] ▶ [Open]

Curve Setting						×
Rate Curve Volatility Curve	Correl	ation Matrix	Dividend Table	Credit Curve	Credit Table Fx	Point
= = C	D			-		
	New	Edit	Delete Update			
Open Open Pricing Refresh Matrix Edit		Luit	and the second sec	Iral Data		
*****						
Curves(Corr.Matrix)						- ×
Name	ld	Owner	Descriptions			
KRW IRS & USD IRS	6	iym1				- 1
KRW IRS vs KTB	7	iym1				
국고채, kospi200, 삼성전자, lg 생활건	1강 33 :	iym1 국고기	대, kospi200, 삼성전자, lg	) 생활건강		
KRW KTB vs 포스코(亭亭)(corr=0.9)	41	iym1				
KRW 국고채 vs USD 국고채	49	Sym1				
ves(Corr.Matrix) ×						

Cell Label	Description
Name	User Curve Name
ID	System-generated Code ID
Owner	User ID linked to curve registration
Descriptions	참조 Reference

2. To view curve details, select desired curve, right-click and select Edit.

#### 4.3.3.2 Correlation Matrix - Registration

1. Select [Correlation Matrix] ▶ [New]

= Curve Setting					- 0 X
🥌 Rate Curve 🛛 Volatility C	correlation Matrix	Dividend Table	Credit Curve	Credit Table	Fx Point
Open Open Pricing Refresh Matrix	New Edit D	elete Update	Upload		
	dit	Local D	ata		
New - Correlation Coefficient Matrix					×
Correlation Coefficient Matrix					
Corr.Coeff. Matrix					
		Analysis It	em Search Bu	itton	۹.
				·····	
Description					
Logging Info					
	SAVE & NEW	SAVE & CLOSE CANCE	a		

- 2. Enter the name of the Correlation Coefficient Matrix to register.
- 3. Click the magnifying glass (search button) to select the desired Analysis Items.
- 4. Select two or more Analysis Items and click OK.

earc	h - An	alysis Item					
						FILTER	REFRESH
	Ссу	Name		Cd		Class	•
ι	JSD	NASDAQ Composite Index		CCMP INDEX	(	Equity::Stock Inc	dex
U	JSD	Dollar Index		DXY INDEX:1	49	Equity::Stock Ind	dex
ŀ	(RW	KOSPI 200		l.101		Equity::Stock Inc	dex
0	GBP	FTSE 100 INDEX		I.FTSE		Equity::Stock Ind	dex
0	DEM	XETRA DAX 30 INDEX		I.GDAXI		Equity::Stock Inc	dex
ι	JSD	S&P 500		I.GSPC		Equity::Stock Inc	dex
ŀ	HKD	HANG SENG CHINA ENTERPRISES INI	DEX	I.HSCE		Equity::Stock Inc	dex
ŀ	HKD	HSI		I.HSI		Equity::Stock Inc	dex
J	IPY	NIKKEI 225 INDEX		I.N225		Equity::Stock Inc	dex
Selec	ted L	ists					
AUD	S8	P/ASX 200 Index	AS5	1 INDEX:152	Equ	ity::Stock Index	
USD	58	P 500	I.GS	PC	Equ	ity::Stock Index	
HKD	HA	ANG SENG CHINA ENTERPRISES INDEX	I.HS	CE	Equ	ity::Stock Index	
		ок	CA	NCEL			

5. Enter correlation coefficient values and click SAVE to complete the Correlation Coefficient Matrix registration.

New - Correlation Coefficient Matrix		×
Correlation Coefficient Matrix		
Corr.Coeff. Matrix test_Correla	tion Coefficient Matrix	
		٩
	01 02 03	
O1 S&P/ASX 200 Index	1	
O2 S&P 500	0 1 -	
O3 HANG SENG CHINA ENTERPRISES IN	$1 \frac{0}{1} \frac{1}{1} $	
	Enter values manually.	
	· · · · · · · · · · · · · · · · · · ·	
Description		
Description		
Description		
	SAVE & NEW SAVE & CLOSE CANCEL	

### 4.3.4 Dividend Table & Custody Cost Table

### 4.3.4.1 Dividend 및 Custody Cost Table - Open

1. Select [Dividend Table] ▶ [Open]

per	Rate C	pen Pricing Table	3	New Edit	trix Dividend Table Cred	it Curve Çredit Table	a Fx Po
ILA	es(Divi	idend/Custody Tal	oles)	<u> </u>			
	Cey	Name	Id	Class	Related Underlying	Related Underlying Class	Owner
1	KRW	모로닉	3	Dividend Yield	모토닉	Equity=Stock	Sym1
	KRW	현대차	4	Discrete Dividend Amount	현대차	Equity::Stock	Sym1
	KRW	кт	5	Discrete Dividend Amount	кт	Equity:Stock	Sym1
	KRW	기아자	6	Discrete Dividend Amount	기아차	Equity:Stock	Sym1
	KRW	삼성전자	7	Discrete Dividend Amount	삼성전자	Equity:Stock	Sym1
	KRW	현대모비스	8	Discrete Dividend Amount	현대모비스	Equitystock	Sym1
	KRW	현대중공업	9	Discrete Dividend Amount	현대중공업	Equity:Stock	Sym1
	KRW	SK이노베이션	11	Discrete Dividend Amount	SK Innovation	Equity:Stock	Sym1
	KRW	KOSPI200	23	Discrete Dividend Amount	KOSPI 200	Equity:Stock	Sym1
	KRW	한진해운홀딩스	1001	Dividend Yield	한진해운홈딩스	Equity:Stock	Sym1
	KRW	신세계	1002	Dividend Yield	신세계	Equity::Stock	Sym1
	HKD	향생중국기업지수	1005	Discrete Dividend Amount	HANG SENG CHINA ENTERPRISES INDEX	Equity:Stock	Sym1
	KRW	KOSPI200	1006	Discrete Dividend Amount	KOSPI 200	Equity:Stock	5ym1
	KRW	대림산업	1007	Discrete Dividend Amount	대림산업	Equity:Stock	Sym1
	KRW	기아차	1008	Discrete Dividend Amount	기아차	Equity:Stock	Sym1
	KRW	SK하이닉스	1009	Discrete Dividend Amount	SK Hynix	Equity:Stock	Sym1
	KRW	현대건설	1010	Discrete Dividend Amount	현대건설	Equity:Stock	Sym1
	KRW	삼성물산	1011	Discrete Dividend Amount	삼성물산	Equity:Stock	Sym1
31							

Cell label	Description
Ссу	Currency Code
Name	User Dividend Table Name & User Custody Cost Table Name
ID	System-generated Code ID
Class	Dividend & Custody Cost Class Hierarchy
Related Underlying	Dividend/Carry Cost-Related Underlying Asset
Related Underlying Class	Dividend/Carry Cost-Related Underlying Asset Class Hierarchy
Owner	User ID linked to registration
Descriptions	Reference

