

THOMSON REUTERS EIKON

User Manual

&

Methodology Guide

FOREIGN EXCHANGE, MONEY MARKETS,
BONDS, EQUITIES, COMMODITIES AND ENERGY



THOMSON REUTERS

Document History

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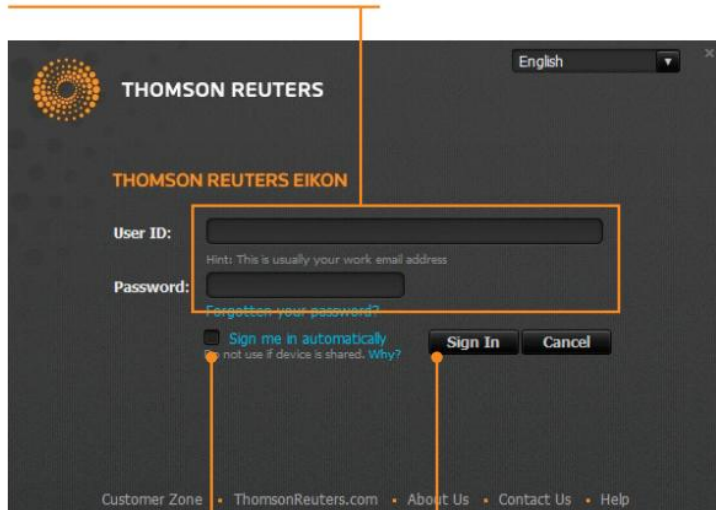
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Part 1: How to Set Up Eikon

1. Setting up Thomson Reuters Eikon

Logging in

1. Point to *Start > Programs > Thomson Reuters* and choose *Thomson Reuters Eikon*.
2. Type your user ID and password.

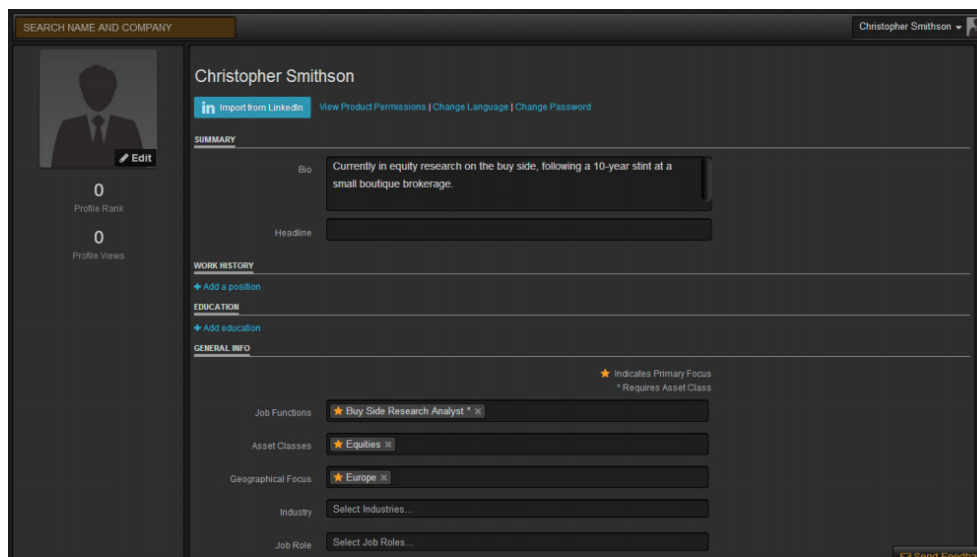


3. Select *Sign me in automatically* to avoid signing in the next time you start the application.
4. Click *Sign In*.

Customizing your Profile

After which, you can proceed to customize your profile. There are two different ways to do so, either by manually entering the information or by importing the page from LinkedIn.

Click on *My Eikon > My Profile and Directory*



Discovering your Workspace

The screenshot shows the Thomson Reuters Eikon workspace. At the top, there's a navigation bar with 'Workspace 2' and various icons. Below that is a search bar and a menu bar with options like 'HOME', 'ASSET CLASSES', 'COUNTRIES', 'NEWS AND RESEARCH', 'MY EIKON', 'REUTERS INSIDER', 'TRADING', and 'FINANCIAL INSTITUTIONS'. The main content area is divided into several sections: 'ASSET CLASSES' on the left, 'Monitor and analyse portfolios' in the center, and 'SEARCH' on the right. The 'Monitor and analyse portfolios' section features a large news article titled 'SHELL TO EXIT UP TO 10 COUNTRIES AFTER BG DEAL'. The right sidebar contains a list of 'TOP EQUITY INDICES' with columns for Name, Last, and % Chng.

Here is a list of Applications and functions that you are able to access from the Eikon Homepage.

- Thomson Reuters Eikon button. Click here to open apps or access menus such as user preferences.
- The Search box is powered by Autosuggest and Answers. Use it to find information - or answers to your questions.
- Displays the current active quote, chart or news (shortcuts)
- Gives immediate access to Messenger, Favourites, and Alerts.

Tip: To customize your profile and view the most relevant home page, click *My Eikon > My Profile* in the menu bar.

Browsing by Asset Class or Countries from the Home Page

The screenshot shows the Eikon interface for 'FIXED INCOME > BONDS'. The left sidebar lists various asset classes under 'FIXED INCOME'. The main area displays a table of 'TOP BENCHMARKS' with columns for Name, Yield, and Yld Net Chng. A 'CURVE CHART' is visible below the table. A 'QUICK LINKS' section on the right includes 'Bond Calculator BNDC', 'Bond Search', 'Rates Views', 'Credit Price Discovery', and 'Bond View'. A 'RECENT NEWS' section is also present. Three numbered callouts are present: 1 points to the 'BONDS' asset class in the left menu; 2 points to the 'View real-time' icon in the table; 3 points to the '0#USBMK= Chart' window that opens.

Name	Yield	Yld Net Chng
US 10Y Govt Bond	1.740	+0.017
EU 10Y	0.082	-0.003
JP 10Y	-0.119	-0.002
GB 10Y	1.302	+0.020
CA 10Y	1.238	
AU 10Y	2.210	+0.002

Browse by Asset Class from the Home Page

1. Click an asset class.
2. Click View real-time.
3. The related real-time app opens.

Tip: Whenever you see , click for real-time data

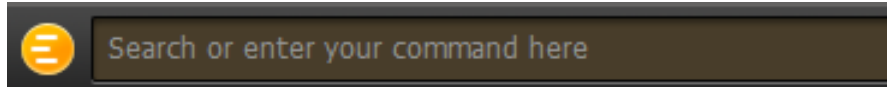
Browse Countries Information from the Home Page

1. Click on COUNTRIES from menu bar
2. Select the Country of interest
3. The related real-time app opens.
4. To change country of interest, repeat step 1 & 2

Find Data, Information and Answers to your Questions

The Search box is a good starting point for your workflow.

Instantly navigate to anywhere in Thomson Reuters Eikon using the Search box. Simply start typing what you want to find and Autosuggest will give you immediate feedback.



For example, start typing Singapore Airline in the Search box. Selecting SIAL.SI will take you to the in-depth Company Overview including analysis tools. Access real-time data by clicking the Quote, News or Chart links in the upper right corner of your screen.

Also, you could type questions such as “What is Google’s P/E?”. Eikon Answers will display the company’s current P/E ratios and provides links to further analysis tools.

Keyword types	Examples
• Company names or common abbreviations	Microsoft, Vodafone, IBM
• Descriptive terms	Comex copper, vodafone common stock
• Standard industry codes	Ticker, ISIN, Cusip, Sedol, WERT
• Specific and partial codes	US459200HJ3, MSFT
• Ticker, coupon, and maturity	VOD > +7.5%, VOD 2015
• TBA syntax or agency names	FNMA < 9%, Fannie Mae TBA 2014, Ginnie Mae 1
• Country names for country guides	France, United Kingdom, Japan

2. Applications

There are some key shortcuts that you can use to make Eikon easier for you to utilize.

F2: Quote List

	Name		Last	Pct.Chng	Net Chng	Close	Currency	+
EUR=	Euro	↓	1.1214	0.26 %	+0.0029	1.1185	USD	
GBP=	British Pound	↓	1.4455	0.28 %	+0.0041	1.4414	USD	
JPY=	Japanese Yen	↑	109.00	-0.47 %	-0.52	109.52	JPY	
CAD=	Canadian Dollar	↑	1.3073	-0.02 %	-0.0002	1.3075	CAD	
AUD=	Australian Dollar	↓	0.7225	-0.45 %	-0.0033	0.7258	USD	
MYR=	Malaysia Ringgit	↓	4.1430		0	4.1430	MYR	
CNY=	Chinese Yuan	↓	6.5785	0.06 %	+0.0037	6.5748	CNY	
INR=	Indian Rupee	↓	67.2450	-0.26 %	-0.1785	67.4235	INR	
BRL=	Brazilian Real	↓	3.5860	-0.38 %	-0.0136	3.5996	BRL	

F4: Quote

Bid		Ask	Net.Chng	% chg	Contributor	Loc	Src	Deal	Time	
B↑ 1.1212	1.1216		+0.0027	0.24 %	BARCLAYS	LON	BCFX		16:46	
12	16									
B↑ 1.1212	1.1216				DANSKE BANK	COP	DDBA DANC		16:46	
B↓ 1.1212	1.1215				RBS	LON	RBSL RBSL		16:46	
ChangeSummary		Daily View			Calendar Highs & Lows					
MTD% chg	0.75 %	O	1.1187	05:00	Weekly High	1.1219	Monthly High	1.1219	Yearly High	1.1614
3M% chg	3.18 %	H	1.1219	15:23	Date	02JUN16	Date	02JUN16	Date	03MAY16
6M% chg	5.66 %	L	1.1168	07:22	Low	1.1099	Low	1.1114	Low	1.0711
YTD% chg	3.24 %	C	1.1185	01JUN	Date	30MAY16	Date	01JUN16	Date	05JAN16
Session O/H/L/C									Related Data	
Asia	+0.0060	Europe	+0.0052	US	+0.0056	<EUR/BKGDINFO>				
O	1.1187	05:00	O	1.1204	13:00	O	1.1156	19:00	<EURVOL>	
H	1.1219	15:23	H	1.1219	15:23	H	1.1195	04:59	<O#EURF=>	
L	1.1168	07:22	L	1.1191	15:02	L	1.1149	22:08		
C	1.1211	02JUN16	C	1.1160	01JUN16	C	1.1185	01JUN16		
(5PM TOK)			(5PM LON)			(5PM NY)				

F5: Refresh

To refresh any page you are viewing

F6: Max/Min

To minimize or maximize any open application. (e.g. quote app, charts in a document, linked document)

F9: News

Time	Source	RICs	Headline
04:45:49 PM	RTRS	JPY= EURJPY=	《全球汇市》美元兑日圆触及两周低点，联储升息前景存在不确定性
04:42:58 PM	DJN		DJ U.K. Construction PMI Falls to 51.2 in May -- Market Talk
04:42:04 PM	RTRS		Risks to global economy rising - PIMCO's Amey
04:31:55 PM	RTRS	JPY= EURJPY=	FOREX-Dollar hits 2-week low against yen
04:26:38 PM	RTRS	GBP1MO= GBP=	欧洲汇市：英镑徘徊在两周低位附近，受英国退欧公投担忧影响
04:24:31 PM	RTRS	.MIWO00000PUS	GLOBAL MARKETS-Stocks struggle as ECB and OPEC meetings loom
04:14:35 PM	DJN	GBP= EURGBP=	DJ U.K. Construction PMI In Focus For GBP -- Market Talk EURGBP= GBP=
04:07:35 PM	RTRS	GBP1MO= GBP=	Brexit worries keep sterling pinned down to near 2-week lows
03:53:56 PM	DJN	ABNd.AS	DJ ABN Stands Out of Benelux Bank Turnaround -- Market Talk ABNd.AS
03:50:19 PM	DJN		DJ Interbank Foreign Exchange Rates At 03:50 EST / 0750 GMT
03:14:50 PM	RTRS	LCOc1 JPY=	GLOBAL MARKETS-Asian stocks struggle on growth concerns, yen hits Japan stocks
03:08:17 PM	RSCH		Banca Intesa Serbia - Daily report 02.06.2016 (5 pages) - Banca Intesa Serbia
03:01:23 PM	FCT		4CAST - Chart USD/CHF Update: Reasonably balanced this am
02:50:26 PM	DJN		DJ Nordic Markets Seen Opening Slightly Lower -- Market Talk
02:50:18 PM	DJN		DJ Interbank Foreign Exchange Rates At 02:50 EST / 0650 GMT
02:28:15 PM	FCT		4CAST - FX Daily Outlook & Strategy, Europe 02 June
02:25:14 PM	FCT		4CAST - Chart GBP/USD Update: Larger range still contains
02:14:56 PM	DJN		DJ European Forex: -- Technical Analysis
02:06:21 PM	CNBC	BARCL 8301.T	Reuters Insider - The consequences of a Japan ratings downgrade

F10: Chart

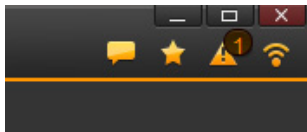


View Related Information

Related features give you access to apps, views, news, or calculators that are relevant to the data you are currently looking at. The list of related features varies according to the instrument you are viewing and the app you are using.

The screenshot shows the Thomson Reuters Eikon interface. The main window displays a table of IBM data, including columns for Calls, Tr, Last, Net, %Chg, Bid, Ask, ImpVol, OInt, Vol, and E. A 'Navigate' menu is open, listing various applications and views such as Corporate View, Quote, News, Chart, Sector News, Technical Analysis Chart, Rebasng Chart, Broker Statistics, Blended Order Book, AUTEX, Option Watch, Stock Trader Focus, Blended Order Tracker, Time & Sales, VWAP Order Tracker, Average Calculator, Option Calculator, Credit Default Swap, CDS Monitor, Implied Volatility, and Pair Trade.

Setting Alerts to Track Market Movement

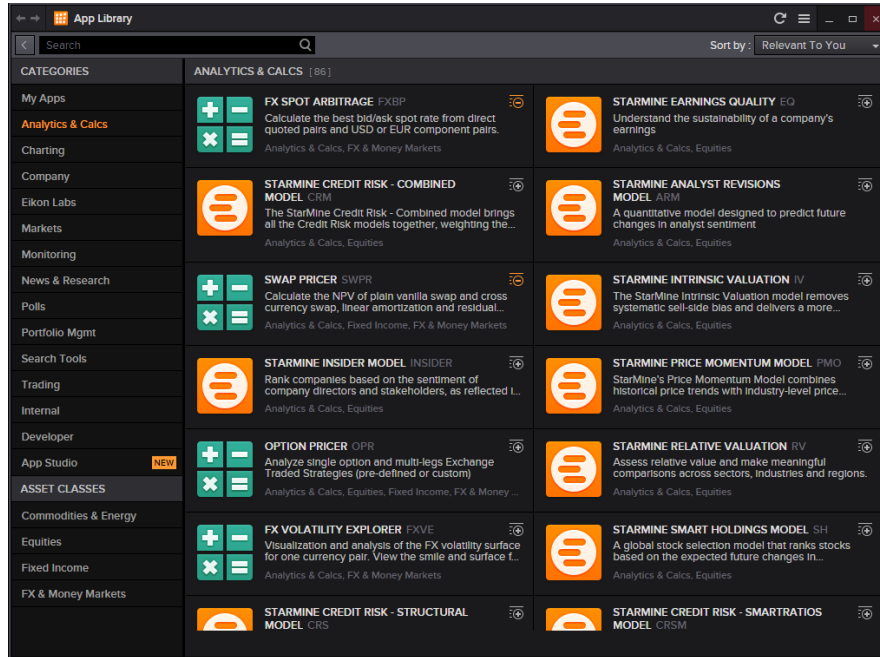


1. Click in the top right of any Thomson Reuters Eikon screen to open Alerts.
2. Click Create New Alert to set up new alerts.
3. Choose the type of data to trigger the alert:
E.g. Market data ; significant developments; street events; news; research; corporate filings
4. Fill in the alert criteria. For example, you can receive an alert when the instrument price hits a certain threshold.
5. Choose to receive alerts within Thomson Reuters Eikon or by email.
6. Click Set to create your alert.
The alert indicator tells you how many alerts you have received.

App Library

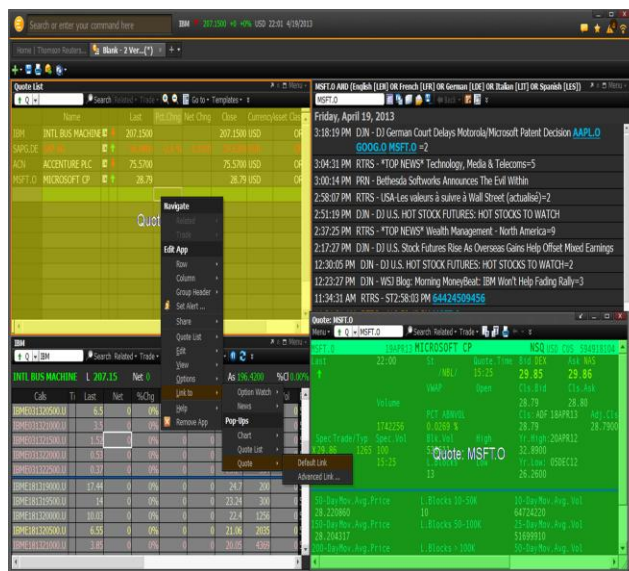
To have an overview of the different applications available on the Eikon Excel platform, one can proceed to the App Library. Here, you can browse according to Asset Classes or different categories.

To get to this page, press the Eikon button on the toolbar and select the App Library shortcut.