2. To view details, select desired market data, right-click and select Edit.

#### 4.3.4.2 Dividend Table - Registration

1. Select [Dividend Table] ▶ [New] ▶ [Dividend Table]

Curve Setting					- 0
Rate Curve Volatili	ty Curve Correlation Matrix	Dividend Table	Credit Curve	Credit Table	Fx Point
Open Open Pricing Refre	New Told Del	ete Update			
	Edit	Local Data			
New - Dividend Custody Cost T	ables				×
Dividend Tables Custody C	out Tables				
Custody C	USE MUNES				
Dividend Tables					
Related Underlying	-				
	Pricing Default			1 × 1 × 1	
Dividend Type	Dividend Amount	r		***********	
				1 L L L L L L L L L L L L L L L L L L L	
Dividend Date	Dividend Amount				
		Related L	Jnderlying Se	arch Button	
		i			
Description	[				
Logging Info	[				
	SAVE& NEW	SAVE & CLOSE CANO	EL		

- 2. Enter the User Dividend Table Name and click the magnifying glass (search button) to select the related underlying asset.
- 3. Select Dividend Type: Dividend Amount/Rate/Yield, Discrete Dividend Amount.
- 4. Right-click the blank section under the labelled cells and select Add Row. Enter the date and the Amount/Rate/Yield values.

New - Dividend / Custody Cost	Tables	×
Dividend Tables Custody (	lost Tables	
Dividend Tables	KRW test_대한통운	
Related Underlying	KRW 대한통운 Equity:Stock Pricing Default	<b>Q</b> KR7000120006
Dividend Type	Dividend Amount	
Dividend Date 2015/01/29 📸 2016/01/29 😁 2017/01/29 😁 Description Logging Info	Dividend Amount 280 320 340	
	SAVE & NEW SAVE & CLOSE CANCEL	

5. Click SAVE to complete the Dividend Table registration.

### 4.3.4.3 Custody Cost Table - Registration

Rate Curve Volatili	ty CurveCorrelation Matrix	Dividend Table	redit Curve Credit Tabl	le Fx Poin
Open Open Pricing Refre	esh New Edit D	telete Update		
New - Dividend / Custody Cost Ta		Local Data		
Dividend Tables Custody Co	st Tables			
Custody Cost Tables				
Related Underlying			Q	
Custody Cost Type	Custody Cost Amount			
Custody Date 0	Custody East Amount	Related Underlying	Search Button	
Description	Γ.			]
Logging Info				
	SAVE & NEW	SAVE & CLOSE CANCEL		

1. Select [Dividend Table] ▶ [New] ▶ [Custody Cost Table]

- 2. Enter the User Custody Cost Tables Name and click the magnifying glass (search button) to select the related underlying asset.
- 3. Select Custody Cost Type: Custody Cost Amount/Rate, Discrete Custody Cost Amount
- 4. Right-click the blank section under the labelled cells and select Add Row. Enter the date and the Amount/Rate values.
- 5. Click SAVE to complete the Custody Cost Table registration.

## 4.3.5 Credit Curve

### 4.3.5.1 Credit Curve - Open

1. Select [Credit Curve] ▶ [Open]

Rat	te Curv	ve Volatility Curve	Correlatio	n Mat	rix	Dividend Table	Credit Cur	ve Credit T	able FxF
			2 0						
en	Ret	fresh New E	dit Dele	te					
***		Edit		_					
ves(	Credit	Curve)							
	arket C	DS Curve (91 items)							9
100000		CDS Curve (26 items)							
Jy		Name	Id	Sub	ordSect	Ref. Entity Nam	10 I I I I I I I I I I I I I I I I I I I	Maturity	
12	KRW	KR_YTM_신한은형(후)	891	Third	ALCONTRACTORY.	신한은형(亭)	A set of the set of th	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
	KRW	KR_YTM_롯데건설	893	First		롯데건설		Y6M,2Y,2Y6M,3Y,41	
	KRW	KR_YTM_두산중공업	894	First		두산중공업	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
1		Ref. Asset Name	Ref. Ass	et Cd	Bond	Cey   Bo	ond Name	Bond Code	Ref. Asset Ov
	두산중	공업	KR603402	2TC0	KRW	두산중공업	무담보선순위재	KR6034022TC0	Sym1
	두산중	공업	KR603402	1040	KRW	두산중공업	무담보선순위채	KR6034021040	Sym1
	두산경	공업	03787		KRW	두산중공업	무담보선순위채	KR6034021040	Sym1
	KRW	KR_YTM_GS컨설	897	First		GS컨설	3M,6M,9M,1Y,1	1Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
	KRW	KR_YTM_SK	898	First		SK	3M,6M,9M,1Y,1	1Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
۰	KRW	KR_YTM_SK이노베이션	900	First		SK이노베이션	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
۰	KRW	KR_YTM_대우건설	901	First		대우건설	3M,6M,9M,1Y,1	1Y6M,2Y,2Y6M,3Y,4Y	Y,5Y,7Y,10Y,15Y,20
۰	KRW	KR_YTM_대우조선해양	903	First		대우조선해양	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
۰	KRW	KR_YTM_대한항공	905	First		대한항공	3M,6M,9M,1Y,1	1Y6M,2Y,2Y6M,3Y,4Y	Y,5Y,7Y,10Y,15Y,20
	KRW	KR_YTM_롲데건설	906	First		롯데건설	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
۰	KRW	KR_YTM_롯데쇼핑	907	First		롯데쇼핑	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
	KRW	KR_YTM_롯데캐피탑	908	First		롯데캐피탈	3M,6M,9M,1Y,1	Y6M,2Y,2Y6M,3Y,4	Y,5Y,7Y,10Y,15Y,20
	KRW	KR YTM 상성증공업	909	First		상성증공업	3M.6M.9M.1Y.1	Y6M.2Y,2Y6M.3Y.4	Y5Y.7Y.10Y.15Y.20
									1Ld

Cell label	Description
Ссу	Currency Code
Name	User Curve Name
ID	System-generated Code ID
Subord Sect	Rank Sectioning
Ref.Entity Name	Issuer of the Bond
Maturity	Maturity
Recovery Rate	Recovery Rate
Owner	User ID linked to registration
Ref.Asset Name	Name of the Reference Asset
Ref.Asset Cd	Code ID of the Reference Asset
Bond Ccy	Bond Currency
Bond Name	Name of the Bond
Bond Code	Code ID of the Bond
Ref.Asset Own	User ID linked to the Reference Asset
Descriptions	Reference

2. To view curve details, right-click the desired curve and select Edit.

#### 4.3.5.2 CDS Curve - Registration

- 1. Select the Market Data Credit Spread Curve to register the CDS Curve.
- 2. Select [Credit Curve] ► [New] ► [CDS Curve]

) ≠ Curve Setting				*********	- 0
Rate Curve V	olatility Curve	<b>Correlation Matrix</b>	Dividend Table	Credit Curve Credit Tab	le FxP
C	DE	; T		***********	
n Refresh	New Edit	t Delete			
	Edit				
- Credit Curve					
S Curve Synthetic	DS Curve Fotor C	DS Curve			
	and annual annual a				
CDS Curve					
Reference Entity				ulut Data Casuali Dutt	
SubordSect	100		Ma	rket Data Search Butt	on
			200000		*********
Market Data				٩	
				***	
Day Count	ACT/ACT_ISDA	▼ Adjusted ▼			
Calendar	YTM =	Q,	ding Monthly	*	
Rate Type	1110	Compoun	aing Monthly	•	
Swap Rate Curve				9	
Shap hate corre					
Maturity					
Description					]
Logging Info					
		SAVE & NEW	SAVE & CLOSE CANCEL		

- 3. Click the magnifying glass (search button) beside the Market Data field to select the CDS Curve.
- 4. Basic details of the selected Market Data Curve such as the CDS Curve Name, Reference Entity, SubordSect and Maturity are filled in automatically.