Link Apps together in your workspace

- Apps can work alone, or you can link them together to harness the power and flexibility of Thomson Reuters Eikon. You can link apps within a Flex document, or link to pop-up windows so that they share data



1. Insert apps in your Flex document. For example, insert the Quote List, Option Watch, and News Apps.

2. Right-click any app in your Flex document, and choose *Link to*.

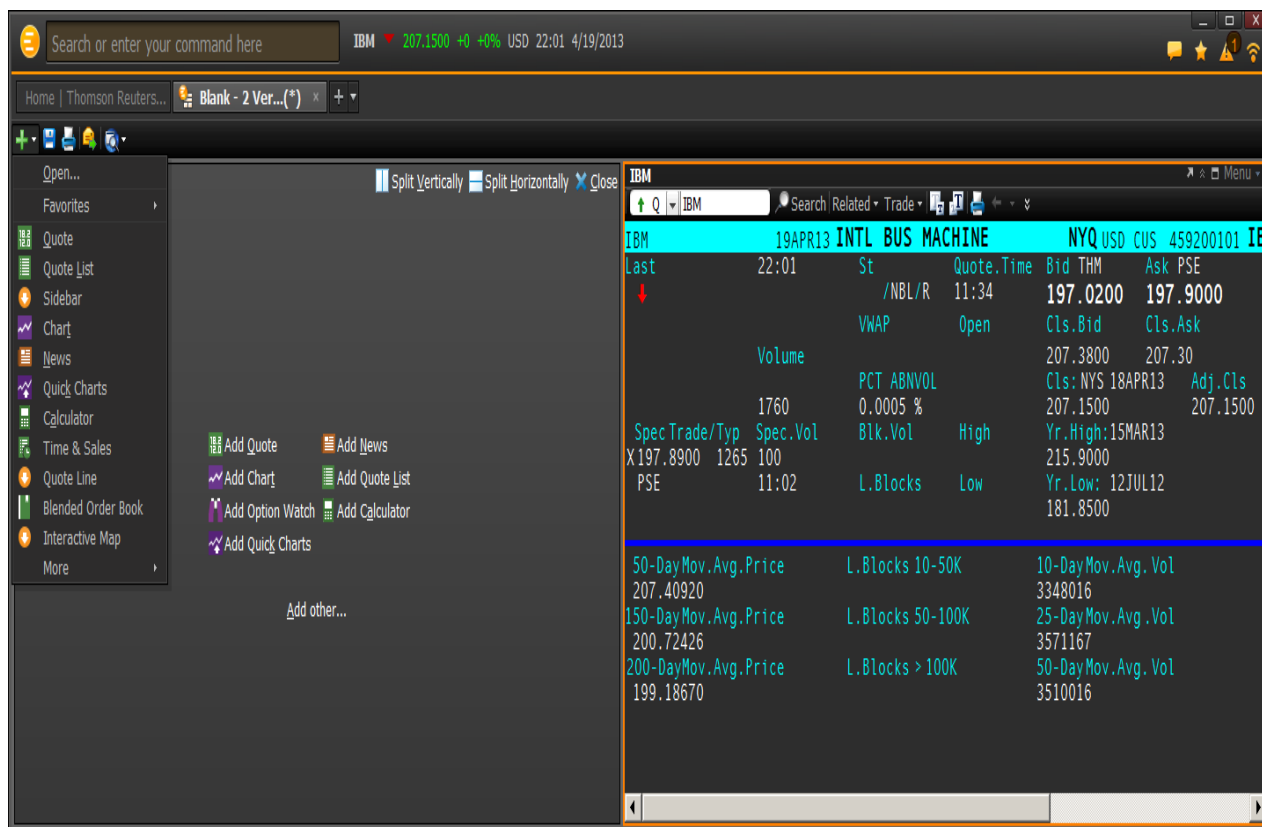
All open apps appear in the list, including pop-ups.

The source has a yellow background, the target (in this case a Quote pop-up) a green one.

3. Choose the app you want to link to.

Note: You can link from another app to a pop-up, but the pop-up cannot be the source app.

Add Apps to Your Document



1. Click Insert.
2. Choose the app you want to add.

Tip: You can also insert any real-time app that you opened from the home page into your Flex document. Just click the pop-in/pop-out arrow in the upper right of the app.

Open Thomson Reuters Eikon in several windows

You can open several Flex documents and home pages in Thomson Reuters Eikon. You can also view several Flex documents and/or home pages at the same time:

Drag a Flex document/home page tab and drop it outside the current window. A new window opens with the selected tab. OR

Go to and then click File > New Window to display the home page in a new window. OR

Press Shift+F3 to open a new window.

Part 2: Introduction to Eikon Excel

THOMSON REUTERS EIKON FOR MICROSOFT OFFICE

QUICK REFERENCE CARD | FREQUENTLY USED FORMULAS

Financial Information				Consensus Estimates	
Revenue	TR.Revenue	EV	TR.EV	Average Broker Rec	TR.RecMean, TR.RecLabel
COGS	TR.CostofRevenueTotal	Market Cap	TR.CompanyMarketCap	Price Target	TR.PriceTargetMeanEst
Depreciation	TR.Depreciation	Shares Out	TR.SharesOutstanding	CAPEX	TR.CAPEXMean
Gross Income	TR.GrossProfit	EPS	TR.BasicNormalizedEps	Operating Income	TR.OPRMeanEstimate
S, G & A	TR.SGandAExp	Fully Diluted EPS	TR.DilutedNormalizedEps	Revenue Estimate	TR.RevenueMeanEstimate
Total operating exp	TR.TotalOperatingExpense	BVPS	TR.BookValuePerShare	EBITDA Estimate	TR.EBITDAMean
Operating Income	TR.OperatingIncome	CFPS	TR.CFPSActValue	EBIT Estimate	TR.EBITMean
Interest Income	TR.NetInterestIncome	FCF Per Share	TR.FCFPSActValue	Net Income Estimate	TR.NetIncomeMeanEstimate
EBIT	TR.EBIT	DPS	TR.DpsCommonStock	CFPS Estimate	TR.CFPSMean
EBITDA	TR.EBITDA	R&D	TR.ResearchAndDevelopment	EPS	TR.EPSMeanEstimate
Pretax Income	TR.NetIncomeBeforeTaxes	Income Tax %	TR.IncomeTaxRatePct	DPS	TR.DPSMean
Net Income	TR.NetIncome	Dep & Amortization	TR.DepreciationAmort	ROE	TR.ROEMean
Total Assets	TR.TotalAssets	Cash & Equivalents	TR.CashAndSTInvestments	ROA	TR.ROAMean
Accounts Payable	TR.AccountsPayable	Receivables Total net	TR.TotalReceivablesNet	Valuation (historical)	
Current Liabilities	TR.CurrentLiabilities	Inventories	TR.Inventories	EV/ Total Revenue	TR.EVtoSales
Minority Interest	TR.MinorityInterestBSSmt	Current Assets	TR.CurrentAssets	EV/EBITDA	TR.EVtoEBITDA
Preferred Stock Net	TR.PreferredStockNet	Total Debt	TR.TotalDebt	EV/EBIT	TR.EVtoEBIT
Total Liab & Equity	TR.TtlLiabShareholderEqty	Net Debt	TR.NetDebt	P/BVPS	TR.PriceToBVPerShare
Fixed Income		Market Information		P/ TangBVPS	TR.PriceToTangBVPerShare
Issuer Name	TR.FilssuerName	RIC	TR.RIC	P/E	TR.PE
Maturity Date	TR.FiMaturityDate	Closing Price	TR.PriceClose	Valuation (forecast)	
Current Yield	TR.FiCurrentYield	Opening Price	TR.PriceOpen	EV/Fwd Total Rev	TR.EV/TR.RevenueMeanEstimate
Current Price	TR.FiPrice	Intra Day High	TR.PriceHigh	Fwd EV/EBITDA	TR.EV/TR.EBITDAMean
Principal Amount	TR.FiFacIssuedTotal	Intra Day Low	TR.PriceLow	Fwd EV EBIT	TR.EV/TR.EBITMean
Credit Rating		Trading Volume	TR.Volume	Foward P/EPS	TR.PtoEPSMeanEst
Rating	TR.GR.Rating	Dividend Yield	TR.DividendYield	PEG Ratio	TR.PEG
Moodys Rating	TR.FiMoodysRating	BETA 5 Year	TR.BetaFiveYear	P/Foward CFPS	TR.PtoCPSMeanEst
S&P Rating	TR.FiSPRating	Shares Outstanding	TR.SharesOutstanding	Valuation SmartEstimates	
Fitch Rating	TR.FiFichsRating	Headquarters	TR.HeadquartersRegion	Fwd EV/ Revenue	TR.FwdEVtoREVSmartEst
		Industry	TR.TRBCIndustry	Fwd EV/ EBIT	TR.FwdEVtoEBISmartEst
		Business Description	TR.BusinessSummary	Fwd EV/ EBITDA	TR.FwdEVtoEBTSmartEst
				Fwd P/EPS	TR.FwdPtoEPSSmartEst


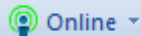
Chapter 2: Introduction to Eikon Excel

Date and Time functions =DfAddWD Adds the number of working days to a date =DfAddMonths Adds the number of months to a date =DfAddYears Adds a number of years to a date =RTNow Retrieves the current system time =RTToday Retrieves the current system date		} Syntax: =DfAddMonths (Calendars, CalcDate, NbMonths, DfMode) e.g. =DfAddWD("USA","30JUN05",2"") Function Output: July 5th 2005 (July 4th 2005 is a non-working day in the US, hence the next working day is retrieved)																														
Financial Period Syntax <table border="0"> <tr> <td><i>Relative Periods</i></td> <td rowspan="5"> } (Replace n with 0 for last reported period, -1 for previous period and 1 for next period) </td> <td>Period Argument Codes</td> <td></td> </tr> <tr> <td>FY[n] Fiscal Year</td> <td>FY0 Last Fiscal Year</td> <td></td> </tr> <tr> <td>FQ[n] Fiscal Quarter</td> <td>FY1 Next Fiscal Year</td> <td></td> </tr> <tr> <td>FI[n] Fiscal Interim</td> <td>FY-1 Previous Fiscal Year</td> <td></td> </tr> <tr> <td>FS[n] Fiscal Semi-Annual</td> <td>FQ0 Last Fiscal Quarter</td> <td></td> </tr> <tr> <td>CY[n] Calendar Year</td> <td>FI Fiscal Interim</td> <td></td> </tr> <tr> <td></td> <td>FS Fiscal Semi-Annual</td> <td></td> </tr> <tr> <td></td> <td>CY Calendar Year</td> <td></td> </tr> <tr> <td></td> <td>LTM Last Twelve Months</td> <td></td> </tr> <tr> <td></td> <td>NTM Next Twelve Months</td> <td></td> </tr> </table> <i>Absolute Periods</i> FY[YYYY] e.g. FY2014, FY2012 CY[YYYY] e.g. CY2013 [q]FQ[YYYY] Fiscal Year/quarter e.g. 3FQ2013 [s]FS[YYYY] Fiscal Semi-Annual e.g. 2FS2013			<i>Relative Periods</i>	} (Replace n with 0 for last reported period, -1 for previous period and 1 for next period)	Period Argument Codes		FY[n] Fiscal Year	FY0 Last Fiscal Year		FQ[n] Fiscal Quarter	FY1 Next Fiscal Year		FI[n] Fiscal Interim	FY-1 Previous Fiscal Year		FS[n] Fiscal Semi-Annual	FQ0 Last Fiscal Quarter		CY[n] Calendar Year	FI Fiscal Interim			FS Fiscal Semi-Annual			CY Calendar Year			LTM Last Twelve Months			NTM Next Twelve Months
<i>Relative Periods</i>	} (Replace n with 0 for last reported period, -1 for previous period and 1 for next period)	Period Argument Codes																														
FY[n] Fiscal Year		FY0 Last Fiscal Year																														
FQ[n] Fiscal Quarter		FY1 Next Fiscal Year																														
FI[n] Fiscal Interim		FY-1 Previous Fiscal Year																														
FS[n] Fiscal Semi-Annual		FQ0 Last Fiscal Quarter																														
CY[n] Calendar Year	FI Fiscal Interim																															
	FS Fiscal Semi-Annual																															
	CY Calendar Year																															
	LTM Last Twelve Months																															
	NTM Next Twelve Months																															
NULL: Populating empty cells NULL:ZERO displays 0 NULL:NA displays #NA NULL:NAND displays #N/A ND NULL:SKIP skips line if no data for at least one instrument NULL:PREVIOUS duplicates value of the previous data point NULL:NEXT duplicates value of the following data point		Scale Parameter 0 No Scaling 3 Scale the value into thousands 6 Scale the value into millions 9 Scale the value into billions	Chain Instruments e.g. 0#.DJA, 0#.FTSE, 0#.STOXX, 0#.NDX, 0#.N225 (.FTSE is the RIC of FTSE100 index, while 0#.FTSE gives all the RICs for the index constituents)																													
Eikon Formulae Shortcuts =RIC Identifier lookup =DI Data Item lookup =ANS Answers your question =TR Formula builder		} CTRL - Selects top hit TAB - Moves to next argument Enter - Commits function Esc - Exits out of assistant	Useful ISO Codes Australian Dollar AUD British Pound GBP Canadian Dollar CAD Chinese Yuan CNY Danish Kroner DKK Euro EUR Hong Kong Dollar HKD Japanese Yen JPY Swedish Kronor SEK Swiss Franc CHF US Dollar USD																													
Basic Eikon Formula TR(Instrument(s) , Data Item(s) , Parameters(s)) "= TR("MSFT.O", "TR.TotalRevenue", "Period=FY0") displays Microsoft's most recent fiscal year total revenue.																																
Advanced Eikon Formula TR(Instrument(s) , Data Item(s) , Parameters(s) , Destination cell , Cell references) "= TR("MSFT.O", "TR.Revenue", "Period=#1 Scale=#2 Cum=#3 CH=Fd", \$A\$1, B1, C1, D1) displays : Microsoft's Revenue for the period in cell B1, scaled to the number in C1 converted to currency in D1, with column header. The output is shown in cell \$A\$1																																

1. Basics to Eikon Excel

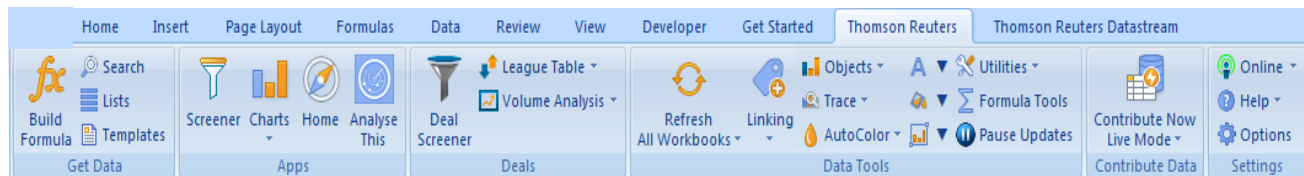
Overview

In order to access Eikon Excel, one should open the Thomson Reuters - Microsoft Excel application and do the following.

In the Thomson Reuters tab, press on the  button to log in. Ensure that the button now shows  before proceeding.

Despite the many capabilities of the application, we will only focus on the core functions required for you to utilize.

On the Thomson Reuters Tab, the following can be seen



Key Functions Available in Eikon Excel

1. Data Retrieval

The data retrieval function could be used to retrieve real-time data and to generate tables containing a list of instruments and data items. (E.g. EPS of Apple)

2. How to build your own formula

Using the “Build Formula” button in the toolbar, one can use the application to customize their own formulas with different instruments, data items and specific parameters. Here, both real-time and historical figures can be retrieved.

3. How to screen for stocks

Similar to the SCREENER application in Eikon, one can use this application to generate a list of equities based on their filter preferences.

4. How to plot charts

Real-time charts with the ability to reflect real-time changes can be plotted with this function

5. How to use templates to generate more complex spreadsheets

Using the sample templates available in Eikon Excel, users who wish to prepare more sophisticated spreadsheets can now do so with ease.

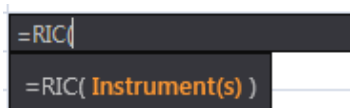
How to Generate a Basic Table <=RIC> and <=DI>

Note that the positioning of where the information is entered is important. Hence, we would provide example cell numbers in order to illustrate the following.

Assuming you have a new spreadsheet open in Excel, the following steps could be observed in order to generate a list or table of data and instruments.

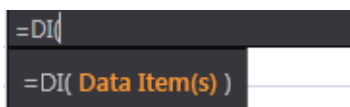
1. In Cell A2, (A3, A4 etc), enter the list of RICs (Reuters Instrument Code) you require.

Type “=RIC(“ to pull up the following function and type in the instruments. Note that you can only enter one instrument per row. The code will also be hard coded and is not part of a formula.



2. In Cell B1 (C1, D1 etc), enter the list of Data Items you require.

Type “=DI(“ to pull up the following function and type in the data items (e.g. EPS, Dividend). Note that you can only enter one Data item per row.



3. After keying in all your required instruments and data items, right-click in cell B2 and select <Thomson Reuters SpeedData> for the results to appear as follows.

	TR.TotalRevenue	TR.CompanyMarketCap	TR.RepEPSMean
STEL.SI	16961200000	61297552416	0.25019
DBSM.SI	NULL	39225098942	1.72953
STAR.SI	2444300000	6174211233	0.2005
MONE.SI	1157196000	2361796484	0.18769
OCBC.SI	NULL	34730446296	0.87755
C	NULL	1.26672E+11	4.70414

4. To “refresh” the table to make new figures appear for every RIC or DI entered, there are two ways to do so:

A: Right Click in B2 and repeat Step 3 to make the figures appear again

B: Press F2 after selecting B2 and drag the formula box to include the new RICs and DI

Please refer to the next page for another method to create the list.

How to use the <=TR> function on Excel

Users who wish to create a more complex list or table may find the above example a little tedious. Hence, there is another method, albeit more complicated, that could be used.

1. In any empty cell, type “=TR(“ to pull up the following.

```
=TR(
=TR( Instrument(s) , Data Item(s), Parameter(s))
```

2. To start off, we would choose different instruments (E.g. AAPL.O for Apple and GOOG.O for Google), pressing enter after each instrument.

3. To continue to the Data Items, press the TAB button

4. Enter different data items (e.g. Total Revenue, Company Market Cap), separating each item by pressing enter.

5. Moving on to the period parameter, first type <PERIOD> and hit enter, type in FY0

6. In order to make the Column and Row Headings appear, press enter after deciding the period and type <CH> and <RH> and select Field and Instruments respectively.

This would generate a formula similar to the following

```
=TR("GOOG.O;AAPL.O", "TR.TotalRevenue;TR.CompanyMarketCap;TR.BasicNormalizedEps", "Period:FY0
SDate:0CY EDate:-1AW; CH:Fd; RH:In")
```

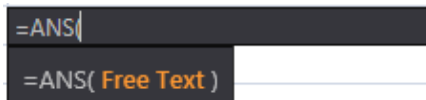
Updated at 16:38:09	Total Revenue	Company Market Cap	Basic Normalized EPS
GOOG.O	66001000000	5.28448E+11	20.59118
GOOG.O	66001000000	5.16205E+11	20.59118
GOOG.O	66001000000	5.17176E+11	20.59118
GOOG.O	66001000000	5.16782E+11	20.59118
GOOG.O	66001000000	5.04557E+11	20.59118
GOOG.O	66001000000	4.96985E+11	20.59118
GOOG.O	66001000000	4.98263E+11	20.59118
GOOG.O	66001000000	5.05931E+11	20.59118
GOOG.O	66001000000	4.88298E+11	20.59118
GOOG.O	66001000000	4.97236E+11	20.59118
GOOG.O	66001000000	4.8308E+11	20.59118
GOOG.O	66001000000	4.8308E+11	20.59118

Also, the table will be refreshed when you press the <Refresh All Workbooks> button in the Thomson Reuters Toolbar.

How to use Eikon Answers on Excel <=ANS>

Alternatively, in order to generate an active formula, instead of a hard code, one can type <=ANS> with your requirements, similar to how Eikon Answers works on Eikon.