5. Select/input required curved details.

Reference Entity	06738C 바클레이즈은행
SubordSect	First w
Market Data	[EU_CDS_바클러] Upon selection of the Market Data, the curve name is filled
	in automatically and may be adjusted by the user.
Day Count	ACT/ACT_ISDA
Calendar Rate Type	YTM Compounding Monthly
Swap Rate Curve	EUR EURCC_IRS_PREB_MID Composite Rate::Market Composite Rate
Maturity	6M,1Y,2Y,3Y,4Y,5Y,7Y,10Y
Description	Click the search button to select the Swap Rate
Logging Info	

6. Click SAVE to complete the CDS Curve registration.

#### 4.3.5.3 Synthetic CDS Curve - Registration

- 1. The Synthetic CDS Curve is the registration of a credit spread curve using the risk-free interest rate curve.
- 2. Select [Credit Curve] ▶ [New] ▶ [Synthetic CDS Curve]
- 3. Click the magnifying glass (search button) to select the Reference Entity with which to generate the credit spread curve.

Rate Curve V	Volatility Curve	Correlation Matrix	C Dividend Table	Credit Curve	GreditTable	Fx Po
Open Refreth	New Edit	a				
	redit.					
ew - Credit Curve						
CDS Curve Synthetic	CDS Curve	DS Curve				
CDS Curve	KRW 🐨	F		********		
Reference Entity		Market D	ata Search Button		<u>a</u>	
SubordSect	First 🐨					
	Ccy Nar	ne id	Class			
Bond Curve	-	۹.				
Risk Free Curve	KRW	α,				
Day Count	ACT/ACT_ISDA	🛩 Adjusted 🐨	*****			
Calendar		۹.	: *** *************	***		
Rate Type	Spot 👻	Comp	Click the search	hutton at ea	ch field to s	elect
			the bond curve			1.1.1
Recovery Rate	96		curve.			late
Maturity						<u></u>
Description						
Logging Info						
Logging into	L					J

- 4. Select/input required details of the curve to be registered.
- 5. Click SAVE to complete the CDS Curve registration.

### 4.3.5.4 Entry CDS Curve - Registration

- 1. The Entry CDS Curve is composed of user-set credit spreads. As a result, manual updating of rates are required.
- 2. Select [Credit Curve] ▶ [New] ▶ [Entry CDS Curve]
- 3. Click the magnifying glass (search button) to select the Reference Entity with which to generate the credit spread curve.

Rate Curve N		orrelation Matrix	Dividend Table	Credit Curve	Credit Table Fx I
C				********	
en Refresh	New Edit Edit	Delete			
v - Credit Curve		*****			
DS Curve Synthetic	CDS Curve Entry CDS	Curve			
	******	*****			
CDS Curve	KRW 👻				
Reference Entity SubordSect	First 💌	Mark	et Data Search	Button	The C
Swap Rate Curve	2			م	8.
				a a a a	******
					+
	Maturity Day Cour	nt Spot/YTM C			n to select the
	101.0	***		p Rate Curve	·.
		**********			
		*****	****		
		**	*****		
Holiday Adjust	Adjusted 💌	Right-click a	nd select Add F	Row to input o	cell values.
Recovery Rate	96				
Description					
Description Logging Info					
11111111111111111111111111111111111111					

- 4. Select/input required details of the curve to be registered.
- 5. Click SAVE to complete the Entry CDS Curve registration.

### 4.3.6 Credit Table

- The Credit Table tab manges the open and registration functions of Recovery Rate Tables and the Factor Correlation Coefficient Tables.
- As user instructions for the registration of both tables are the same, below is a demonstration of the Recovery Rate Table registration only.

### 4.3.6.1 Credit Table - Open

1. Select [Credit Table] ▶ [Open]

a	🗧 Curve Settin						Le	
	Rate Curve	Volatility Curve	Correla	tion Matrix	Dividend Table	Credit Curve	Credit Table	Fx Poin
Open	C			1			*********	
Open	Refresh	New	Edit	Delete				
		Edit	_	_		_	_	
Curve	es(Credit Table)							*
	Factor Corr.Coe	ff. Tables (1 items)						
•	Recovery Rate 1	ables (1 items)						
l i		Name	ld Owne	r Description	s [			
	대한민국609	b	2 Sym1					
maste	redit Table) ×							

2. To view the details, select the market data, right-click and select Edit.

#### 4.3.6.2 Credit Table - Registration

1. Select [Credit Table] ▶ [New] ▶ [Recovery Rate Table]

= Curve Setting				-	
Rate Curve Volatility Cu	rve Correlation Matrix	Dividend Table	Credit Curve	Credit Table	x Point
	6		***	***********	_
Open Refresh New	Edit Delete				
Open Refresh New					
New Ciedic lables					×
Recovery Rate Tables Factor Co	r.Coeff, Tables				
***********					
Recovery Rate Table					
No Reference Asset	Andrew Treated Street, 1			9.6	
No hererence Asset	Code Hecovery Hate				
Description					
Logging Info.					
	SAVE & NEW	SAVE & CLOSE CANCEL			
	SAVE & NEW	SAVE CLOSE CANCEL			

2. Enter the User Recovery Table Name and click the magnifying glass (search button) to select the desired underlying asset.