1. Type “=ANS(“ in any empty cell to pull up the following function



2. In the free text area, specify the companies and data items needed, leaving a space between each item. (e.g. UOB DBS OCBC Company Market Cap) or (e.g. UOB DBS OCBC EPS)

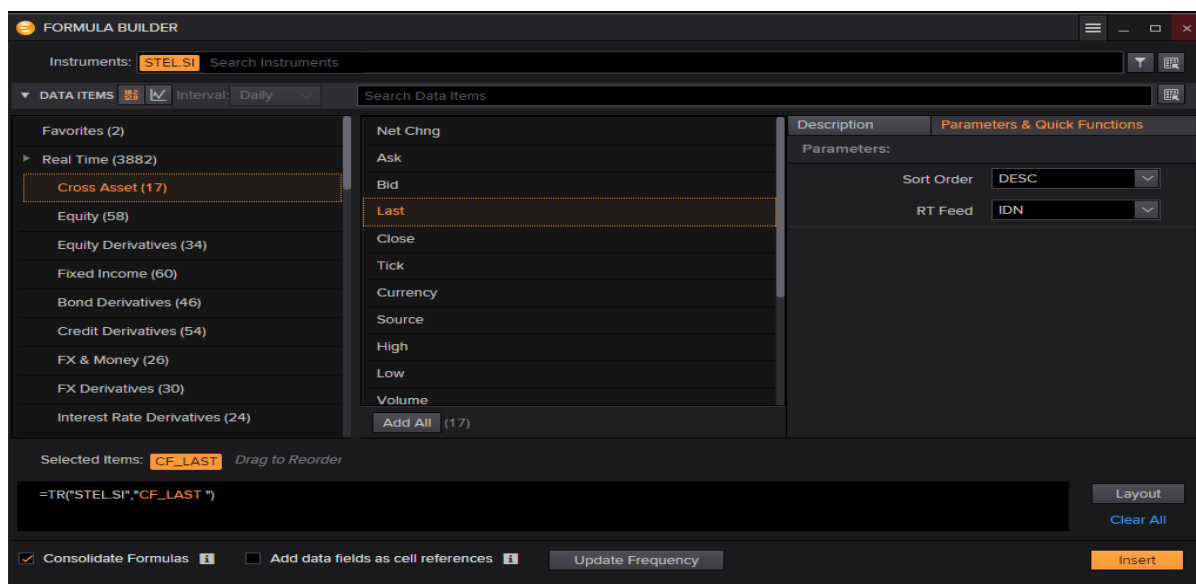
3. This would automatically correct into a function and display the results in a table, with an underlying active formula as shown below.

Updated at 17:51:57	Company Market Cap
UOBH.SI	29330412700
DBSM.SI	39331170914
OCBC.SI	34745247757

Real-Time Data with Formula Builder

One last way to retrieve real-time data is to utilize the Formula Builder Application, by pressing on the <Build Formula> icon in the Thomson Reuters toolbar.

1. Insert the RIC that you require
2. Insert the data item you wish to inquire about. Note that the code for the last-trading price is <CF_Last>
3. Press Insert.



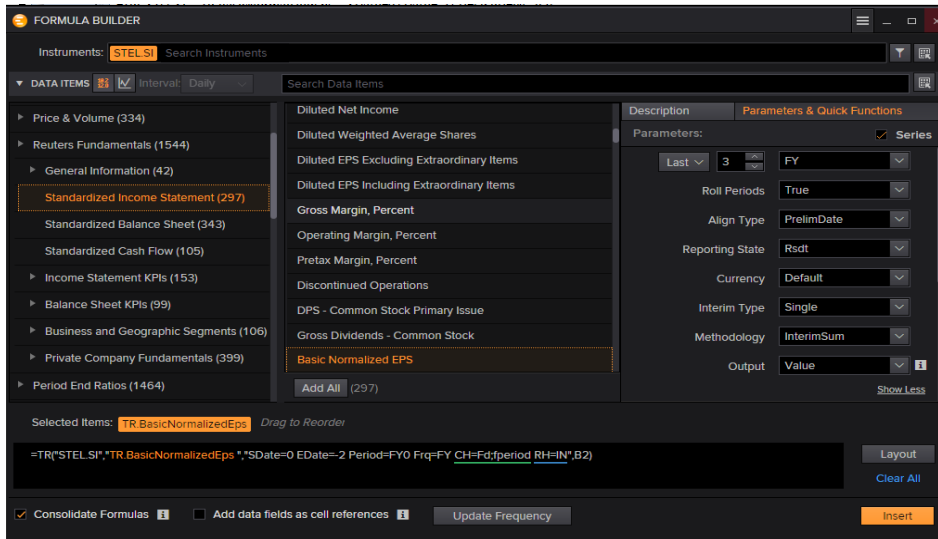
Alternatively, enter the following =TR(“STEL.SI”,”CF_LAST”) for the figure.

2. Formula Builder

Method 1: Formula Builder manually

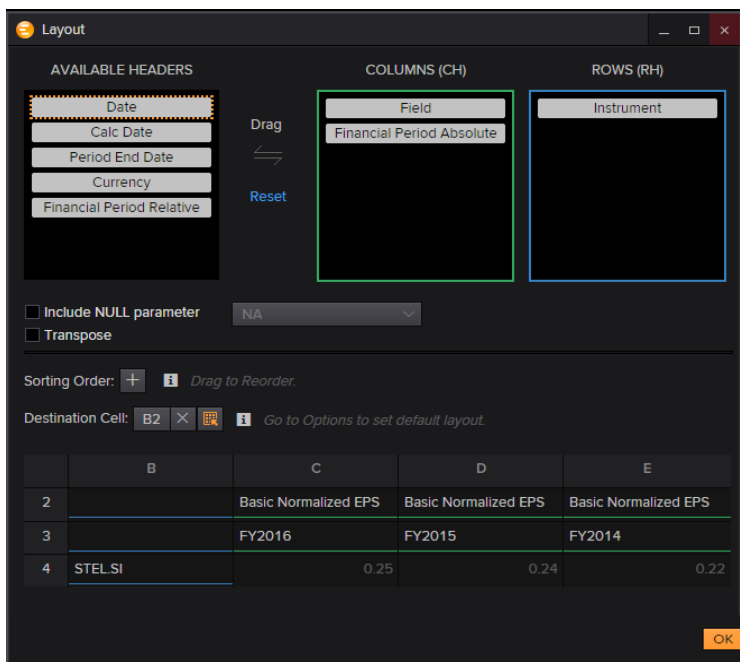
In order to enter data manually, you should do the following:

1. Enter the RIC (Instrument) required, and search for the data items either through the scroll menu at the side or by searching in the “Search Data Items” Bar.



2. After choosing the data item required, proceed to the “Parameters & Quick Functions” Tab to adjust the different Periods, Currency and data required.

3. After selecting the items, select layout to arrive at the following page. Here, edit the type of headings you require and view a preview screen at the bottom. Press Ok to insert an active formula in your destination cell.




Method 2: Formula Builder through Cell Referencing

To build a formula through cell-referencing, one should first set up a table as shown below

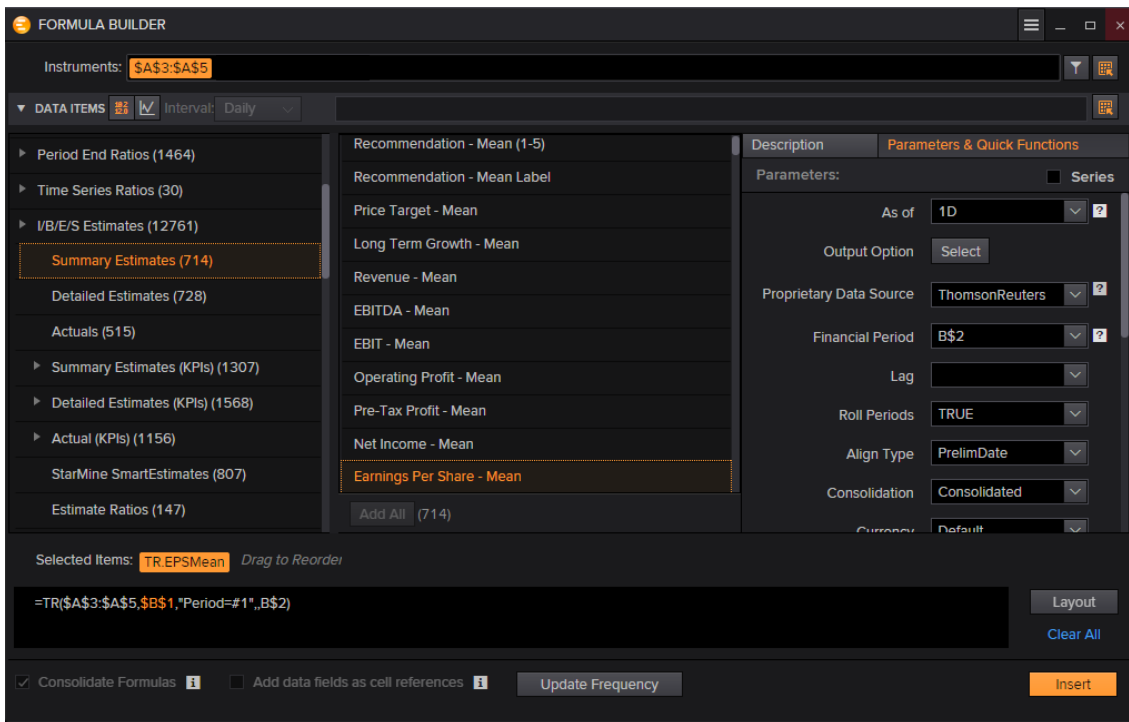
	TR.EPSMean		
	FY2015	FY2016	FY2017
STEL.SI			
DBSM.SI			
STAR.SI			

Open the Build Formula application.

1. Instrument Cell Reference by selecting the  icon next to the instrument search bar
2. Data Item Cell Reference (Note that the Data Item should be entered through the TR convention)
3. In the parameters tab, change the financial period to the last option <CELLREF> and select “FY2015”


Note: the year has to be typed with no space in between FY and 2015

4. Change the Cell Reference to remove the “\$” in front of the alphabet signifying the column. Note that this is essential.



FORMULA BUILDER

Instruments: **\$A\$3:\$A\$5**

DATA ITEMS  Interval: Daily

Period End Ratios (1464)

Time Series Ratios (30)

I/B/E/S Estimates (12761)

Summary Estimates (714)

Detailed Estimates (728)

Actuals (515)

Summary Estimates (KPIs) (1307)

Detailed Estimates (KPIs) (1568)

Actual (KPIs) (1156)

StarMine SmartEstimates (807)

Estimate Ratios (147)

Recommendation - Mean (1-5)

Recommendation - Mean Label

Price Target - Mean

Long Term Growth - Mean

Revenue - Mean

EBITDA - Mean

EBIT - Mean

Operating Profit - Mean

Pre-Tax Profit - Mean

Net Income - Mean

Earnings Per Share - Mean

Add All (714)

Description Parameters & Quick Functions

Parameters: Series

As of: 1D

Output Option: Select

Proprietary Data Source: ThomsonReuters

Financial Period: B\$2

Lag:

Roll Periods: TRUE

Align Type: PrelimDate

Consolidation: Consolidated

Consolidation: Default

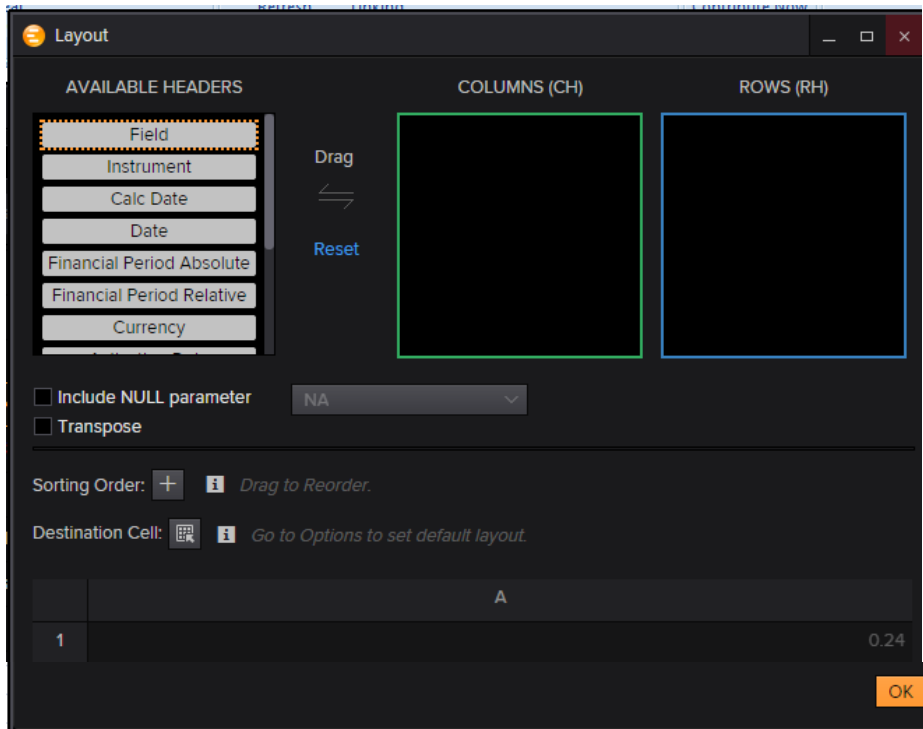
Selected Items: TR.EPSMean Drag to Reorder

=TR(\$A\$3:\$A\$5,\$B\$1,"Period=#1",B\$2)

Layout Clear All

Consolidate Formulas Add data fields as cell references Update Frequency Insert

5. Go to layout and remove all the fields, as shown below. Under the Destination Cell, press “x” to delete any destination cell selected by default.



6. To create the table, drag the formula to cover all the necessary cells.

3. Screener

The screener application on Eikon Excel is largely similar to that on Eikon itself, with a similar interface and design.

Press the **Screener** button in the Eikon Toolbar.

Adjust all the necessary fields, including the currency and universe (type of companies).

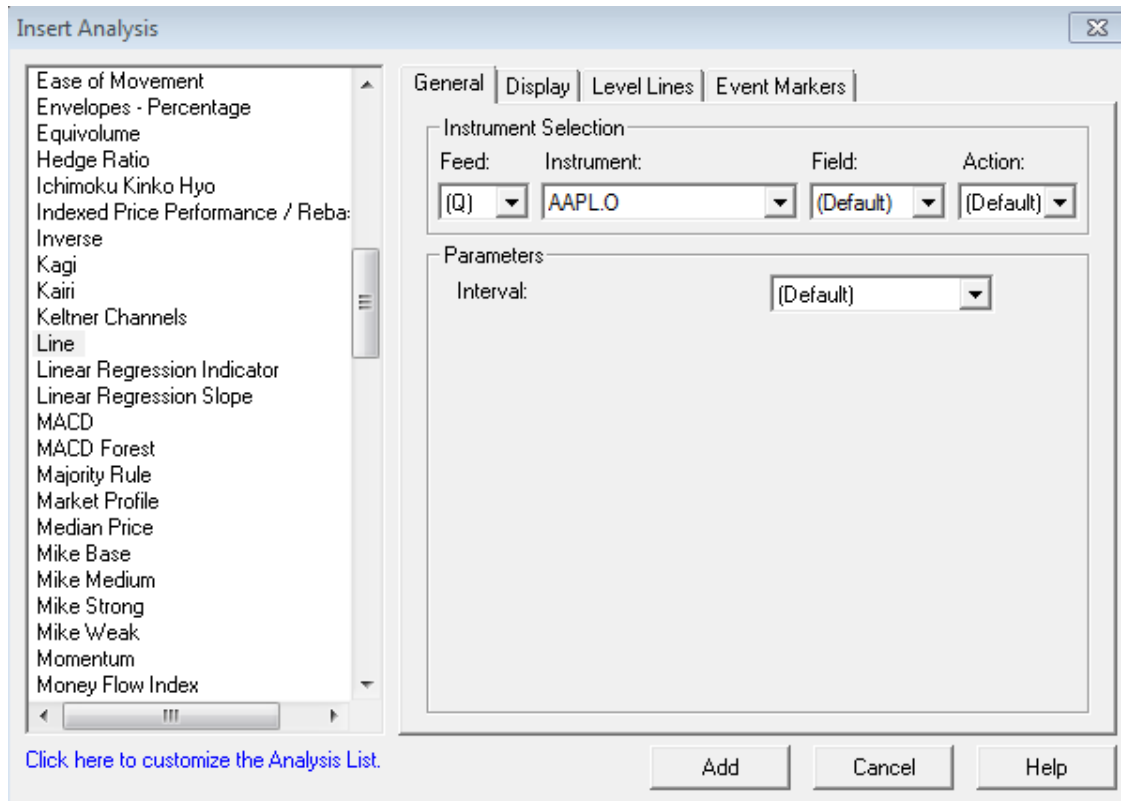
Generate a table that will look like the following by pressing “Insert Screen”

Company Common Name	Country of Exchange	Company Market Cap
Tiong Seng Holdings Ltd	Singapore	81433429.62
Global Palm Resources Holdings Ltd	Singapore	44205197.11
Bund Center Investment Ltd	Singapore	426673773
ES Group (Holdings) Ltd	Singapore	12508489.59
Smartflex Holdings Ltd	Singapore	18574900.34
Leader Environmental Technologies Ltd	Singapore	22781965.16
Yamada Green Resources Ltd	Singapore	35323375.57

4. Charting

Plot charts on Eikon Excel through the **Charts** button in the Toolbar using a similar interface to that of the F10 shortcut.

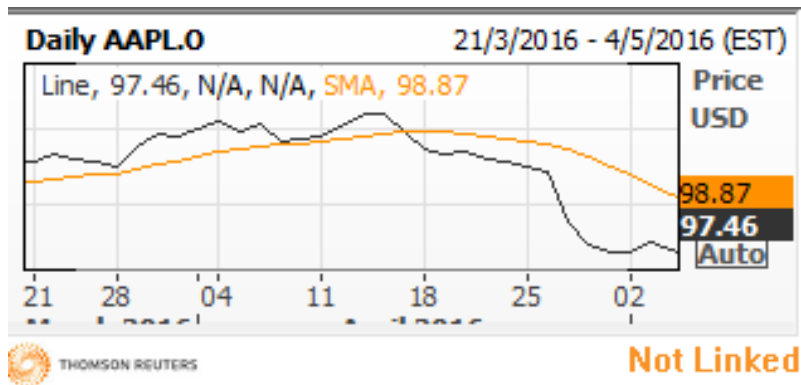
After specifying the range of cells to insert the chart component and the range of cells to be linked (if any), you will be prompted with the below page.



Here, you can select the line you want to plot, as well as insert any analysis necessary.

To return to this page after inserting the chart, press on the **Charts** button in the toolbar once again and click on **Manage Charts > Insert Analysis**.

You should be able to view a chart as follows.



Note that the date as well as the time zone can be customized to your needs as well

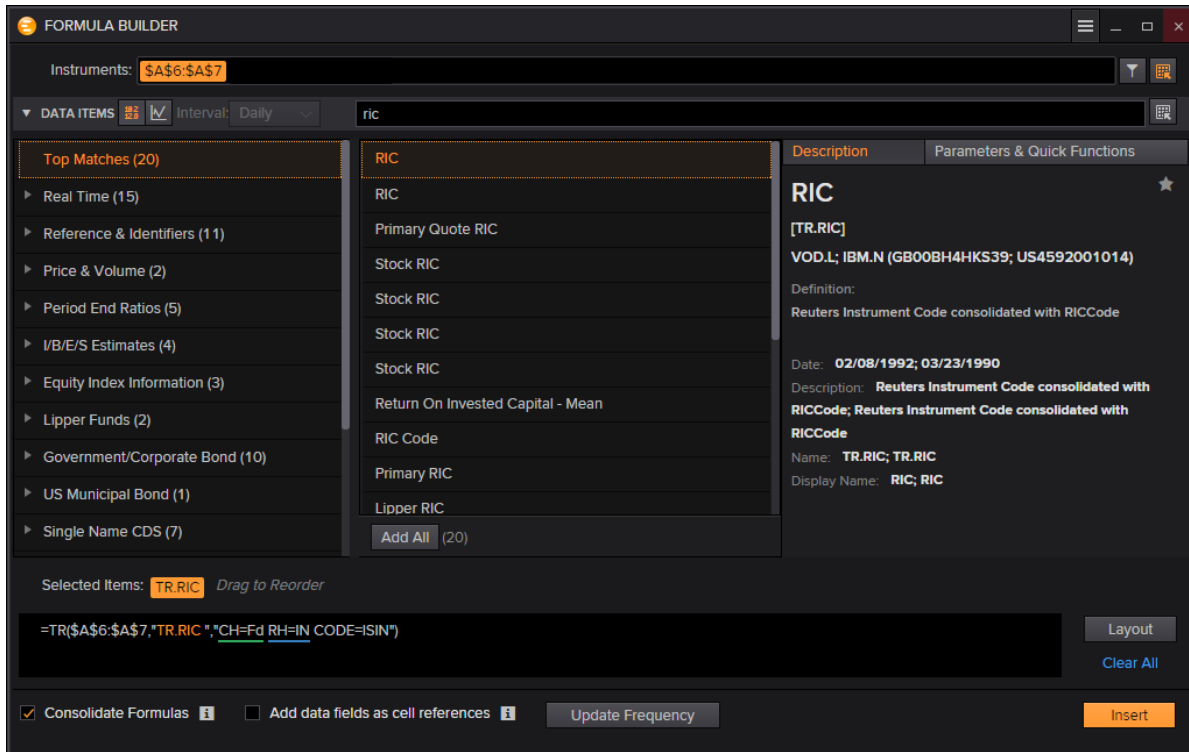
5. ISIN to RIC

Using Microsoft Excel, one is able to translate the ISIN of different instruments to the RIC as stated on Eikon.

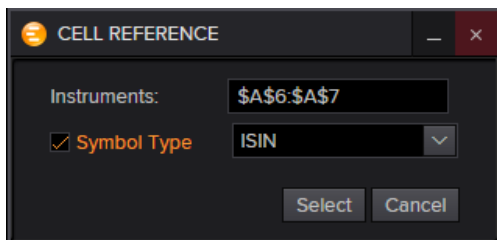
1. In Eikon Excel, ensure that the two different ISIN code (or Sedol codes) are in different cells.

GB00BH4HKS39
US4592001014

2. Open the Formula Builder through the Eikon Toolbar.



3. Use the cell reference feature to link the cells to the instruments as required.
4. Tick the box next to the “Symbol Type” and select the type of code currently used (e.g. ISIN)

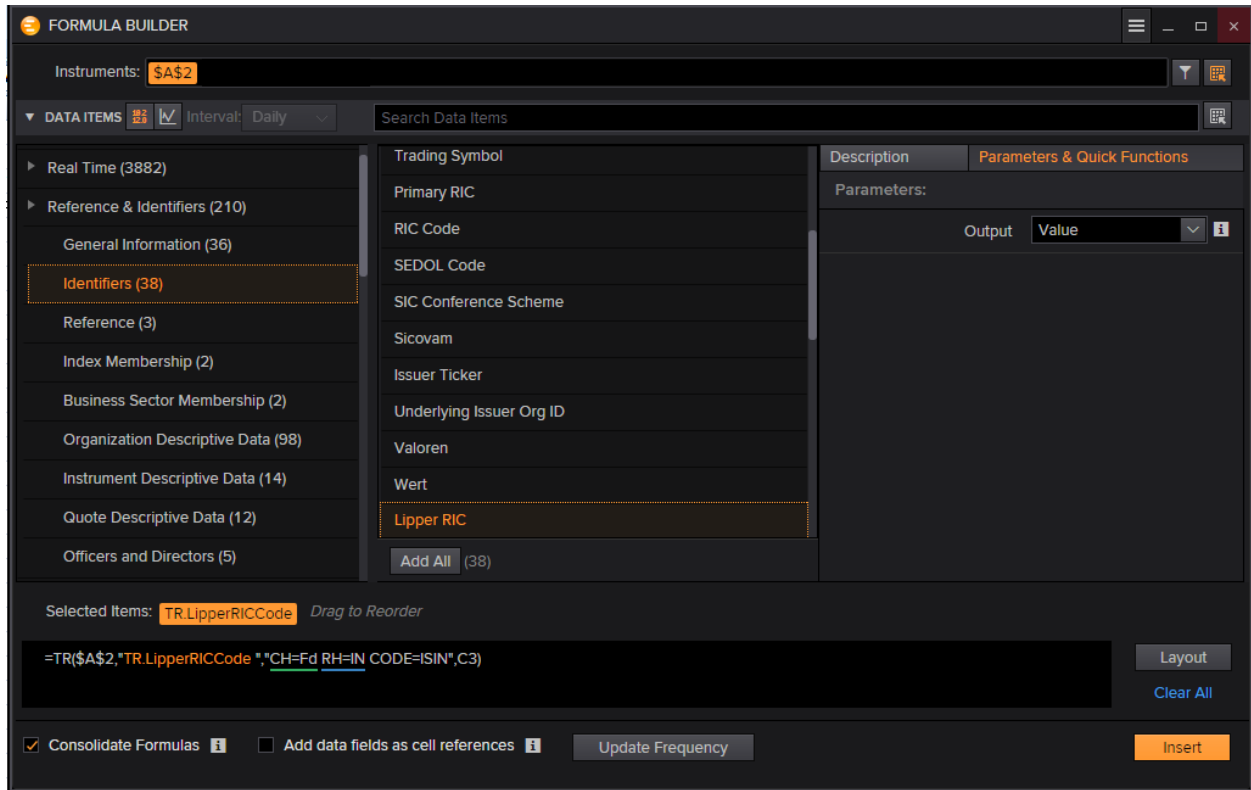


5. The RIC would then be generated as follows.

Updated at 10:07:23		
		RIC
	GB00BH4HKS39	VOD.L
	US4592001014	IBM.N

Alternatively, users can translate ISIN codes into Lipper RICs as well.

1. After opening the Formula Builder, select the Identifiers > Lipper RIC



2. After cell-referencing as shown above, click insert and the following codes will be generated.

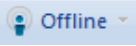

Updated at 10:07:23		Lipper RIC
	US04315J2096	LP40050069

Part 3: Introduction to DataStream on Excel

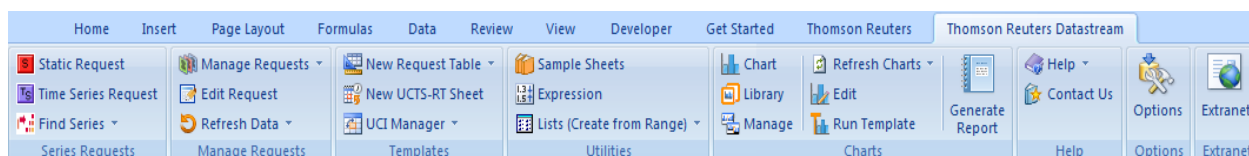
1. Overview

This short introduction will only serve as a simple guide to the DataStream feature available on Eikon Excel. For a more in depth understanding, please refer to the full **Thomson Reuters DataStream User Manual** instead.

To use DataStream for Microsoft Office Excel, use the **Thomson Reuters DataStream** menu in your Excel application.

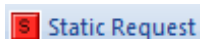
In the Thomson Reuters tab, press on the  button to log in. Ensure that the button now shows  before proceeding.

At the **Thomson Reuters DataStream** tab within Eikon Excel, the following options can be found.



We will only be looking at 4 of these options in detail.

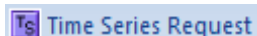
1. Static Request



The static request function allows you to request data for a specific date. For example, the price, PE or dividend yield for Apple on 14/01/1994.

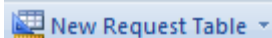
Static Requests are also mostly utilised to pull up information about an instrument, such as sector information, and other identifiers such as ISIN and Sedol Codes.

2. Time Series Request



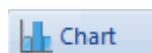
The time series request function allows you to request data over a specific data, defined by a start date, end date and frequency of data. For example, you can check the daily price of Apple from 14/01/1994 to 12/04/1994.

3. New Request Table



Users can consolidate their list of requests and organize them from here.

4. Chart



A visual representation of the time series data can be obtained. Economic indicators and their respective charts can also be generated.

2. Static Request

Static Request

Request Details

Series/List RIC

Datatypes/Expressions 3

Date Latest Value 4

Options

Display Custom Header 5

Display Row Titles

Display Column Titles

Display Headings

Transpose Data

Display Code

Display Currency

Display Latest Value First

Hyperlink to Series Metadata

Hyperlink to Datatype Definition

Display Expression

Description

Number

Display Datatype

Description

Mnemonic

Embed Formula

There are 5 main pieces of data that you would require to key in when using the **Static Request Function**.

1. Series/List
2. Datatypes/Expressions
3. Currency
4. Date
5. Options

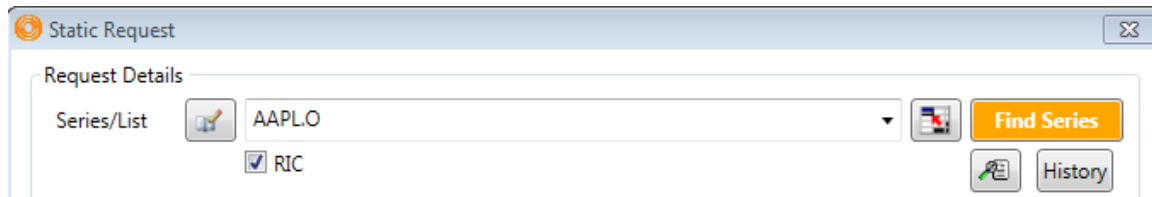
Series/List

Here, you would need to specify the instrument that you wish to enquire about.

Other than typing in the name of the issuer, there are 3 ways for you to search for the instrument.

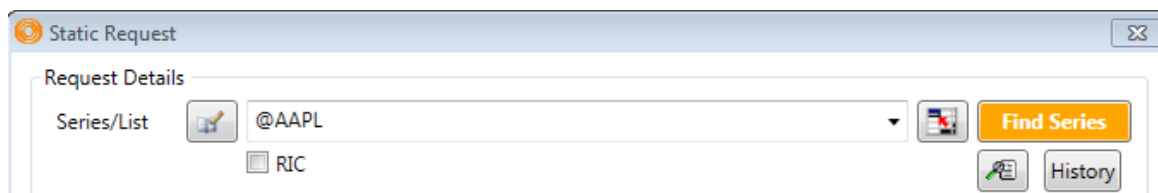
Firstly, you could key in the **RIC (Reuters Instrument Code)** if you are familiar with the shorthand.

E.g. If you know the RIC code for Apple (**AAPL.O**), you do the following.



Tick the RIC box and type in the RIC of the instrument you require. Lists could be entered by separating RICs or DataStream codes with a comma. “,”

Secondly, you could key in the **DataStream Instrument Code** as follows, (E.g. @AAPL)



Thirdly, if you do not know either, you could search for it by pressing on the **Find Series** button.

Search Results for 'apple'

Showing results from All Categories.
Did you mean: *results filtered to Equities?* (30 matches)

Results for apple	1-10 of 31,533	Next >			
	Name	Symbol	Category	Market	Origin
<input type="checkbox"/>	APPLE	@AAPL	Equities	United States	NASDAQ
<input type="checkbox"/>	APPLE HOSPITALITY REIT	U:APLE	Equities	United States	NYSE
<input type="checkbox"/>	APPLE FLFR.GP.'A'	CN:AFG	Equities	China	Shanghai
<input type="checkbox"/>	APPLE GREEN HOLDING	@AGPL	Equities	United States	Non NASDAQ OTC
<input type="checkbox"/>	APPLE RUSH	@APRU	Equities	United States	Non NASDAQ OTC
<input type="checkbox"/>	APPLE CAPITAL	C:ALE	Equities	Canada	TSX Ventures
<input type="checkbox"/>	APPLE FINANCE	IN:APE	Equities	India	BSE Ltd
<input type="checkbox"/>	APPLE INTERNATIONAL	J:APPI	Equities	Japan	Tokyo
<input type="checkbox"/>	GOLDEN APPLE OIL & GAS	@GAPJ	Equities	United States	Non NASDAQ OTC
<input type="checkbox"/>	Apple Computer Com Continuous Call	AAQ&C.SERIESC	Options	United States	Options Price Reporting Authority

Apple

Mnemonic: @AAPL
Code: 992816
RIC: AAPL.O
TI Code: AAPL-US
SEDOL: 2046251
ISIN: US0378331005

Local Code: U03783310

Double click the symbol of the instrument or click on the box and press **Use**.

Datatypes/Expression

In this box, the specific type of data necessary could be selected.

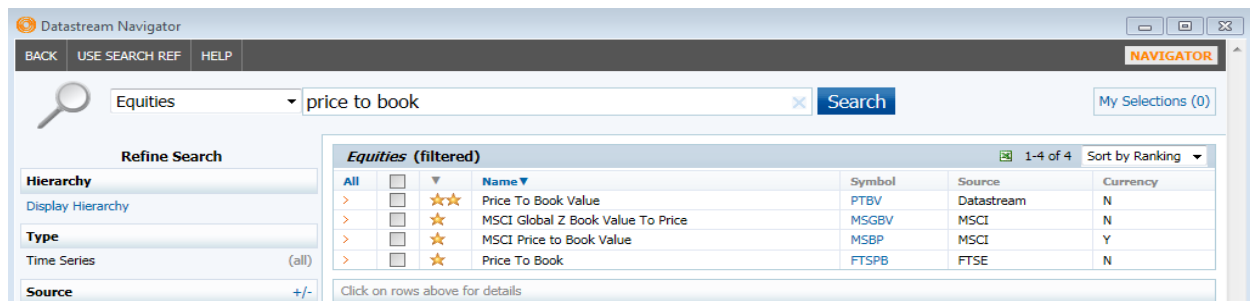


By default, if the box is left blank, the default data (e.g. price) of the instrument would be provided.

However, you could instead enter the different datatypes if you know the code. Lists could also be entered by separating each datatype with a comma.


For example, commonly used datatypes include **PE** (Price-to-earnings ratio) and **EPS** (Earnings per Share).

Alternatively, you could similarly use the **DFO Navigator** by selecting the **Datatypes** button.

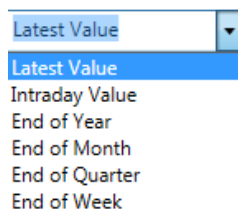


Type in the datatype that you wish to search for and double click on the symbol or click the box next to the name and press use.

Currency

Press on the  button in order to adjust the currency. By default, the currency would be set to the local currency.

Date



Choose the Date that you wish to obtain data for. For example, the latest available value is most commonly used.

Options

Here, you could choose what titles you would want to be generated. Typically, the row and column titles are used.

3. Time Series Request

Time Series Request

Request Details

Series/List RIC TS for each item in list

Datatypes/Expressions

Start Date Frequency

End Date 4

Options

Display Custom Header 5

Display Row Titles

Display Column Titles

Display Headings

Transpose Data

Display Code

Display Currency

Display Latest Value First

Hyperlink to Series Metadata

Hyperlink to Datatype Definition

Display Expression

1st Series

1st Series & Description

Display Datatype

Description

Mnemonic

Embed Formula

TS Format

Yearly-Date

Quarterly-Date

In order to conduct a time series request, the steps 1-3 and 5 are the same as that of a static request, with the difference being in the 4th step (Start, End Date and Frequency)

1. Series/List
2. Datatypes/Expression
3. Currency
4. Start Date, End Date and Frequency
5. Options

Start Date, End Date and Frequency

When conducting a time series request, you would need to key in the start and end date as well as the frequency required.

The drop down tables are as follows,

Alternatively, you could key in the actual dates in the DD/MM/YY format as shown above. This would generate the table of figures as follows.

Name	APPLE	APPLE - EARNINGS PER SHR	APPLE - PER
14/1/2016	99.52	9.22	10.8
21/1/2016	96.3	9.22	10.4
28/1/2016	94.09	9.22	10.2
4/2/2016	96.6	9.42	10.3
11/2/2016	93.7	9.42	9.9
18/2/2016	96.26	9.42	10.2
25/2/2016	96.76	9.42	10.3
3/3/2016	101.5	9.42	10.8
10/3/2016	101.17	9.42	10.7
17/3/2016	105.8	9.42	11.2
24/3/2016	105.67	9.42	11.2
31/3/2016	108.99	9.42	11.6
7/4/2016	108.54	9.42	11.5
14/4/2016	112.1	9.42	11.9

4. Request List

Constituent List of Equity Indices

Before discussing how to use the request list function on DataStream, let's explore how to view data for constituents of an index.

For example, the Hang Seng Index in Hong Kong trades with the DataStream code <HNGKNGI>. In order to generate the data for the list of constituents that make up the index, one can add an "L" in front of the DataStream code. Hence, the data for the constituents has the code <LHNGKNGI>

However, it would be good to note that DataStream cannot generate data for a time series constituent list (TS). Instead, utilise the TSL to create a list for constituent list.

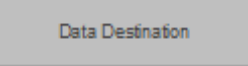
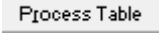
Static Request (Constituent List)

The screenshot shows the Thomson Reuters DataStream interface. The 'Request List' dialog box is open, displaying various options for generating a request list. The 'Process Table' button is highlighted. Below the dialog box, a table shows the generated request list for the Hang Seng Index constituents.

Update	Request Type	Format	Series Lookup	Datatype/Expressions	Start Date	End Date	Freq	Data Destination							
Y	YN	S	TS	TSL	L	CH	Select Format	Find Series	Datatypes	fx					
YES		S					RC	HNGKNGI	NAME	PB		-1D		Sheet1!\$A\$1	
YES		S					RC	LHNGKNGI	NAME	PB		14/01/2016	12/04/2016	WEEKLY	Sheet1!\$K\$1

Here are the steps in order to generate a request list as shown above.

- In the first column, press **Y** for **Yes** to automatically update the table with the live values. Alternatively, press **N** for **No**.
- In the second column, indicate the type of request necessary, by pressing the buttons in grey
 - S - Static request
 - TS - Time series request
 - TSL - Time series for lists
 - L - List request
 - C - Chart request
- In the third column, indicate the format required. (i.e. Row, Column = RC)
 - F - Custom Header
 - R - Row Titles
 - C - Column Titles
 - H - Request Headings
 - T - Transpose returned Data
 - \$ - Include currency
 - X - Data only
 - E - Display expression 1st series as title
 - N - Display expression title as title
 - K - Hyperlink to Series metadata
 - B - Hyperlink to Datatype definition
 - M - Display Code
 - L - Latest Value First
 - Y - Display dates in Yearly Format
 - Q - Display dates in Quarterly Format

- In the fourth column, indicate the datatype required. Use the Datatypes search if you are not sure what the shorthand is.
- For a static request, the start date could be -1M or -1D or the specific date and no end date or frequency is required.
- In order to generate the data in a separate sheet, create a new sheet, and highlight the data from the “Update” column to the “Data Destination Column”. Next, press the  button.
- Lastly, press the  button for the table to be generated.