New - Credit Tables			
Recovery Rate Tables Factor Corr.Coeff.	Tables		
Recovery Rate Table	중국공상은행 60%		
No Reference Asset Code	Recovery Rate		Q 🖸
		***	**********
	Click the search butt	on to select the	Reference Asset.
	Click the search butt		*
		on to select the	*
	Seegh - Befreihus Alsees		*
	See 2 - Enference Acces Backer (20 Renn) Single (10 Renn) Farmer Cont	[538] [69	*
	See D - Tafenhoa Auets   Raike (D Rema)  Sigle (B Rema)  Sigle (B Rema)  Dominice, of Jine Zealand, 5 - Urschicub?	(2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000) (2000)	*
	See th' Enformum Acets	- Onne   56 Spin1 & Spin1	*
	See D - Tafenhoa Auets   Raike (D Rema)  Sigle (B Rema)  Sigle (B Rema)  Dominice, of Jine Zealand, 5 - Urschicub?	20000 0000 56 Syn1 4 Syn1 56 Syn1	*
Description	See N - Esferance Acets	2000 (000) 50 Syn1 4 Syn1 50 Syn1	*
	See 11-Editivitive Access           Basket DS Remail           Basket DS Remail           Dominicut of Heat           Dominicut of Heat           Unique Tablend JF           USS015224           UC See Status and JF           USS015224           USS01524           USS01524           USS01524           USS01524           USS01524           USS01524           USS01524 <td></td> <td>*</td>		*
Description	See b - Drinnus Austs		*
	See (1): Enforman Acuts           Bailant (26 sems)		*
	See N-Editivitive Accets           Insider (20 Rema)           Insider (20 Rema)           Insider (20 Rema)           Dominique of Heat           Dominique of Heat           Unique Statistical J:           Solicitad Liss           Solicitad Liss           Solicitad Liss		*
	See (h.: Extension Assets           # Extent (DE Remot)           # Extent (DE Remot)           # Extension           # Extension           Barlier (DE Remot)           # Extension           Extension           Barlier (DE Remot)           Barlier		*
	See N-Editivitive Accets           Insider (20 Rema)           Insider (20 Rema)           Insider (20 Rema)           Dominique of Heat States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           Unique States           States           States           States           States	Descent         Descent           50         Sym1           61         Sym1           62         Sym1           63         Sym1           54         Sym1           55         Sym1           55         Sym1	*

3. Double-click the Recovery Rate cell of the selected Reference Asset to enter the value.

No Reference Asset	Code	Recovery Rate
1 중국공상은행	XS1023719922	60 %

4. Click SAVE to complete the Credit Table registration.

## 4.3.7 FX Point

### 4.3.7.1 FX Point - Open

1. Select [FX Point] ▶ [Open]



2. To view details, select desired market data, right-click and select Edit.

#### 4.3.7.2 Market FX Point - Registration

1. Select [FX Point] ► [New]

(Please note: there are two tabs, one for the Market FX Point and the other for the Internal FX point.)

2. As user instructions for the registration of both the FX Points are the same, below is a demonstration of the Market FX Point only.

Curve Setting					c	- 0 - 22
C Rate Curve Vo	latility Curve	<b>Correlation Matrix</b>	Dividend Table	Credit Curve	CreditTable	Fx Point
= C			-			*********
Open Refresh	New Edi		Jpdate			10000
	Edit	l Lo	cal Data			
New - FrePrint						×
Market Fx Point Interna	I Fx Point					
**************************************				Market Da	nta Search Bu	utton
Fx Point				******	и и и	
	Fx Point Class	= Market Fx Point		Market Da	й. Н Ф. Н.	
788.00.000	1992				*** •***	
Market Data					<b>a</b>	
Maturity						
Maturity						
Description						
Logging Info						
		SAVE & NEW	SAVE & CLOSE CANCE	a.		

3. Click the magnifying glass (search button) to select the desired market data.

				×
				FILTER
CcyPair 🔺	Name	Cd	Fx Point Group	
USDINR	USDINR FxPoint	FP_USDINR	Fx Point	
USDJPY	USDJPY FxPoint	FP_USDJPY	Fx Point	
USDKRW	USDKRW FxPoint	FP_USDKRW	Fx Point	
USDMXN	USDMXN FxPoint	FP_USDMXN	Fx Point	
USDMYR	USDMYR FxPoint	FP_USDMYR	Fx Point	
USDNOK	USDNOK FxPoint	FP_USDNOK	Fx Point	
USDPHP	USDPHP FxPoint	FP_USDPHP	Fx Point	
USDSEK	USDSEK FxPoint	FP_USDSEK	Fx Point	
USDSGD	USDSGD FxPoint	FP_USDSGD	Fx Point	
USDTHB	USDTHB FxPoint	FP_USDTHB	Fx Point	
USDTWD	USDTWD FxPoint	FP_USDTWD	Fx Point	
USDZAR	USDZAR FxPoint	FP_USDZAR	Fx Point	
OK CANCEL				

4. The basic details of the selection including the FX Point name and maturity are automatically filled in.

New - Fx Point	x
Market Fx Point Interr	nal Fx Point
Fx Point	USD KRW USDKRW FxPoint Fx Point Class = Market F Upon selection of the Market Data, the FX Point name
Market Data	USD KRW USDKRW FxPo is filled in automatically and may be adjusted by the
Maturity	1D, 2D, 1W, 1M, 2M, 3M, 6M, 12M, 15M, 18M, 21M, 24M, 36M, 48M, 60M, 72M, 84
Description Logging Info	
	SAVE & NEW SAVE & CLOSE CANCEL

5. Click SAVE to complete the registration of the Market XF Point.

# 4.4 Parameter Setting

Parameter	Description
Pricing Parameter	• Parameter set by the user and applied to Ad-Hoc Pricing
	Parameter set only by authorized users
Eval Parameter	• Parameter applied by teams, from the Mark-to-Market Revaluation & Front
Eval Parameter	Office
	• Parameter applied to Batch Pricing for Batch Jobs
	Pricing Model set only by authorized users
First Mandal	• Parameter applied by teams, from the Mark-to-Market Revaluation & Front
Eval Model	Office
	• Parameter applied to Batch Pricing for Batch Jobs

Parameter Setting is divided into three parts as outlined in the table below.

- Manage Parameters applied to Ad-Hoc Pricing and Mark-to-Market Revaluations.
- Manage settings of the Reference Interest Rate, Risk Free Interest Rate, Discount Rate, as well as Credit Spread Curves and Volatility Curves, Surface Correlation and Dividend Tables, applied to valuations.
- Manage parameter settings applied to Algorithms including currencies and Pricing Models.
- For Pricing Parameters that are not defined by the user, the registered Parameter Creations Rule is applied.
- The Base Parameter is generated by the Smart Quant system and the user is not able to register or revise the Base Parameter.
- Pricing Parameter Sets may be registered by the user and applied to Instrument Pricing. The user may revise or delete the sets they have registered.

Parameter	Parameter Group	Description
	Risk Free Rate Curve	Risk-free Interest Rate Curve (usually the national bond curve)
Rate &	Reference Rate Curve	Estimated Interest Rate Volatility Curve
Currency	Foreign Exchange Rate	FX or Exchange Rate
	Discount Rate Curve	Discount Rate Curve
	CDS Curve	Credit Spread Curve
Credit	Recovery Rate Tables	Credit-related Recovery Rate Table
create	Factor Correlation Coefficient Tables	Non-payment Correlation Coefficient Table of Reference Assets
	Statistics Volatility Parameters	Statistics Volatility Parameter
Volatility	Volatility Curve	Volatility Curve
Dividend /	Dividend Tables	Dividend Tables
Custody	Custody Cost Tables	Carry Costs
Correlation	Statistics Correlation	Statistical Correlation Coefficient Parameter

Coefficient	Coefficient Parameters	
	Correlation Coefficient Matrix	Correlation Coefficient Matrix
	Algorithm Parameters	Algorithm Model Parameter
Model & Sensitivity	H-W Model Parameters	H-W Model Parameter
Sensitivity	Sensitivity Parameters	Sensitivity Yield Reference Parameter

# 4.4.1 Pricing Parameter

# 4.4.1.1 Base Parameter - Open

1. Select [Pricing Parameter] ▶ [Base Parameter] ▶ [Open]

Pricing Pa	eter Setting					
	srameter Eval	Parameter Ev	al Model			
8 6				III		
			and the second se			
Open Ed		Open Edit	SaveAs	Delete		
Esse Paramete	<u>' I.</u>	Parameter	Sets			
Base Paramete						- 2
Parameter Set	Base Para	meter	0 SYSTEM	и		
	Base Para	imeter Information				
Parameter	Parameter			Parameter Creations Rule		Risk Factor
Volatility	Statistics Volatility Pari		storical Volatility			
Volatility	Statistics Volatility Para		storical Volatility			
Model	Binomial		ep=50, Total Perio			
Model	Pyramid		ep=50, Total Perio			
Model	MC(Black)			1,000 / Fixed Number Seed		
Sensitivity	Calc.Diff.			10Bp / Vega 1% / Theta 10	/ Rho 10Bp / Phi 100	
Corr. Coeff	Statistics Corr.Coeff.	Hi	storical Corr.Coeff	. 1Y ref. / 252 Days per Year		

- 2. The Base parameter cannot be revised by the user.
- 3. For Parameter Sets that the user does not set upon pricing, the SSQ applies the base Parameter Rule to set parameters and process the pricing.

### 4.4.1.2 Parameter Sets - Open

- 1. Select [Pricing Parameter] ▶ [Parameter Sets] ▶ [Open]
- 2. Select the desired Parameter Set from the list.

Pricing Parameter       Eval Parameter       Eval Model         Open       Edit       Divention       Edit       Divention         Open       Edit       Divention       Edit       Divention         Open       Edit       Divention       Divention       Divention         Open       Edit       Divention       Divention       Divention         Open       Parameter Sets       Parameter Sets       Parameter         Name       Id       Owner       Parameter       Parameter No1       3 Sym11         HwParamFix(const vol)       4 Sym11       HwParam       Parameter No1       3 Sym11         HwParam - CapVol(mrfix- nc       6 Sym11       HwParam - CapVol (mrfix- fit       7 Sym11         HwParam - CapVol (mrfix- fit       7 Sym11       HwParam - SwapVol (mrfix-       15 Sym11         HwParam - SwapVol (mrfix-       15 Sym11       HwParam - SwapVol (mrfix-       16 Sym11         HwParam - SwapVol (mrfix-       18 Sym11       HwParam - SwapVol (mrfix-       17 Sym11         HwParam - SwapVol (mrfix-       19 Sym11       Filter       Filter         HwParam - SwapVol (mrfix-       19 Sym11       Filter       Filter         HwParam - SwapVol (mrfix-       19 Sym11       Filter       Filte	Parameter Setting				
Open       Edit       New       Open       Edit       SaveAs       Delete         Dase Parameter         Open - Parameter Sets         Filter       Filter         Name       Id       Over - Parameter Sets         Filter       Filter       Refression         Name       Id       Over - Parameter Sets         Filter       Refression         Name       Id       Over - Parameter Sets         Filter       Refression         Name       Id       Over - Parameter No1       3 Sym11         HwParamerization colspan="2">Sym11         HwParam CapVol (mrfix- to       S Sym11         HwParam CapVol (mrfix- to       S Sym11         HwParam SwapVol (full, nc       16 Sym11         HwParam SwapVol (full, nc       16 Sym11         HwParam SwapVol (full, nc       16 Sym11         HwParam SwapVol (full, nc       16 Sym11         HwParam SwapVol (full, nc       16 Sym11	Pricing Parameter Eval Parameter	Eval Mode	al		
Open - Parameter Sets       FILTER       REFREST         Name       Id       Owner         Parameter No1       3       Sym11         HwParamFix(const vol)       4       Sym11         HwParamFix(time vol)       5       Sym11         HwParam - CapVol(mrfix- nc       6       Sym11         HwParam - CapVol (mrfix- tii       7       Sym11         HwParam - SwapVol (mrfix-       14       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (mrfix-       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (furfix-       18       Sym11         HwParam - SwapVol (furfix-       19       Sym11         HwParam - SwapVol (furfix-       19       Sym11         HwParam - SwapVol (fdiao, n       20       Sym11         HwParam - SwapVol (fdiao, n       20 <t< th=""><th></th><th></th><th></th><th></th><th></th></t<>					
Name       Id       Owner         Parameter No1       3       Sym11         HwParamFix(const vol)       4       Sym11         HwParamFix(time vol)       5       Sym11         HwParamFix(time vol)       5       Sym11         HwParam - CapVol(mrfix-nc       6       Sym11         HwParam - CapVol (mrfix-tin       7       Sym11         HwParam - CapVol (mrfix-       14       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (fidiao, n       20       Sym11	Base Parameter	arameter Sets			
Name       Id       Owner         Parameter No1       3       Sym11         HwParamFix(const vol)       4       Sym11         HwParamFix(time vol)       5       Sym11         HwParamFix(time vol)       5       Sym11         HwParam - CapVol(mrfix-nc       6       Sym11         HwParam - CapVol (mrfix-tii       7       Sym11         HwParam - CapVol (mrfix-tii       7       Sym11         HwParam - CapVol (mrfix-tii       7       Sym11         HwParam - CapVol (mrfix-       14       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (fidiao, n       20       Sym11	Open - Parameter Sets			×	
Parameter No1       3       Sym11         HwParamFix(const vol)       4       Sym11         HwParamFix(time vol)       5       Sym11         HwParam - CapVol(mrfix- nc       6       Sym11         HwParam - CapVol (mrfix- tin       7       Sym11         HwParam - CapVol (mrfix- tin       7       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (no timedep       9       Sym11         HwParam - SwapVol (mrfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (mrfix-'       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (mrfix-'       18       Sym11         HwParam - SwapVol (mrfix-'       19       Sym11         HwParam - SwapVol (mrfix-'       19       Sym11         HwParam - SwapVol (diao. n       20       Sym11		Ý		FILTER REFRESH	
HwParamFix(const vol)       4       Sym11         HwParamFix(time vol)       5       Sym11         HwParam - CapVol (mrfix- nc       6       Sym11         HwParam - CapVol (mrfix- tin       7       Sym11         HwParam - CapVol (mrfix- tin       7       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - SwapVol (mrfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (fuffix-       19       Sym11         HwParam - SwapVol (fuffix-<	Name	īd 🔹	Owner		
HwParamFix(time vol)       5       Sym11         HwParam - CapVol(mrfix- nc       6       Sym11         HwParam - CapVol (mrfix- tii       7       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (no time deg       9       Sym11         HwParam - CapVol (timedeg       9       Sym11         HwParam - SwapVol (timfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (furfix-       18       Sym11         HwParam - SwapVol (furfix-       19       Sym11         HwParam - SwapVol (fuffix-       19       Sym11         HwParam - SwapV	Parameter No1	3	Sym11		
HwParam - CapVol(mrfix- nc       6       Sym11         HwParam - CapVol (mrfix- tii       7       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (timede;       9       Sym11         HwParam - CapVol (timede;       9       Sym11         HwParam - SwapVol (timfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (diao. r       20       Sym11	HwParamFix(const vol)	4	Sym11		
HwParam - CapVol (mrfix- tin       7       Sym11         HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (timedep       9       Sym11         HwParam - SwapVol (timedep       9       Sym11         HwParam - SwapVol (timedep       9       Sym11         HwParam - SwapVol (timfix-       14       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (diag. n       20       Sym11	HwParamFix(time vol)	5	Sym11		
HwParam - CapVol (no time       8       Sym11         HwParam - CapVol (timedep       9       Sym11         HwParam - SwapVol (timedep       9       Sym11         HwParam - SwapVol (mrfix-       14       Sym11         HwParam - SwapVol (mrfix-       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (mrfix-       18       Sym11         HwParam - SwapVol (mrfix-       19       Sym11         HwParam - SwapVol (diag. r       20       Sym11	HwParam - CapVol(mrfix-nc	6	Sym11		
HwParam - CapVol (timedep       9       Sym11         HwParam - SwapVol (mrfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (mrfix-'       18       Sym11         HwParam - SwapVol (mrfix-'       19       Sym11         HwParam - SwapVol (mrfix-'       19       Sym11         HwParam - SwapVol (diao, n       20       Sym11	HwParam - CapVol (mrfix- ti	7	Sym11		
HwParam - SwapVol (mrfix-'       14       Sym11         HwParam - SwapVol (mrfix-'       15       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, nc       16       Sym11         HwParam - SwapVol (full, tir       17       Sym11         HwParam - SwapVol (mrfix-'       18       Sym11         HwParam - SwapVol (mrfix-'       19       Sym11         HwParam - SwapVol (diao, n       20       Sym11	HwParam - CapVol (no time	8	Sym11		
HwParam - SwapVol (mrfix-*     15     Sym11       HwParam - SwapVol (full, nc     16     Sym11       HwParam - SwapVol (full, tir     17     Sym11       HwParam - SwapVol (mrfix-*     18     Sym11       HwParam - SwapVol (mrfix-*     19     Sym11	HwParam - CapVol (timedep	9	Sym11		
HwParam - SwapVol (full, nc     16     Sym11       HwParam - SwapVol (full, tir     17     Sym11       HwParam - SwapVol (mrfis:-     18     Sym11       HwParam - SwapVol (mrfis:-     19     Sym11       HwParam - SwapVol (mrfis:-     19     Sym11       HwParam - SwapVol (diao. n     20     Svm11	HwParam - SwapVol (mrfix-	14	Sym11		
HwParam - SwapVol (full, tir     17     Sym11       HwParam - SwapVol (mrfix     18     Sym11       HwParam - SwapVol (mrfix     19     Sym11       HwParam - SwapVol (diao, n     20     Svm11	HwParam - SwapVol (mrfix-	15	Sym11		
HwParam - SwapVol (mrfix-     16     Sym11       HwParam - SwapVol (mrfix     19     Sym11       HwParam - SwapVol (diao. n     20     Svm11	HwParam - SwapVol (full, nc	16	Sym11		
HwParam - SwapVol (mrfix 19 Sym11 HwParam - SwapVol (diao. n 20 Sym11	HwParam - SwapVol (full, tir	17	Sym11		
HwParam - SwaoVol /diao.n 20 Svm11	HwParam - SwapVol (mrfix	18	Sym11		
Inweatan Swabyor Mad. 1 20 Switt	HwParam - SwapVol (mrfix	19	Sym11	_	
OK CANCEL					
		OK	CANCEL		