Type	NAME	PE		Type	NAME	PB
HNGKNGI	HANG SENG	10.28		70899K	AIA GROUP	42.7
				26030V	BOC HONG KONG (HDG.)	22.2
				35968W	BANK OF CHINA 'H'	3.11
				951410	BANK OF EAST ASIA	24.25
				31203N	BANK OF COMMS.'H'	4.87
				50520M	BELLE INTERNATIONAL HDG.	5.41
				31988F	CHINA CON.BANK 'H'	4.82
				998511	CITIC	11.84
				9507U2	CHEUNG KONG PR.HDG.	46.15
				930492	CK HUTCHISON HOLDINGS	97.85
				887014	CHEUNG KONG INFR.HDG.	71
				929593	CLP HOLDINGS	63
				256842	CNOOC	7.29
				729076	CATHAY PACIFIC AIRWAYS	12.98
				28201C	CHINA LIFE INSURANCE 'H'	20.95
				315805	CHINA MRCH.HDG.INTL.	21.65
				867874	CHINA MOBILE	81.25
				316071	CHINA OS.LD.& INV.	22.4
				887449	CHINA RESOURCES LAND	18.1
				27962U	CHINA RES.POWER HDG.	13.96
				31162D	CHINA SHENHUA EN.CO.'H'	11.36
				280949	CHINA UNICOM (HONG KONG)	8.64
				314060	GALAXY ENTERTAINMENT GP.	21.55
				929610	HONG KONG AND CHINA GAS	14.56
				280037	HONG KONG EXS.& CLEAR.	179.7
				923812	HSBC HOLDINGS	56.2
				951407	HANG LUNG PROPERTIES	15.68
				929594	HANG SENG BANK	133.7
				997697	HENDERSON LD.DEV.	42.9
				675810	HENGAN INTL.GP.	66.2
				41271W	INDL.& COML.BK.OF CHINA 'H'	4.15
				755101	KUNLUN ENERGY	5.74
				362033	LENOVO GROUP	6.72
				315769	LI & FUNG	4.55
				298493	LINK RLEST.INV.TST.	44.85
				264718	MTR	36.4
				29042F	CHINA MENGNIU DAIRY	11.28
				930223	NEW WORLD DEV.	6.81
				280366	PETROCHINA 'H'	4.48
				29091W	PING AN INSURANCE 'H'	36.3
				929595	POWER ASSETS HOLDINGS	70.35
				929146	SUN HUNG KAI PROPERTIES	89.35
				68341V	SANDS CHINA	22.25
				997310	SINO LAND	10.2
				266578	CHINA PTL.& CHM. 'H'	4.22
				916546	SWIRE PACIFIC 'A'	76.75
				29061M	TENCENT HOLDINGS	137
				865347	TINGYI CYMN.ISLE.HLDG.	9.23
				51780L	WANT WANT CHINA HOLDINGS	4.91
				929597	WHARF HOLDINGS	38.75

A table as follows would then be generated, with the P/E ratio in one column and the list of constituents and the price in another.

Time Request (Request Table)

To perform a time request, similar steps could be taken. However, constituent lists cannot be generated for time request lists.

Take note that for a time request, the start date, end date and frequency must be entered.

As a result, a table as follows can be generated.

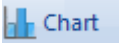

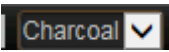
Name	HANG SENG - PER
14/1/2016	8.01
21/1/2016	7.51
28/1/2016	7.78
4/2/2016	7.81
11/2/2016	7.55
18/2/2016	7.89
25/2/2016	7.77
3/3/2016	8.17
10/3/2016	8.27
17/3/2016	8.84
24/3/2016	9.31
31/3/2016	10.15
7/4/2016	9.9

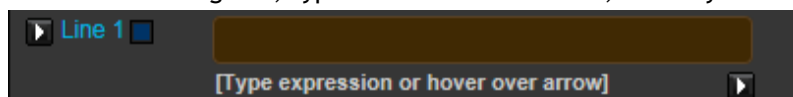
A request list is useful for consolidating all the inputs of every request created on the file and can allow users to quickly locate the data that they are looking for.

Even though there are additional functions for the different request types, we will not cover it in the course of this short introduction.

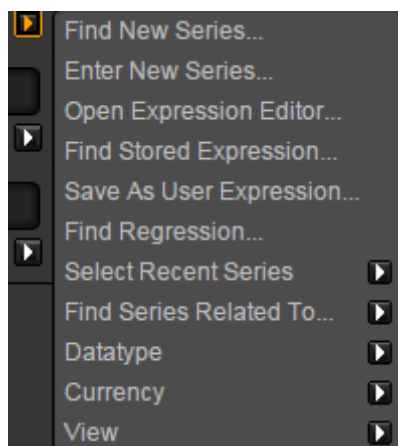
5. Charting

On DataStream, you would be able to plot charts of economic indicators and different datatypes of different instruments.

1. Press the  button in the Thomson Reuters DataStream tab. Alternatively, in the Eikon Toolbar, search <CBOOK.
2. Press the  to open a new chart
3. Change the colour scheme  if necessary (Charcoal or Pearl)
4. In the following box, type the DataStream code, or a keyword to search for the instrument required.

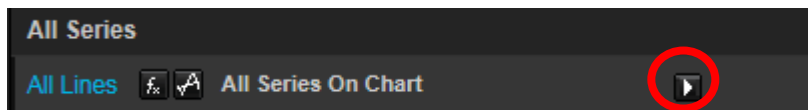


5. If the DataStream code is not known, press the small arrow at the bottom right of the screenshot, and press on **Find New Series**. Search for the necessary series as you have done for “Series/Lists” in the Static and Time Series Request.
6. To change the datatype for individual instruments, click on the arrow located next to the line in the formula

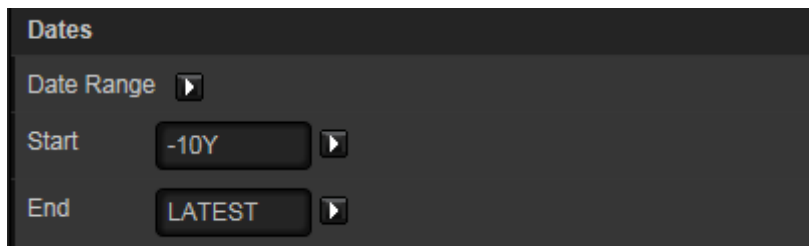


7. Select “Datatype” to change the specific instrument’s datatype.

If you wish to change the datatype(s) for multiple instruments, you could do the following.





1. Firstly, press on the arrow and select **Datatypes**. After which, you could either manually enter the Datatype or use the **find new datatype** function.
2. Next, if you want to change the data of the charts, do it in the boxes as follows. You can either insert the period of time or type in the date in the DD/MM/YY format.



3. If you wish to view the data for the chart plotted, select the **Chart** **Data** button at the top right hand corner of the page.

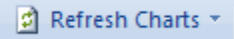
4. Sometimes, the data follow different axis (i.e. different currency or one being in absolute price and the other being in percentage). Hence, double click on the line in order to change the details of the line. Here, you can change the colour and weight of the line as well as the name in the legend.

5. If you wish to plot different information, such as the percentage year-on-year change, or the moving average, you could do so by pressing the  button below each line.

6. After plotting the line, save the chart by pressing the  button. (Note that unless you save the chart, you would be unable to export the chart)

7. After which, you are now free to export the chart to different Microsoft Office Applications (Word, Excel, and PowerPoint)

8. If you wish to update the charts in your report or presentations, you could go to the

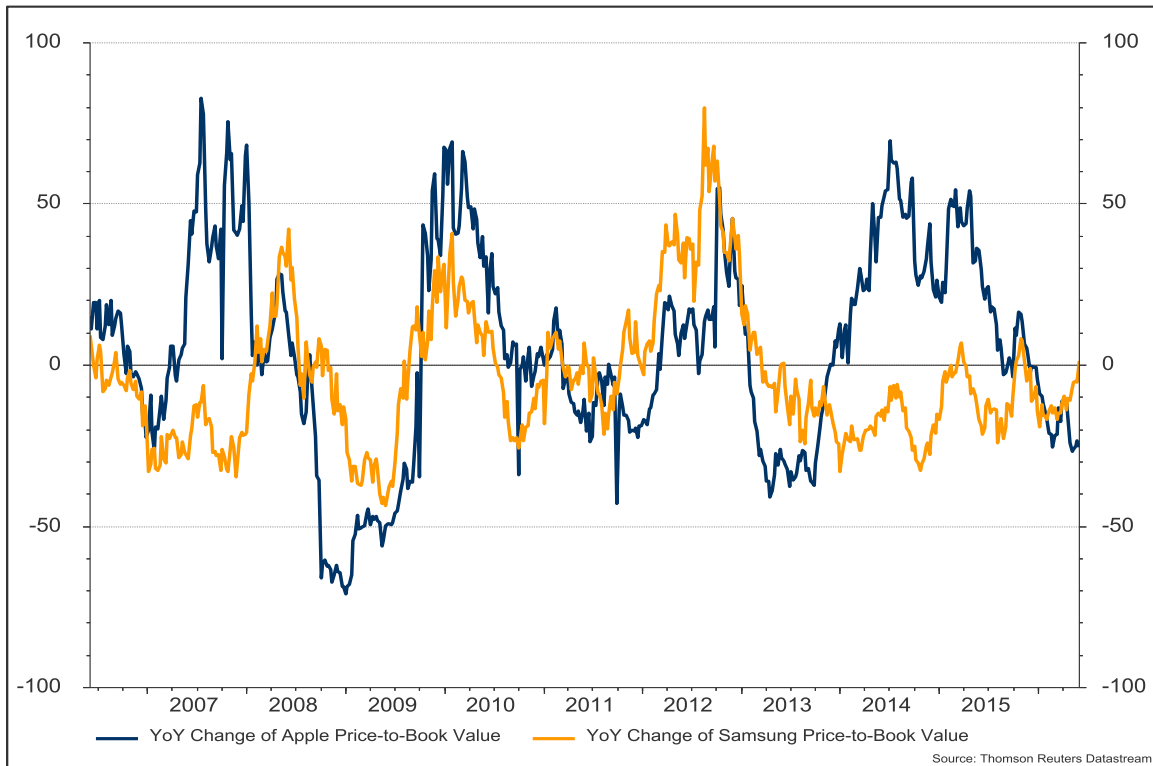
 **Refresh Charts** button in the Thomson Reuters tab to update all the charts or individual charts every time you open the file.

For example,

Plot the Year on Year change of the Price-to-Book Value of Apple and Samsung for the last 10 years.

Hence, you would key in the following and the chart will be produced.

The screenshot shows a configuration panel for a chart. It has three sections: 'Series', 'All Series', and 'Dates'.
- **Series:** Line 1 is set to 'PCH#(@AAPL(PTBV),1Y)' with a dropdown showing 'APPLE - PTBV'. Line 2 is set to 'PCH#(KO:SGL(PTBV),1Y)' with a dropdown showing 'SAMSUNG ELECTRONICS - PTBV'. Line 3 is empty with a placeholder '[Type expression or hover over arrow]'.
- **All Series:** A dropdown menu is set to 'All Series On Chart'.
- **Dates:** 'Date Range' is set to '-10Y' and 'End' is set to 'LATEST'.



Part 4: Cross Asset

1. Top News Application <TOPNEWS>

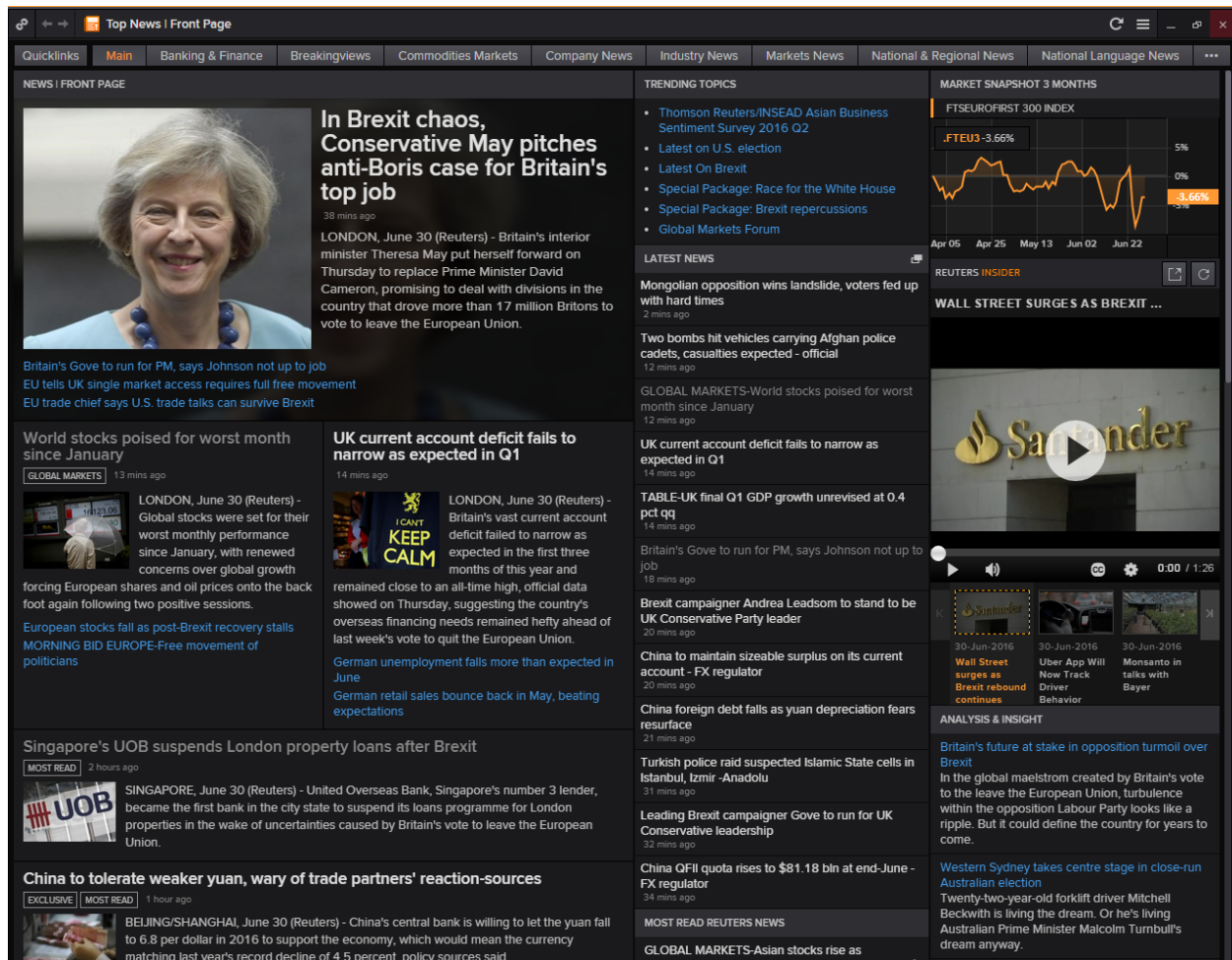
The Top News Application in Eikon would allow users to obtain a quick overview of the market news from both the main page as well as from different asset classes. From the top tab bar, the default page would be the “Front page” of the Top News app. However, from the different tabs, you could view news from the commodities markets, different companies and industries as well as by geographical zone.

While Top News provides objective news reporting, Views would provide users with opinionated based articles on certain topics.

In order to navigate to the following page,

In the Eikon Toolbar, search <TOPNEWS> in order to pull up the Top News Front Page as shown below.

Alternatively, on the Homepage, click the “News and Research” tab and select “Reuters Top News”.



2. Economic Monitor

Users who are interested in the different economic news and events from a specific group of countries and markets would find the Economic Monitor Application useful. On the EM application, users can specify their set of countries by filtering them on the left hand bar.

From this, a list of Economic Events, Central Bank and Political Events as well as Government Debt Auctions would be generated.

Selecting any one event would pull up the related Reuters News at the bottom of the page.

In order to navigate to the Economic Monitor page,

In the Eikon Toolbar, search in order to open the Economic Monitor Application.

The screenshot shows the 'Economic Monitor | Economic Events' window. The left sidebar lists countries: China (Mainland), Euro Zone, Hong Kong, Japan, Singapore, South Korea, Taiwan, United Kingdom, and United States. The main table displays economic data for Singapore and other regions. The selected row is for Singapore's Bank Lending MM on 30 Jun 2016 at 10:00.

Local Date	Count down	Local Time	Indicator Name	Period	Reuters Poll	Actual	Surprise	Prior	Revised	Min
30 Jun		07:50	IP Forecast 1 Mth Ahead	May		1.7%		2.2%		
30 Jun		07:50	IP Forecast 2 Mth Ahead	May		1.3%		0.3%		
30 Jun		10:00	Bank Lending MM	May		592.8B		589.8B		
30 Jun		13:00	Construction Orders YY	May		34.5%		-16.9%		
30 Jun		13:00	Housing Starts YY	May	4.8% ↑	9.8%	5.00%	9.0%		2.7%
30 Jun		16:30	GDP QQ	Q1	0.4%	0.4%	0.00%	0.4%		0.4%
30 Jun		16:30	GDP YY	Q1	2.0%	2.0%	0.00%	2.0%		2.0%
30 Jun		16:30	Business Invest QQ	Q1		-0.6%		-0.5%		
30 Jun		16:30	Business Invest YY	Q1		-0.8%		-0.4%		
30 Jun		16:30	Current Account GBP	Q1	-27.10B ↓	-32.59B	-5.493B	-32.66B	-33.96B	-32.20B -20
30 Jun		16:30	Money Supply M3	May		1.40%		2.70%		
30 Jun		16:30	Retail Sales YY	May		-8.4%		-7.5%		

Below the table, there is a section for 'REUTERS NEWS FOR SINGAPORE BANK LENDING MM' with three news items dated 30 Jun 2016.

The screenshot shows the 'Economic Monitor | Central Bank and Political Events' window. The left sidebar is the same as the previous screenshot. The main area displays a calendar for June 2016 and a list of events. The selected date is 30 Jun 2016.

Local Date	Local Time	Event Name
30 Jun	06:40	Japan Prime Minister Shinzo Abe will hold a second meeting with Japan's top economic policy...
30 Jun	11:00	South Korea Finance Minister Yoo Il-ho will give a speech at a meeting of the American Chamb...
30 Jun	17:00	Ministry of Commerce press briefing on upcoming G20 trade ministers meeting. People's Repu...
30 Jun	17:00	Central Bank of Taiwan holds monetary policy meeting
30 Jun	19:30	European Central Bank will publish the minutes of June interest rate meeting
30 Jun		U.S. Vice President Joe Biden will visit the Langston Hughes Community Health and Education ...
26 Jun-1 Jul		The president of Bulgaria's National Assembly Tsetska Tsacheva will lead a visiting delegation ...
27-30 Jun		Former Ukrainian Prime Minister Arseniy Yatseniuk visits United States (to June 30)
1 Jul	03:20	Federal Reserve Bank of St. Louis President James Bullard gives presentation on the U.S. econ...
1 Jul	15:15	European Central Bank board member Benoit Coeure participates in a roundtable discussion o...
1 Jul	18:00	European Central Bank chief economist Peter Praet speaks at Financial Times 'Festival of Fina...
1 Jul	23:00	Federal Reserve Bank of Cleveland President Loretta Mester speaks on the economic outlook ...
1 Jul	23:00	Bank of England chief economist Andy Haldane talks about cashless society at Financial Times...

3. Economics Application <EC>

Investors who adopt a top-down approach to investing would often want to analyze the overall economic situation of the country before choosing whether to invest in that market.

Hence, the Economic Application would provide a general overview of the market.

To get to this page, type EC in the Eikon Toolbar.

ECONOMICS

TOP NEWS

BOJ'S KURODA VOWS TO EASE MORE IF YEN MOVES HURT PRICE TARGET
SENDAI, Japan, May 19 (Reuters)

GLOBAL MARKETS-Asian shares poised for weekly loss, Fed talk lifts dollar
TOKYO, May 20 (Reuters)

Dudley joins chorus of Fed officials seeing rate hikes soon
NEW YORK, May 19 (Reuters)

U.S. economic data point to second-quarter GDP rebound
WASHINGTON, May 19 (Reuters)

ECB has no plan to cut deposit rate at present - Coeure
FRANKFURT, May 19 (Reuters)

IMF says Greek debt relief needs long grace, maturity periods
WASHINGTON, May 19 (Reuters)

BoE's Vlieghe say can gauge impact of EU vote after 6 weeks
LONDON, May 19 (Reuters)

CHART OF THE WEEK

UK market sector wages and productivity
Twelve-month percentage changes

Market sector productivity Private sector regular pay (inflated by Core CPI inflation)

Source: Thomson Reuters Datastream

QUICK LINKS

World Guide News in Charts
Central Banks Datastream Chartbook
Economic Monitor My Datastream Library
Macro Explorer Datastream Excel Samples
Datastream Chart Studio Thomson Reuters/Ipsos Consumer Sentiment

ECONOMIC EVENTS (TODAY)

Time	Period	Poll	Actual	Prior	Add
Producer Price Index MM EE					
Today 13:00	Apr. 2016	0	0	0.8000	
Producer Price Index YY EE					
Today 13:00	Apr. 2016	0	0	-2.0000	

REUTERS POLLS

POLL-Reuters BoC May 2016 pre-meeting poll results
19-May-2016 23:55:15 RTRS

POLL-Reuters BoC May 2016 pre-meeting poll results
19-May-2016 23:54:58 RTRS

TAKE A LOOK-Reuters polls on expert opinion from around the world
19-May-2016 21:49:55 RTRS

THE ECONOMIST

Michael Moore's grand European tour
20-May-2016 05:22:09 ECONST

What a difference a game makes
20-May-2016 05:22:08 ECONST

Obituary: Daniel Berrigan SJ, priest, poet and anti-war activist
20-May-2016 05:22:08 ECONST

Macro Explorer

ALPHA NOW
ACTIONABLE INVESTMENT INSIGHT

Through this page, one can look through

- Important news that occurred in the markets,
- Recent Reuters Polls and
- Keep track of main economic events which will be occurring on that day.

4. Macro Explorer Application <MACROX>

Within the Economics page, there is a specific application by the name of Macro Explorer <MACROX> which can provide the user with a good and useful visual overview of how the market looks.



Through this page, different countries could be selected by choosing them on the map or through the search bar at the side. The graphs at the bottom will display the different indicators of the macro-economic situations in the countries.

The box on the left is where other countries can be selected.

The box on the upper right allows different functionalities such as

- World Map
- Moving Grid
- Scatter Plot
- Table

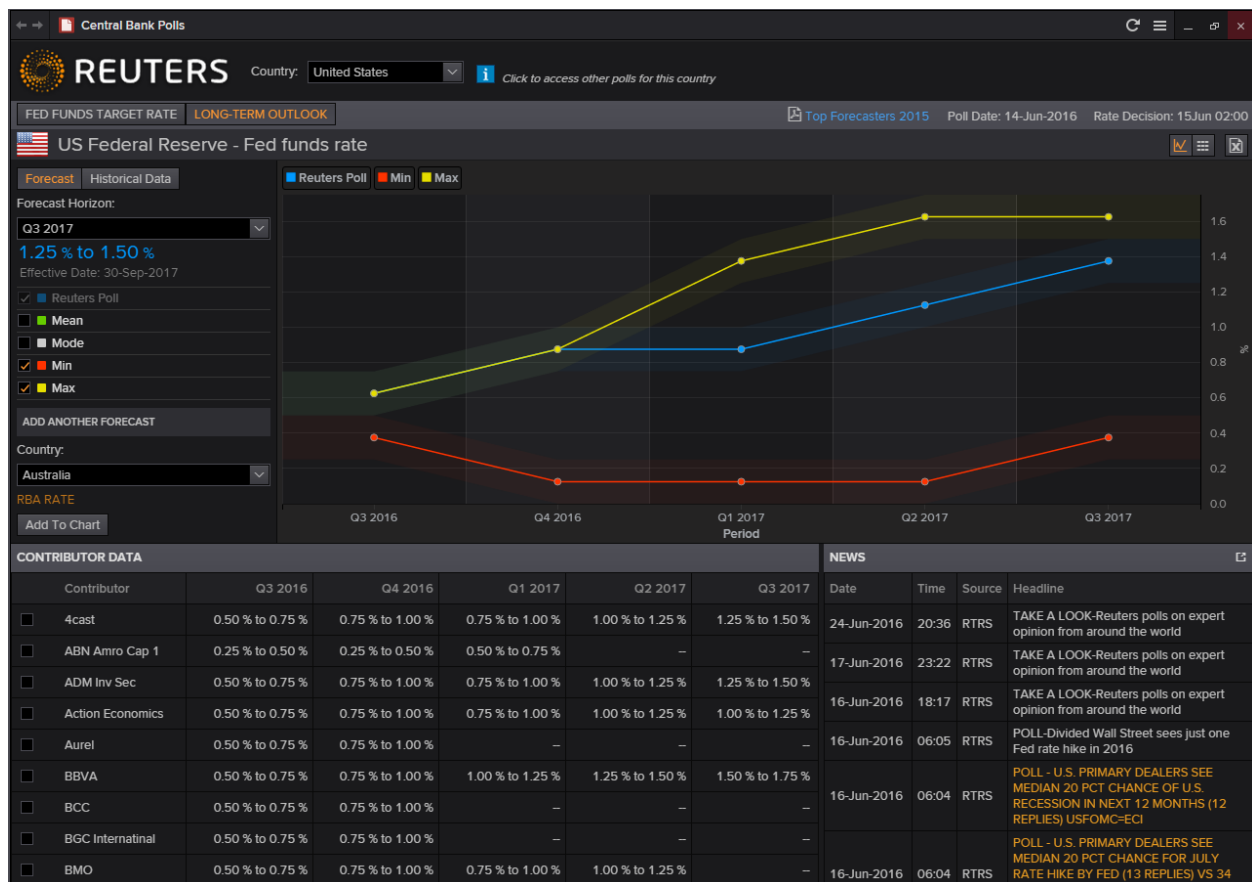
5. Central Bank Poll <CBP>

The Central Bank Poll application would allow users to view a forecast of the central banks' likely interest rate, providing a long-term outlook on the bank's decision.

Most countries have only a long-term outlook where different analysts' opinions are collated and displayed in the form of a line chart. In addition to the Reuters Poll in blue, users can also add in lines depicting the max and min based on estimates as well as a mean and mode figure.

However, due to the high interest placed on the Fed Funds Target Rate, there is also a poll collected for those figures and hence, the US Federal Reserve's page also has a Fed Funds Rate estimate provided.

In the Eikon Toolbar, search <CBP> to open the application.

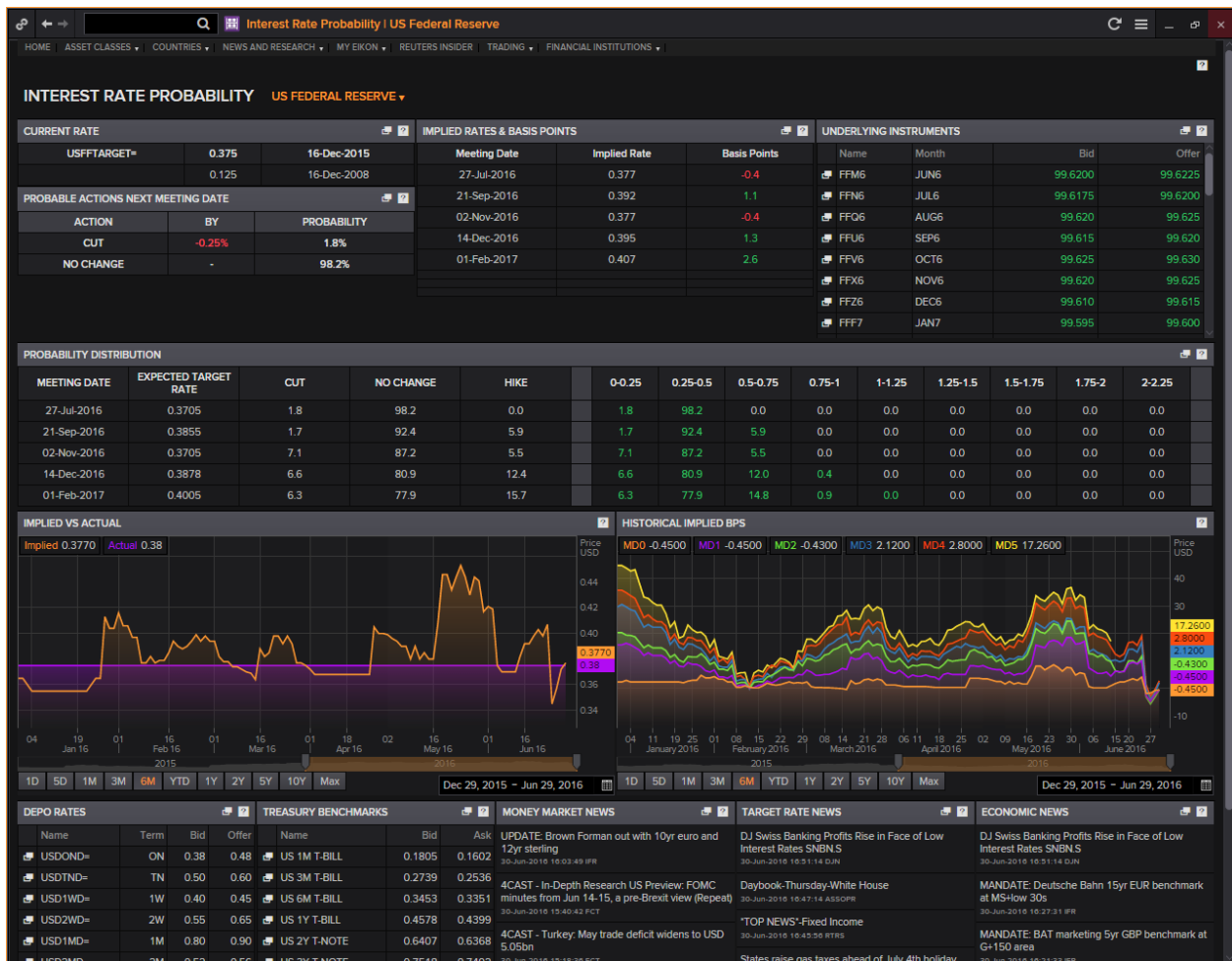


6. US FED Interest Rate Probability

For users who require more detailed information than just the figures from the CBP Application can refer to the following application for a more detailed probability breakdown of expected Fed rate hikes or cuts.

In the following application, the page shows the current target rate as compared to a historical figure. In addition to that, a table displaying the probable actions for the next month (e.g. cut or no change) would also provide a concise overview of how the Fed is likely to vote at the next meeting.

In the Eikon Toolbar, search <US FED INTEREST> and select the application from the drop down menu bar.



7. Economic Indicator Poll <ECOP>

Another poll that may be useful to users monitoring the different economic markets would be the Economic Indicator poll. Using this page, users are able to view estimates of different economic indicators of different markets.

By selecting the country as well as the indicator (e.g. Federal Budget), users can view the Reuters Poll (consolidated from different polls) as well SmartEstimate and the Actual figures. The line chart below shows how the estimates and polls have fared in the past as compared to the actual figures that have been reported.

In order to reach the following page,

In the Eikon toolbar, search <ECOP>.



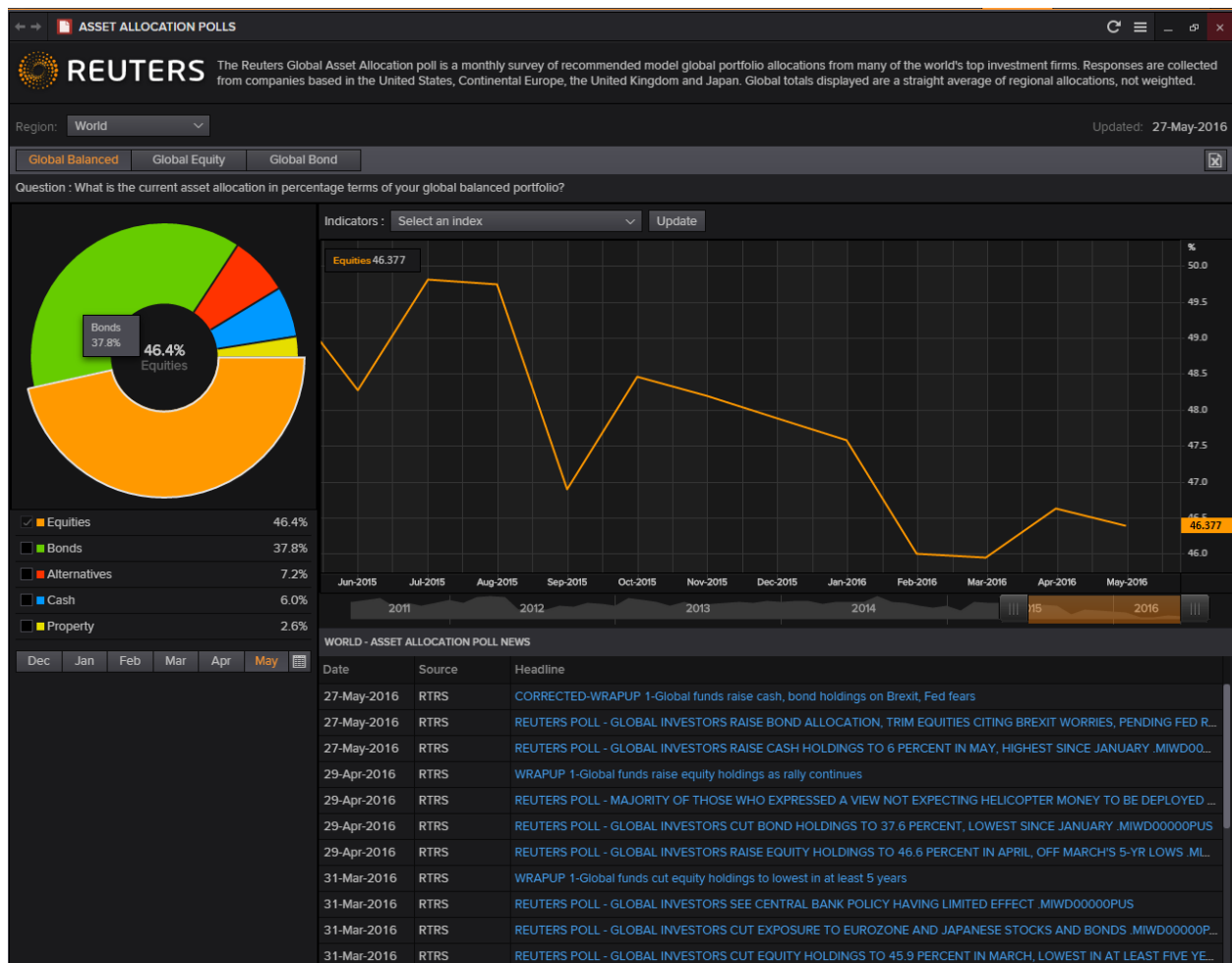
8. Asset Allocation Poll <AAP>

The Reuters Global Asset Allocation poll is a monthly survey of recommended model global portfolio allocations from many of the world’s top investment firms. Responses are collected from companies based in the United States, Continental Europe, the United Kingdom and Japan. The Global totals displayed are not weighed but are a straight average of regional allocations.

On this page, there is a consolidated “World” allocation for

1. Global Balanced - to show the allocation between equities, bonds, alternatives, cash and property
2. Global Equity - to show the allocation amongst different geographical areas for equities
3. Global Bonds - to show the allocation amongst different geographical areas for bonds

Alternatively, you are able to view the same breakdown above for different countries, mainly Europe, Japan, United Kingdom and the United States.



9. Correlation Matrix <CORR>

The correlation matrix allows users to measure the change in different indicators (such as price, total return etc) of one asset against another for any one period.

Using this calculator, the correlation, R-squared, covariance, beta and alpha can be measured. For correlation in particular, a figure closer to 1 would indicate a higher amount of positive correlation. On the other hand, a figure closer to -1 would indicate a higher amount of negative correlation.

1. In the Eikon toolbar, search <CORR> in order to open the application.
2. Under “List Management”, create a list of equities, indexes or other instruments you would like to compare.
3. In the “Main” page, adjust the following parameters
 - Periodicity: Daily etc.
 - Start Date
 - End Date
4. Adjust the lists X and Y and press “Calculate” in order to generate the results
5. Also, you can change the Statistics and the Fields if necessary

The screenshot displays the 'Correlation Matrix' application interface. At the top, there is a toolbar with links to 'Regression Analysis [REGR]', 'Average Calculator [AVRG]', 'Volatility Surface Calculator [VOLS]', 'List Monitor [LMON]', and 'Pairs Calculator [PAIR]'. The main title is 'Correlation Matrix'. Below the title, there are configuration options: 'Periodicity' set to 'Daily', 'Start Date' as '01 Jul 2015', 'End Date' as '01 Jul 2016', 'For Missing Data' set to 'Ignore', and 'Transformation Rules' set to 'Ln Return'. A 'Calculate' button is visible. Below this, there are tabs for 'Main' and 'List Management'. Under 'Main', there is a 'Formatting and Filtering' section with 'Threshold1' at -0.5000, 'Threshold2' at 0.0000, and 'Threshold3' at 0.5000. At the bottom, there are tabs for 'Matrix', 'Summary', and 'Top Distribution'. The 'Matrix' tab is active, showing a table of correlation coefficients for three assets: AAPL.O, MSFT.O, and GOOGL.O. The table shows a diagonal of 1.0000 and off-diagonal values of 0.6043 and 0.4444.

Statistics:	Correlation			
Modify Lists	X: eq	AAPL.O	MSFT.O	GOOGL.O
Y: eq		Trade Price(Clos)	Trade Price(Clos)	Trade Price(Clos)
		1.0000	0.6043	0.4444
		0.6043	1.0000	0.6166
		0.4444	0.6166	1.0000

10. Average Calculator <AVRG>

Using the Average Calculator application, users are able to compare the average prices or volatilities across different time periods for your specified list of instruments.

In order to pull up a similar list as shown below,

1. In the Eikon Toolbar, search <AVRG> to open the application
2. Under “List Management”, specify the different instruments that you wish to search for.