3. Double-click the desired Parameter for details.

Parameter Set	Parameter No1	3 Sym11
Parameter	Parameter Group	Parameter Creations Rule Risk Factor
Rate	Risk Free Rate Curves	Rate Curve=AUD. Gov. YTM (YTM Curve) / Linear Internolation AUD Interest
Rate	Risk Free Rate Curves	Rate Curve Details
Rate	Risk Free Rate Curves	Rate C Maturity Rate Curve Day Count Spot/YTM Comp.Freq. Rate
Rate	Risk Free Rate Curves	1Y AUD_Gov_YTM ACT/365 Unadjusted YTM Semi-Annually 2.504 % Rater
Rate	Risk Free Rate Curves	2Y AUD_Gov_YTM ACT/365 Unadjusted YTM Semi-Annually 2.54 % Rate C
Rate	Risk Free Rate Curves	3Y AUD_Gov_YTM ACT/365 Unadjusted YTM Semi-Annually 2.639 %
Rate	Risk Free Rate Curves	4Y AUD_Gov_YTM ACT/365 Unadjusted YTM Semi-Annually 2.811 %
Rate	Risk Free Rate Curves	Rate & AUD_Gov_YTM ACT/365 Unadjusted YTM Semi-Annually 2.8375 %
Rate	Risk Free Rate Curves	**AUD Gov YTM ACT/365 Upadjusted YTM Semi-Appually 2963 %
Rates	In Girk Free Pete Freventing	Ratel Semi-Annually 3.0735 %
4		sted YTM Semi-Annually 3.1795 %
Double-	click each Paramete	r to view details in a separate sted YTM Semi-Annually 3.2365 %
φ ( ) ( )		Isted YTM Semi-Annually 3.3205 %
window	as shown.	sted YTM Semi-Annually 3.4535 %
Rate	Discount Rate Curves	Rate C Semi-Annually 3,6775 %
Rate	Discount Rate Curves	Rate Guaran Shiki G_GRG_BLGGA_MIB ALia as winter polation
Rate	Discount Rate Curves	Rate Curve=EURCC_mCRS_BLG92_MID / Linear Interpolation EURKRW Interest
		Rate Curve=KRWCC_CRS(Q)_NDF(~6M)+BLG58_MID / Linear InterpolationEURKRW Interest
Rate	Discount Rate Curves	

#### 4.4.1.3 Pricing Parameter Sets – Registration (Basic Settings)

- 1. Select [Pricing Parameter] ▶ [Parameter Sets] ▶ [New]
- 2. Enter the Parameter Set name. Check off the desired options of each Parameter Group and click GENERATE.

New - Parameter Sets	*******
Parameter Set	Enter Parameter Name
Description	
Rate & Currency Parameter	<ul> <li>Risk Free Rate Curves</li> <li>Reference Rate Curves</li> <li>Foreign Exchange Rates</li> <li>Discount Rate Curves</li> </ul>
Credit Parameter	CDS Curves Recovery Rate Tables Factor Correlation Coefficient Tables
Volatility Parameter	Statistics Volatility Parameters Volatility Curves
Dividend/Custody Parameter	Dividend Tables     Custody Cost Tables
Correlation Coefficient Parameter	Statistics Correlation Coefficient Parameters  Correlation Coefficient Matrix
Model & Sensitivity Parameter	□ Algorithm Parameters ☑ H-W Model Parameters □ Sensitivity Parameters GENERATE
	SAVE CANCEL

- 3. Once the GENERATE button is clicked, the tabs for each Parameter Group appears on the right.
- 4. Open each tab and enter all required inputs in the Parameter Group forms.