#	Type RIC Or Click an Icon for Formula	Name	Select Field	Adder	Scaling Factor
#1	AAPL.O	APPLE INC	Trade Price (Close)	0.00	÷1.00
#2	MSFT.O	MICROSOFT CP	Trade Price (Close)	0.00	÷1.00
#3	GOOGL.O	ALPHABET INC A	Trade Price (Close)	0.00	÷1.00

3. Here, you can view the average prices and volatilities over different time periods for the specified “Start Date” and “End Date” that you have chosen at the top of the page.

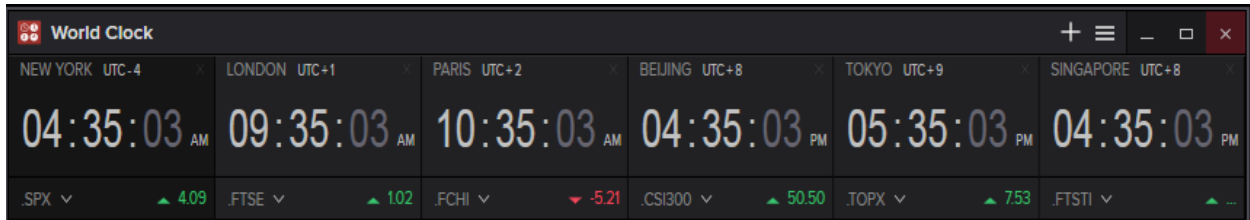
4. Also, different frequencies can be selected.

	#1	#2	#3
1 Jul 2016	3.3999	0.2194	10.6710
2 Jun 2016	18.3908	25.9981	20.9799
3 May 2016	20.7397	20.7769	15.2357
4 Apr 2016	28.8983	29.6403	25.1330
5 Mar 2016	19.0813	22.3343	18.8752
6 Feb 2016	23.2855	26.5569	27.4319
7 Jan 2016	43.9238	37.6102	32.8808
8 Dec 2015	24.2203	23.3212	21.3182
9 Nov 2015	23.4654	16.1147	17.7383
10 Oct 2015	25.6755	36.1989	25.4744
11 Sep 2015	33.2183	28.2726	26.2599
12 Aug 2015	43.8086	36.9333	41.4973
13 Jul 2015	24.9697	19.6463	55.8583
14 Jun 2015	11.3386	15.1966	14.6895
15 May 2015	22.0261	20.5050	16.9815
16 Apr 2015	19.6982	38.1842	20.9311
17 Mar 2015	21.9223	19.8848	20.2833
18 Feb 2015	20.2706	13.2802	18.0580
19 Jan 2015	37.7130	43.8034	29.2442

11. World Clock

The World Clock application allows users to view the different time zones available as well as its respective equity indexes. This allows users who trade in different markets to monitor both the times as well as the market conditions.

In the Eikon Toolbar, search <CLOCK> and select from the drop down menu.



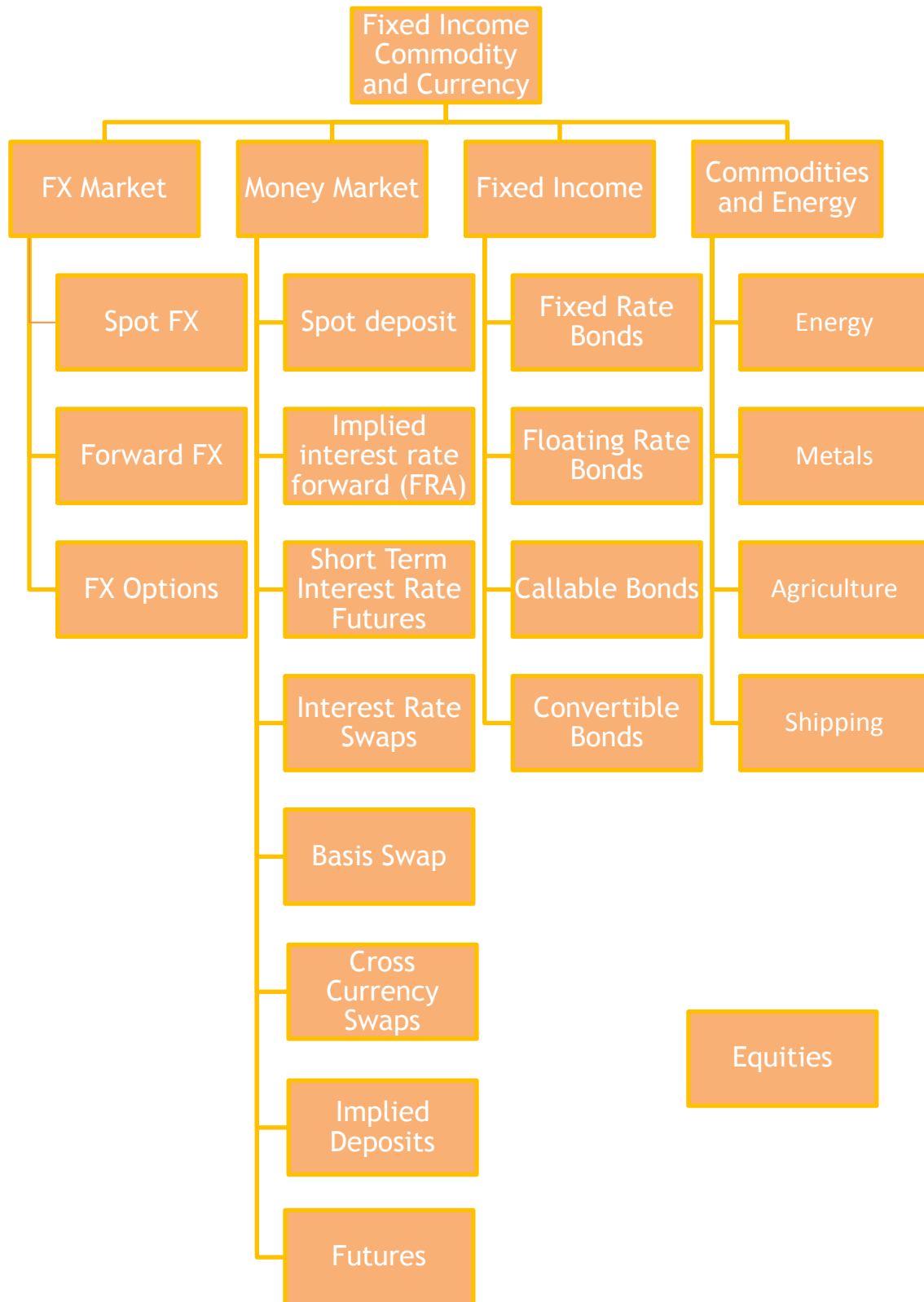
12. Key Stats <KEYST>

The KeyStats page allows users to compare a maximum of three different securities and to compare them across different valuation methods.

In the Eikon Toolbar, search <KEYST> and choose the three securities to compare.



List of Instruments to be Covered



Part 5: Foreign Exchange Market

Eikon shortcuts: FX

REAL TIME MONITORING	
ALT	Alert Manager
OPW	Option Watch
Q	Quote
QL	Quote List
QLI	Quote Line
SDB	Sidebar
TAS	Time & Sales
TICK	Ticker
NEWS	
FXBUZZ	FX Buzz
NEWS	News
TOPNEWS	Top News
CHARTING	
CHRT	Chart App
ECOC	Economic Indicator Chart
FXFC	FX Forecast Chart
FXVO	FX Volatility Chart
TEAC	Technical Analysis Chart
VOLC	Volatility Chart

ANALYTICS AND CALCS	
AVRG	Average Calculator
BRKD	Broken Dates
COPP	Currency Options Portfolio
COPS	Currency Options Strategy
COPT	Currency Options
CORR	Correlation Matrix
DEAN	Deposit Analysis
DEFO	Deposit vs FX Forwards Overview
FRAA	FRA Arbitrage Calculator
FRAP	FRA Pricing
FXBP	FX Spot Arbitrage
FXCM	FX Cross Matrix Calculator
FXCT	FX Carry Trade
FXCV	Best FX MM Curve
FXFT	FX Forwards from Futures
FXOC	FX Options Calculator
FXVE	FX Volatility Explorer
NDFX	Non-Deliverable Forwards Calculator
OISC	Overnight Index Swap
PARF	Par Forward Calculator
REGR	Regression Analysis
SPO	Swap Points and Outrights
SPOZC	Swap Points from ZC

MARKETS	
BGC	BGC Market Data Broker Guide
CIG	Currency Index Guide
EE	Economic Events
FXALL	Fxall
FXG	Foreign Exchange Guide
FXHEAT	FX Volume Heatmap
FXMM	FX & Money Views
FXOTCG	FX Options Guide
FXPOLL (e.g. "EUR= FXPOLL")	FX Polls View
FXTFOG	Foreign Exchange Traded Futures and Options Guide
HOL	World Exchange Holidays
HOME	Home page
ICAP	ICAP Guide
NDFO	Non-Deliverable Forwards and Outrights Guide
NDFV	NDF View
SPOTG	Spot Guide
TPB	Tullett Prebon Broker Guide

Chapter 5: Foreign Exchange Market

SEARCHES	
ANSWERS	Eikon Answers
CURVESRCH	Curves – Advanced Search
FXMMSRCH	Money/Foreign Exchange – Advanced Search
SRCH	Advanced Search
TICK	Ticker

HELP	
FAQ	Frequently Asked Questions
HELP	Online Help

Calculator <CALC>

When conducting analysis, for different types of instruments such as Foreign Exchange, Bonds and Equities, the Calculator app in Eikon would come in useful.

To navigate to the page, type **CALC** in the Eikon Toolbar.

FOREX AND MONEY MARKETS	RATES, SWAPS AND DERIVATIVES	FIXED INCOME	COMMODITIES
Fx CASH FX Cross Matrix FXCM Swap Points and Outrights SPO Swap Points from ZC SPOZC Broken Dates BRKD Par Forward / Weighted Rates PARF FX Forwards from Futures FXFT FX Spot Arbitrage FXBP Best FX/MM Curve FXCV FX Forecast FXFCST DEPO CASH Deposit Analysis DEAN Deposits vs FX Forwards Overview DEFO FX Carry Trade FXCT Non Deliverable Forwards NDFX OPTIONS FX Options Calculator FXOC Currency Options COP T Currency Options Strategy COPS Currency Options Portfolio COPP	FRA AND OIS Forward Curve FWDC FRA Arbitrage FRAA FRA Pricing FRAP Overnight Index Swap OISC PREVIEW STIR Futures STIR SWAPS Swap Pricer SWPR PREVIEW Swap Pricer SWPR Swap Curve Monitor SWCM Swap Portfolio SWPO All Quotes ALLQ All Quotes For IRD (Legacy) ALQS OPTIONS Swaption SWPN Cap and Floor CAPS	BONDS Bond Calculator BNDC Bond Calculator (Legacy) BOND All Quotes ALLQ All Quotes (Legacy) ALQB Asset Swap ASWP Bond Hedge BDHG Bond Repo BDRE Bond Return BDRN Bond Strategy BDST OAS Calculator OASC TED TEDC Bond Futures BDFU Bond Monitor China Portfolio Analytics CREDIT Credit Default Swap CDSV MBS Dollar Roll MBSD CDS Monitor	CURVES AND OUTRIGHTS Metals Outright and Arbitrage METO Commodity Forward Curve COFC Average Calculator AVRG SWAPS Commodity Swaps Pricer COSP OPTIONS Commodity Options Analyzer COOA Option Pricer OPR Option Calculator OPTC Volatility Surface Calculator VOLS SPREADS Agriculture Spreads ASPD Sparks and Darks Scenario SPDK Oil Spreads OSPD Metals Spreads MSPD
EQUITIES AND DERIVATIVES CASH Total Return SRET Pairs Calculator PAIR DR Arbitrage DARB Stock Arbitrage SARB DERIVATIVES Index Futures Fair Value IFFV Option Pricer - NEW OPR Volatility Surface SURF STATISTICS Historical Return Analysis HRA Regression Analysis REGR Correlation Matrix CORR	CROSS MARKET ZERO CURVE ZC Builder ZCBR Yield Curve Builder YCBR STATISTICS Regression Analysis REGR Correlation Matrix CORR Average Calculator AVRG Historical Return Analysis HRA VOLATILITY Volatility Surface Calculator VOLS		

The Calculator is split up into different sections which would make navigation easier.

For example, when researching on the foreign exchange and money markets, some common functionality would be

1. Swap points and outright
2. Depo analysis
3. Non Deliverable Forwards
4. FRA Pricing
5. Swap Pricer
6. Zero Curve Builder

1. Overview of Foreign Exchange Market

The foreign exchange market is used to facilitate the trading of currencies. This includes the buying , selling and hedging of foreign exchange exposure of foreign and domestic currency, both at spot (current) and forwards (in the future).

Main participants of this market include large international banks which would partake in this trading on behalf of their clients and for the banks themselves. Others include businesses, financial institutions, governments, investors and individuals who use the FX markets to adjust their currency holdings.

Securities traded on the FX market are usually highly liquid and have short maturities. Thus, many investors view this as a safe short term market.

There are two main ways to trade: **Over-the-counter (OTC)** market and the **Exchange-traded market**. The OTC market is usually privately traded and contracts can be customized. On the other hand, Exchange-traded markets are usually formalized and the governments are usually involved.

Information on the FX market can be derived from:

Press function key **F4** for quote object, enter **MONEY**

```

MONEY MONEY GUIDE PAGE
=====FX RELATED DATA=====
FXMM Rics FAUs.....<FXINFO>
Spot Rates.....<SPOT/1>
Spot Correlations.....<SPOTCORREL>
Cross Rates.....<CROSS/1>
Hourly FX Snapshots.....<FXHOURLY>
FX realised volatility.....<FXREALVOL>
OTC FX Vols Majors.....<FXVOL>
OTC FX Vols Major.....<XFXVOL>
All OTC FX Options.....<OPS/FX1>
Risk Reversals.....<OPS/FX4>
Forwards.....<FWD/1>
Non-Deliverable Forwards.....<NDF/1>
Non-Deliverable Money data.....<NONDEL/1>
Fwd Enhanced Displays.....<0#FWD-ENHANCED>
Fwd outright.....<0#FX-OUTRIGHTS>
Dealing 3000 Spot Display.....<D3FX=>
Hourly D3000 Snaps/Ranges.....<DEALHOURLY>
Thomson Reuters FX Spot View.....<D4FX=>
Hourly FX Spot View Data.....<DEALHOURLZ>
Dealing 3000 Forwards.....<0#D3FORWARDS>
Dealt Rate Speed Guide.....<DEALT1>
EBS Dealt Rate Display.....<EBSFX=>
Reuters Forex Polls.....<FOREXPOLL01>
IMF Special Drawing Rights.....<XDRX=>
Calc. Cross Rics from EURO.....<CROSS=REU>
Calc. Cross Scaling.....<CROSS/SCALING>
Implied FX Correlations.....<IMPLIEDCORREL>
Cross FX Forwards.....<XFXFORWARD>
WM Reuters Fixings.....<WMRMENU>
=====EXCHANGE TRADED DATA=====
Currency Options.....<OPT/FX1>
Interest Rate Options.....<OPT/IR1>
Currency Futures.....<FUT/FX1>
Interest Rate Futures.....<FUT/IR1>
Futures Implied Yield.....<IMPLIEDYIELD>
=====INTEREST RATE RELATED DATA=====
Deposits.....<DEPO/1>
Interest Rate Swaps.....<SWAP/1>
Overnight Index Swaps.....<OIS/1>
Forward Rate Agreements.....<FRA/1>
Swaptions.....<SWAPTION/1>
Cap and Floors.....<IRGS/1>
Money Market (CD's,BA's,etc).....<MMKT/1>
Zero Coupon Yield Curves.....<ZEROCURVES>
LIBORS.....<LIBOR01>
LIBOR Recaps.....<LIBORS>
EURIBOR.....<EURIBOR=>
EURIBOR 365.....<EURIBOR365=>
EURIBOR Recap.....<EURIBOR>
IR Volatility Term Structures.....<IRVOL>
Forward Interest Rates.....<IRFORWARD>
Commercial Paper.....<CPAPER/1>
Repos.....<REPO/1>
Islamic Money Market.....<ISL/MONEY>
Money News Guide.....<MONEY/NEWS1>
All Money News.....[M]
Top FX Headlines.....[TOP/FRX]
G7 Real Time ECI Data.<ECON>or<G7TODAY>
Real Time MM Newswrap.....[MMNEWS]
Top Central Bank News.....[TOP/CES]
Monetary Policy News.....[INT|CEN]
ECI News Index.....<INDICATOR/NEWS1>
Historical Economic Data...<ECONINF001>

```

We will be discussing the following,

1. FX Spot Transactions
2. Deliverable FX Outrights and Non Deliverable FX Outrights

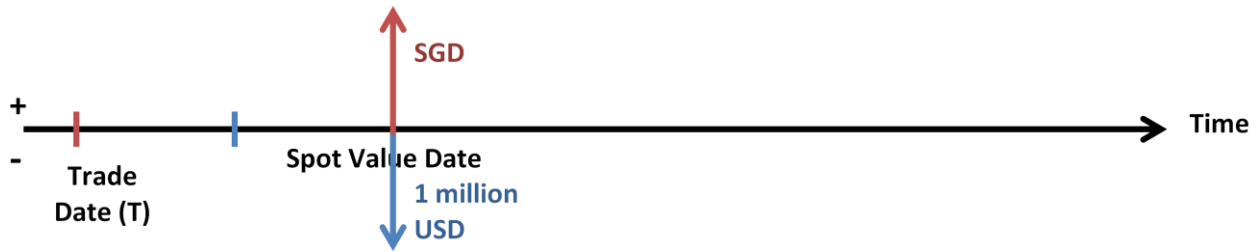
2. FX Spot Transaction

When discussing the foreign exchange market, there are two main transactions which can occur. 1. Foreign Exchange Spot and 2. Foreign Exchange Forward

Foreign Exchange Spot Transaction

A FX spot transaction is an agreement between two parties to exchange two different currencies at an agreed exchange rate for settlement in usually 2 business days time.

For example, A client wishes to sell 1 million USD at X SGD per USD.



The currency pair would hence be named **USDSGD** and the bank would then quote the **bid price** of the USDSGD.

USDSGD: This money market convention is used to denote “1 USD in SGD” or “in SGD per USD”

Bid price is used here as the banker would be “buying” USD from the client and “selling” SGD and hence the indicative bid price of USDSGD would be used.

In order to retrieve the bid price from Eikon, the bank does the following.

Press F4 in Eikon to open the Quote app.