	×
Para	Parameter Set
Rate	Rate & Currency Parameter
Open each tab and enter all	Credit Parameter
Volat	Volatility Parameter
🛛 Risk Fr required inputs.	Dividend/Custody Parameter
Reference Rate Curves	Corr.Coeff Parameter
Foreign Exchange Rates Mode	Model/Sensitivity Parameter
Discount Rate Curves	
	Model/Sens

- 5. Click SAVE to complete the registration of the Parameter Setting.
- 6. To speed up registrations, use the Save As function. Open a previously registered Parameter Set and click the Save As icon. Adjust the desired fields and click SAVE.

# 4.4.2 Eval Parameter

#### 4.4.2.1 Eval Parameter Sets – Registration (Basic Setting)

- 1. To register Eval Parameter Sets, a Parameter set must be opened.
- 2. Select [Eval Parameter] ▶ [New]
- 3. Enter all required inputs on the Eval Parameter Set New form.

Eval Parameter Set::New		
		🔺 Eval Param Set
Eval Param. Catalog	MtM Parameter	Required fields.
App. Scope	Base	· · · · · · · · · · · · · · · · · · ·
App. Period	2015/02/17 💼 ~ 📄	
Param. Set Description	MtM_ALL_ALL_ALL_Paramete	Sym12
		*****
Rate & Currency Param	neter	
	If the user select	s "Front Parameter" from the Eval
	Param, Catalogu	e field, a Front Office Team may be
Credit Parameter	assigned to the	
	assigned to the	setting.
	Front Parameter	Team1
Volatility Parameter	MtM Parameter	Team1
	Front Parameter	Team2
Dividend/Custody Para	ameter Base	Team3
•		Treasury1
Correlation Coefficient	: Parameter	

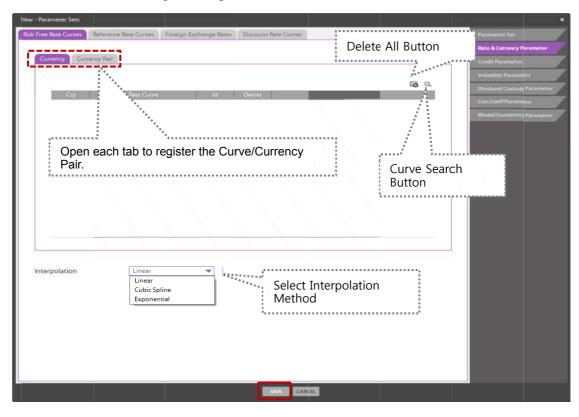
- 4. In the Parameter Set field, enter the Parameter name. Check off the desired Parameter Groups and click GENERATE.
- 5. Once the GENERATE button is clicked, the tabs for each Parameter Group appears on the right.
- 6. Open each tab and enter all required inputs in the Parameter Group forms

New - Parameter Sets		
Parameter Set	Test_ Parameter Setting	Parameter Set
	Sym12	Rate & Currency Parameter
Description	Open each tab and enter all required	Credit Parameter
	Open each tab and enter an required	Volatility Parameter
Rate & Currency Parameter	inputs.	Dividend/Custody Parameter
		Corr.Coeff Parameter
	Foreign Exchange Rates	Model/Sensitivity Parameter
	Ciscount Rate Curves	

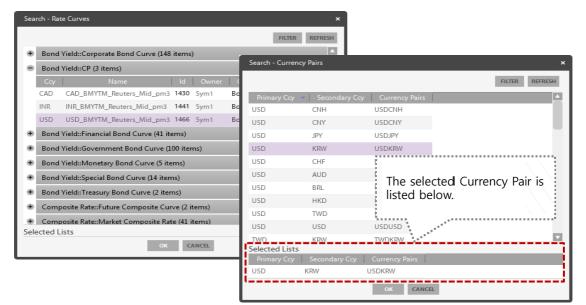
- 7. Click SAVE to complete the registration of the Parameter Setting.
- 8. The registration method of each Parameter (tab) is the same as the Pricing Parameter Setting.

#### 4.4.2.2 Rate & Currency Parameter - Registration

1. The Rate & Currency Parameter Setting manages the registration of the Risk Free Rate Curve, Reference Rate Curve, Foreign Exchange Rate Curve and the Discount Rate Curve.



2. Click the magnifying glass (search button) to select the Curve/Currency pair.



### 4.4.2.3 Credit Parameter - Registration

1. The Credit Parameter Setting manages the registration of the CDS Curve, Recovery Rate Table, and the Factor Correlation Coefficient Table.

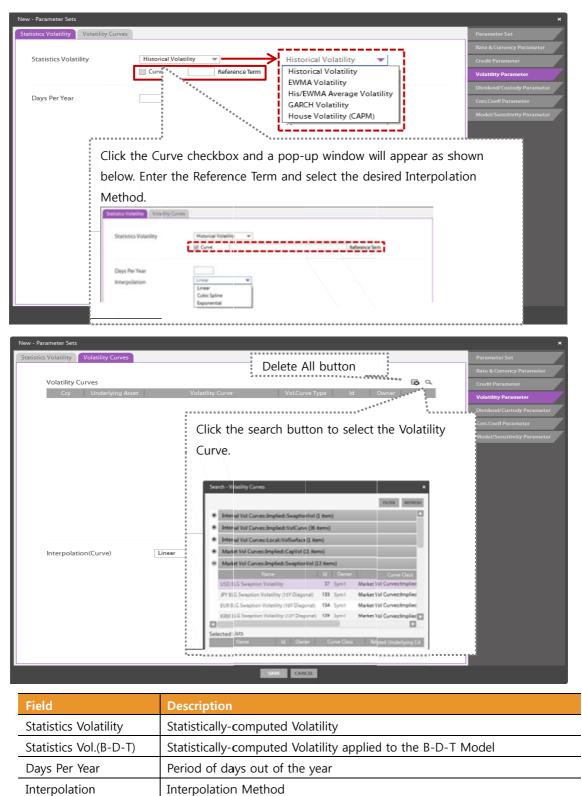
ick the Search E deable preve Acet & box Basket (25 term) Single \$1 term) Context, of year, second, i ben of States, of	Button to se		
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Single 51 items)     Name     Dominion_of_trew_testand_5			a
Name Dominion_0f_New_Zealand_F		ld Owner Band	
Duminion_of_Tiew_Zealand_F			
	U5450142AP56		
sank_ir_lokyo_r		Sym1 USD	Domini
UK_Great_Britain_and_Northern_Ire	JP158920E2A8	Sym1 JPY Sym1 C89	BANK C UK, Gre
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			208
and the second sec			비르시()
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	OK CANCE		
	중국문함 Sekshire_Hathaway_F	응 국용 범         USPN391FF           En-kshim, Jianhamay, F         USS1486487823           Method Lefs         Market S           응 관련 분         USPN391FF           응 구승 관 분 및 0500000000664777         Sym1         USD	응 국용법         US713HFF         Sym3         O/Y           Behtstein, Hathansty, F         US5046640763         Sym1         US0           elected L4/s         Sym3         O/Y         Sold Cay         Sold Cay           elected L4/s         Over at Sold Cay         Sold Cay         Sold Taxes           R-2+2+2         US000000000000000000000000000000000000

2. As user instructions for the registration of both Recovery Rate Tables and Factor Correlation Coefficient Tables are the same, below is a demonstration of the Recovery Rate Tables only.

New - Parameter Sets	×
CDS Curves Recovery Rate Tables Factor Con Coeff. Tables	Paramoter Set
	Rate & Currency Parameter
Recovery Rate Table	Gredit Parameter
Ref. Asset Name Ref. Asset Cd	Volatility Parameter
Ref. Asset Name Ref. Asset Cd Click the search button to select the Recovery	Dividend/CustodyParameter
Rate Tables.	Corr.Coeff Parameter
Rale lables.	Model/Sensitivity Parameter
Search - Recovery Rate Table x	
FICTRE REFERENCE	
Marrae 16 Over Description D[19]⊒R400e 2 Sym1	
CK GARCE	
SAVE CANCEL	

### 4.4.2.4 Volatility Parameter - Registration

1. The Volatility Parameter Setting manages the registration of the Statistics Volatility and Volatility Curve.



### 4.4.2.5 Dividend / Custody Parameter - Registration

- 1. The Dividend/Custody Parameter Setting manages the registration of the Dividend Tables and Custody Cost Tables.
- 2. As user instructions for the registration of both Dividend Tables and Custody Cost Tables are the same, below is a demonstration of the Dividend Tables only.

rameter Se	ts .								
d Tables	Custody Cost	Tables						Parameter Set	
				i i i	elete All Butt	on		Rate & Currency P	aramotor
								Credit Parameter	
Cey	Underlyin	g Asset Divid	end Table	Dividend Type	ld Owne		1 H	Volatility Parana	
			• • • • • • • • • • • • •	•••••					1
								Dividend/Custod	Paramet
CIICK	the sea	arch button to	select (	desired Divid	ena 🕴 👘	**		Corr, Coeff Parame	
Table	s The	selection is lis	ted held	w as shown				Model/Sensmini	/ Parame
						****			
Search	- Dividend Table			*					
					and a second				
			140	ER REFRESH	and the second sec				
Coy	a designed and the second second second second second second second second second second second second second s	DividendType		and Underh	and a second sec				
KRW	044	Dividend Yield	984						
KRW	현대자	Discrete Dividend Amou Discrete Dividend Amou			$\langle \langle     \rangle$				
KRW	KT	Discrete Dividend Amou			$\langle \langle \rangle$				
KRW	기아타	Discrete Dividend Amos							
KRNV	상성전자 전대모비스	Discrete Dividend Amos			$\langle \langle \rangle$				
SCON	14420111 1675×70	Disorte Dividead Amou	ut Erizoit	12	$\langle \langle \rangle$				
Select	ed Lists	DividendType R	flated Underlying	AND DESCRIPTION OF	$\langle \langle \rangle$				
KRW	and the second second second second second second second second second second second second second second second	screte Dividend Amount	and the second second second	7 5					
KRW	10.0.0	iscrete Dividend Anount 현		8 5	$\langle \cdot \rangle$				
and the second			1.76	· · · · · · · · · · · · · · · · · · ·	$\langle \langle \rangle$				
in a second				and a second second	$\langle \langle \cdot \rangle$				
		CANCEL			$\langle \langle \rangle$				
				SAVE C	NCEL				

# 4.4.2.6 Correlation Coefficient Parameter - Registration

1. The Correlation Coefficient Parameter Setting manages the registration of the Statistics Correlation Coefficient and the Correlation Coefficient Matrix.

New - Parameter Sets Statistics Corr. Coef		nce Term	Enter the Data Reference Term and Days Per Year to be applied.	arameter
Corr. Coeff. Matrix	KRW IRS & USD IR 6 Sym1	5	Volaniity Par	ameter
Coy1 Coy2 USD	Name1 Name2 USDCC_IRS_PREB_MID_pm4	Rate Curve :: Comp		
KRW	KRWCC_IRS_PREB_MID	Rate Curve ≘ Comp	Coefficient Correlation Matrix	
			CANCE	

# 4.4.2.7 Model / Sensitivity - Registration

1. The Model/Sensitivity Parameter Setting manages the registration of the Algorithm, H-W Model and Sensitivity.

New - Parameter Sets			×
Algorithm H-W Model Sensitivity	/		Parameter Set
			Rate & Currency Parameter
Tree	Tree Step	Total Period 💌	Credit Parameter
	Pyramid Step	Total Period 🔍	Volatility Parameter
			Dividend/Custody Parameter
Monte Calro Simulation	Simulation Count Seed Type	Fixed Number	Corr.Coeff Parameter
	Coeff. of Variance	Not Applicable 👻	Model/Sensitivity Parameter
FDM	Scheme Step	Explicit	
L	Step		
	·		
	*******		
Make the de	sired selection fo	or each algorithm.	
		si cucii algonania	
		SAVE CANCEL	
0			
New - Parameter Sets			×
Algorithm H-W Model Sensitivi	ty		Parameter Set
H-W 1 Factor Calibration			Rate & Currency Parameter
Ccy Entry Type KRW  Mean Rev.& Vol	Mean Reversion	1. Right-click the blank section u	nder the labelled cells and
KRW Vel All Calibration		select Add Row.	
Mean Rev.& Vol Mean Reversion	********	2. Select and enter desired input	s in each cell.
NA	1		hioden sensitivity Parameter
Calibration Curve			
Ccy Rate Curve			wapVol Curve
	*** Cap Vol		
	Swap Vol Cap & Swa		
1 Piak	t-click the blan	k section under the labelled ce	lls and select Add Row
		ons to make required selections ar	
2. USC		ons to make required selections ar	id input the Entry Type.
	ïme Dependency 🛛 🔻	,	
Swaption Vol. Calibration			
Sensitivities Calculation	le-Calibration 💌	Make desired selection.	
		l	
		SAVE CANCEL	
		JACE CANCEL	
New - Parameter Sets			×

	vew - Parameter Sets			^
1	Algorithm H-W Model	Sensitivity		Parameter Set
L			,	Rate & Currency Parameter
L	Calc. Difference	Delta	% Delta(Rate) bp	- Crodit Parameter
L		Vega	96 Rho bp	er
L	L	Theta	D Phi D Phi Enter required	inputs. <sub>Parameter</sub>
L	Effective Theta(Tree)			er
L	Ellective meta(free)	Adj.Calc Date 👻		Model/Sensitivity Parameter
L				
L				
			SAVE CANCEL	