Key in <SGD=> in the search bar to search for <USDSGD>

Bid		Ask		Net.Chng	% chg	Contributor	Loc	Srcce Deal	Time
B↑	1.3691	1.3692		+0.0011	0.08 %	ZUERCHER KB	ZUR	ZKBX ZKBZ	10:23
	691	692							
B↓	1.3691	1.3692				ZUERCHER KB	ZUR	ZKBX ZKBZ	10:22
B↑	1.3689	1.3693				SWISS FIN	LON	SABX	10:22
ChangeSummary		Daily View		Calendar Highs & Lows					
		Value	Time	Weekly	Monthly	Yearly			
MTD% chg	1.9 %	O 1.3681	05:00	High 1.3729	High 1.3729	High 1.4442			
3M% chg	-1.46 %	H 1.3695	09:45	Date 10MAY16	Date 10MAY16	Date 11JAN16			
6M% chg	-3.49 %	L 1.3658	08:31	Low 1.3600	Low 1.3392	Low 1.3352			
YTD% chg	-3.41 %	C 1.3680	10MAY	Date 08MAY16	Date 03MAY16	Date 19APR16			
Session0/H/L/C							Related Data		
Asia	-0.0004	Europe	+0.0008	US	-0.0032	<SGD/BKGDINFO>			
O	1.3681	05:00	O 1.3704	13:00	O 1.3710	19:00	<SGDVOL>		
H	1.3695	09:45	H 1.3719	13:30	H 1.3711	19:45	<O#SGDF=>		
L	1.3658	08:31	L 1.3673	16:59	L 1.3677	21:51			
C	1.3695	10MAY16	C 1.3692	10MAY16	C 1.3680	10MAY16			
(5PM TOK)		(5PM LON)		(5PM NY)					

3. FX Outrights Transactions

FX Outrights are binding contracts in the FX market that lock in the exchange rate for the purchase or sale of a currency on a future date. This actually allows investors to lock in an exchange rate for them to buy or sell a currency in the future, or for them to **hedge** a future FX risk exposure.

A FX outright is often preferred over a FX future since FX Outrights can be customized for a particular amount and delivery period; with the contents of the contracts are usually agreed upon before the start of the contract.

When deciding whether to enter into a forward outright, a proposition could be set out in front of a client.

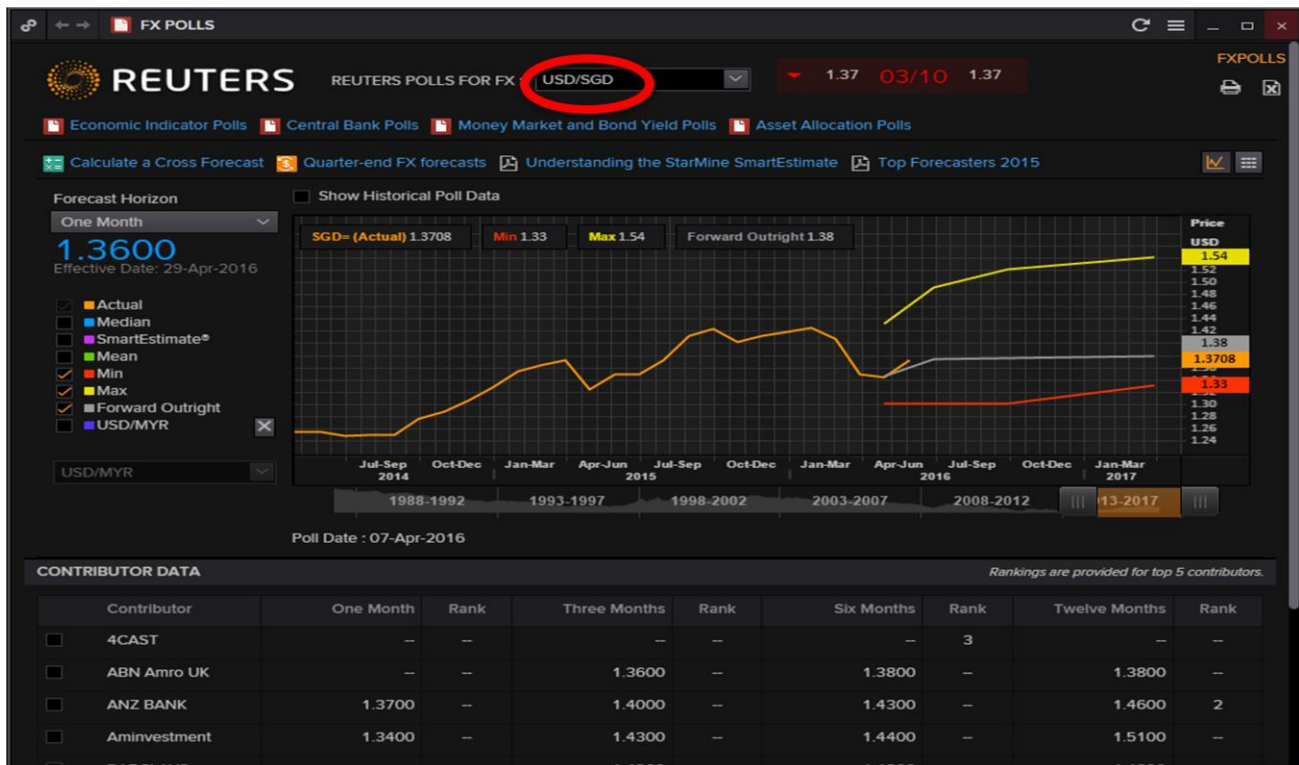
For example, a client wishes to know whether to lock in a forward contract for USDSGD or to wait and buy at spot price later.

The banker can then use the following tools in **Eikon**.

1. In the Eikon Toolbar, type <FXPOLLS>
2. Select the currency pair required, i.e. <USD/SGD>
3. If any specific contributor is favoured, a line representing their forecast could be added by clicking the box next to their name.

A sample proposition could be:

In order to lock in a forward rate to reduce upside risk, which is forecasted to be high, a forward contract could be purchased today.



3a. Deliverable FX Outrights

Forward Transactions are all transactions which is settled on any date other than S (spot value date).

In a FX Outright or Swap transaction, two trades take place, one on the near date (usually spot) and the second on the far date.

There are two main types of FX Outrights, one being **Deliverable FX Outrights** and the second being **Non-Deliverable Forwards**.

We will first explore the **Deliverable Forwards**.

Terminology

As part of the Money Market (MM) Convention, there are certain phrases often used:

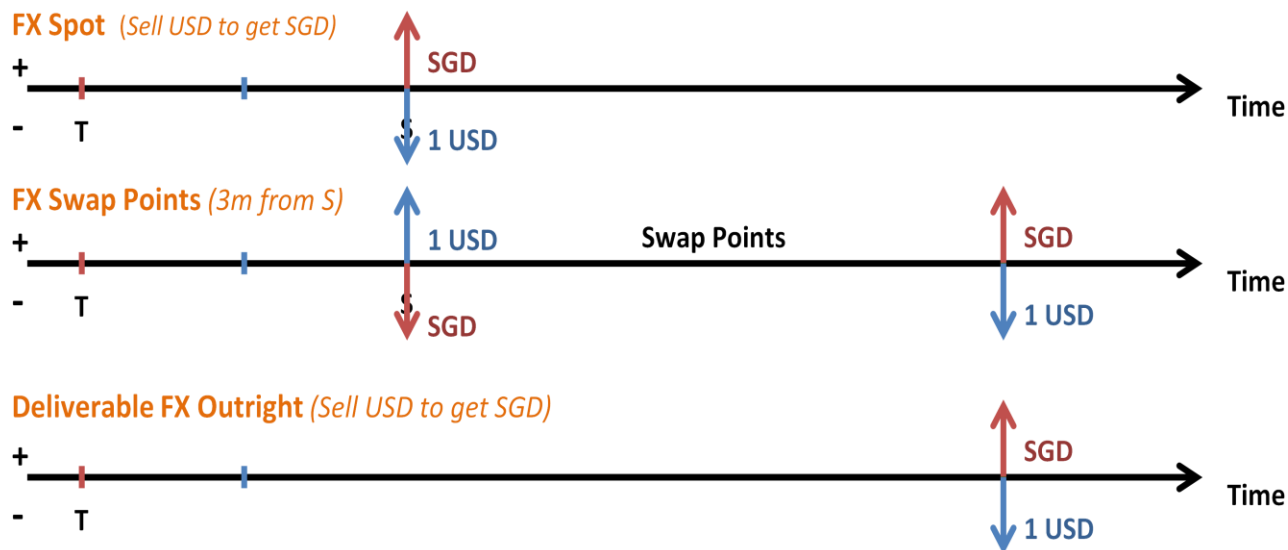
1. Spot FX/FX spot,
2. Forward FX/ FX outright
3. FX forward/FX swap.

While the first 2 denotes the valuation of FX prices at spot value date (spot FX) and at a date other than spot value date but agreed today (Forward FX), the third refers to swap points (FX Forward).

Swap points are mainly influenced by interest rates and would be the figure that bankers refer to when making quotes for forward transactions.

For example, a client wishes to sell 1 million USD with SGD, 3 months from today.

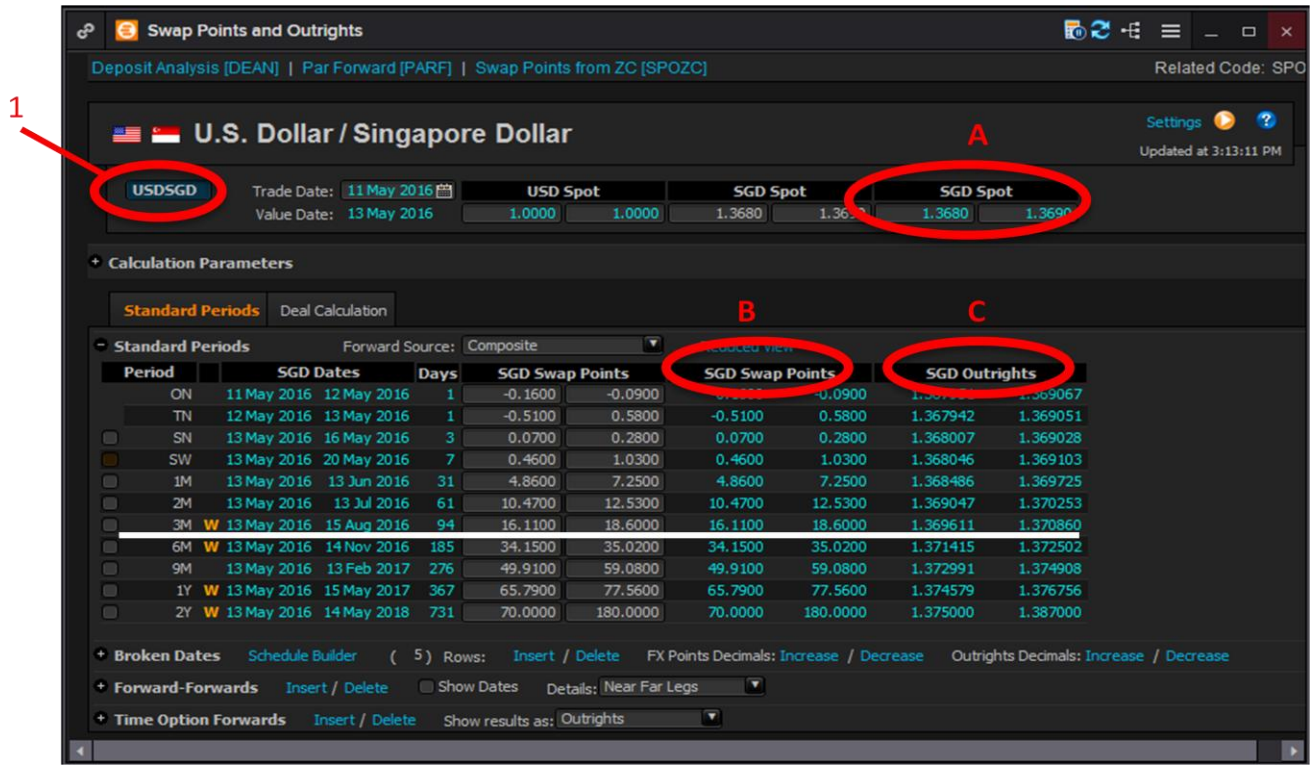
The banker would hence refer to two sets of data; 1. FX spot 2. FX Swap Points in order to determine the Deliverable FX Outrights. Graphically, we would derive the following,



Thus, the deliverable FX outright 3 months from the spot date is effectively the **sum of the FX Spot Price and FX Swap Points**.

In order to perform the above scenario with Eikon, there are two methods to do so.

In the Eikon Toolbar, search <SPO>



1. Key in the currency pair at 1 (i.e. <USDSGD>)
2. Locate the necessary period from the first column (i.e. 3M for 3 months)
There are 3 main bid-ask figures which would be of interest.

Figure	What it is	Alternative Methods to Obtain it
A	FX Spot Price	F4 > Search for spot price of currency e.g. <SGD=>
B	FX Swap Points	F4 > Search for forward swap points/rates e.g. <SGDFWD=>
C	FX Outrights	F4> Search for <0#SGDF=> or type <SGDF=> and press F3

Recall earlier that Deliverable Outrights was found to be equal to the sum of the FX spot price and the FX swap points.

However, is this always true?

The answer is Yes and No. It depends on two factors.

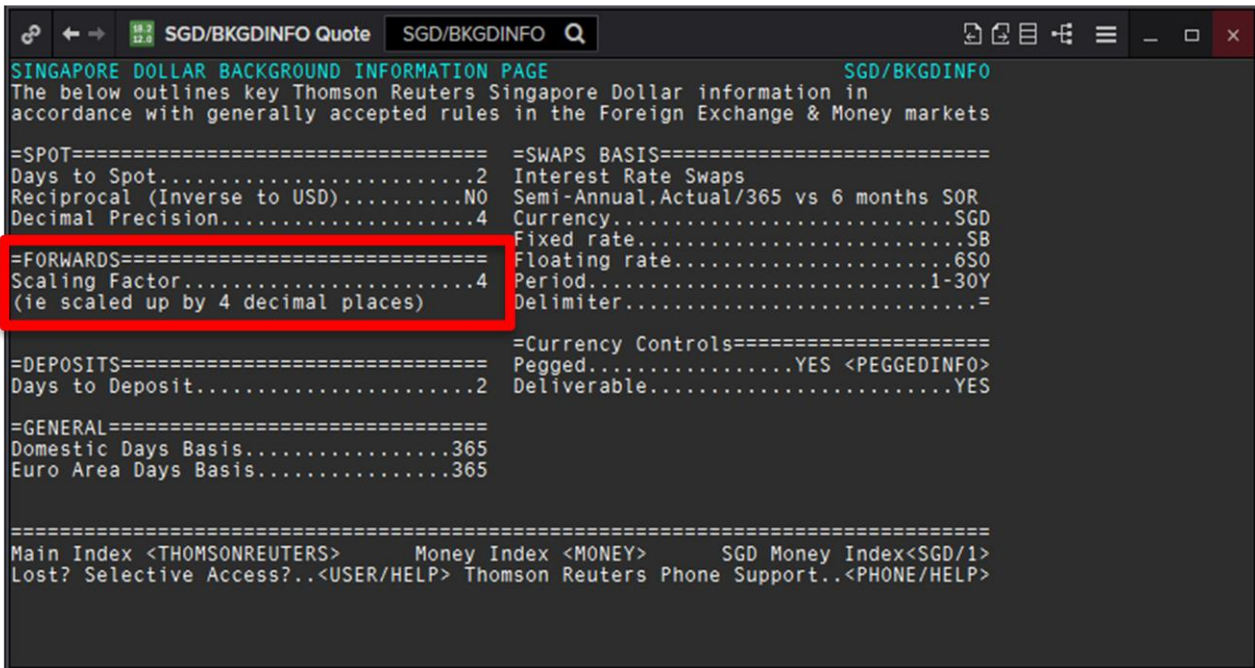
1. Scaling Factor
2. Forward Delivery Date

Scaling Factor

In the previous screenshot, the resultant outright price of USDSGD was not the sum of the corresponding FX spot price and FX swap points. This is due to the scaling factor of the SGD.

How to find the scaling factor of a currency?

1. In Eikon, press F4
2. Type in the country name (i.e. <Singapore> and select <Background Info>)



```

SGD/BKGDINFO Quote  SGD/BKGDINFO Q
SINGAPORE DOLLAR BACKGROUND INFORMATION PAGE  SGD/BKGDINFO
The below outlines key Thomson Reuters Singapore Dollar information in
accordance with generally accepted rules in the Foreign Exchange & Money markets

=SPOT=====
Days to Spot.....2
Reciprocal (Inverse to USD).....NO
Decimal Precision.....4

=FORWARDS=====
Scaling Factor.....4
(ie scaled up by 4 decimal places)

=DEPOSITS=====
Days to Deposit.....2

=GENERAL=====
Domestic Days Basis.....365
Euro Area Days Basis.....365

=====
Main Index <THOMSONREUTERS>      Money Index <MONEY>      SGD Money Index<SGD/1>
Lost? Selective Access?..<USER/HELP> Thomson Reuters Phone Support..<PHONE/HELP>
  
```

Here, Singapore has a scaling factor of 4 decimal places.

Hence, the following equation can be derived.

Deliverable FX Outrights = FX Spot Price + FX Swap Points / factor (if any)

Note:

Days to deposit (whether it is 1 or 2 days from trade date to spot date) can be found too.

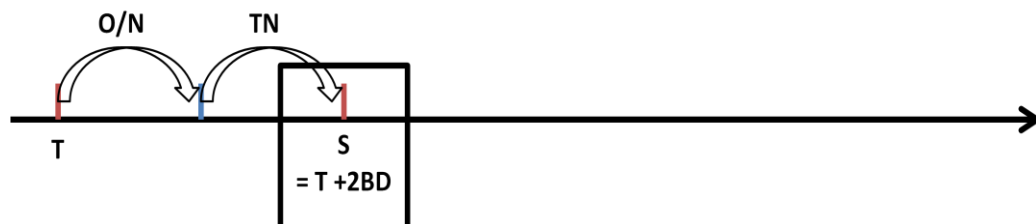
Forward Delivery Date - Money Market Convention

In order to determine whether the deliverable FX outright is always the sum of the FX spot price and the FX swap points, we have to look at the **forward delivery date**.

As mentioned previously, in most markets, spot value date, **S** would usually be two business days (2BD) after the trade date, **T**.

FX Forward Transactions are therefore transactions which are settled on all dates but the spot value date and can be split into two categories: **Pre-Spot Value Dates** and **Post-Spot Value Dates**.

Pre-Spot Value Dates



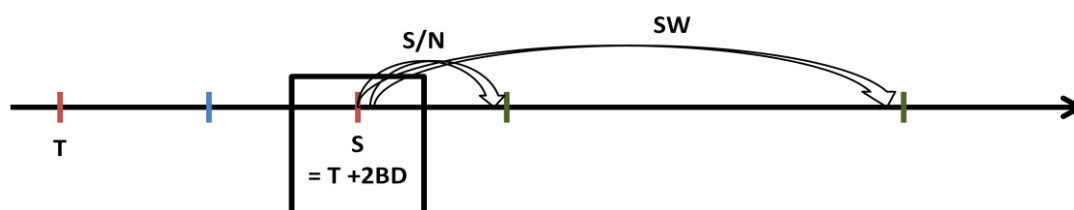
There are two different periods that can occur: Overnight (ON) and TomNext (TN)

Both are single day periods and can be better understood using a table. One important thing to note is that all dates prior to **S** are counted from **T** (trade date).

Assuming the trade date (today) is the 12th of January 2016.

Notation	Settlement Date	Money Market Convention
ON (Overnight)	12	From 12 to 13
TN (Tomorrow Next)	13	From 13 to 14
S (Spot Value Date)	14	14th

Post-Spot Value Dates



All Post-spot value dates take reference from the spot value date. There are two special phrases that may occur: Spot Next (SN) and Spot Week (SW):

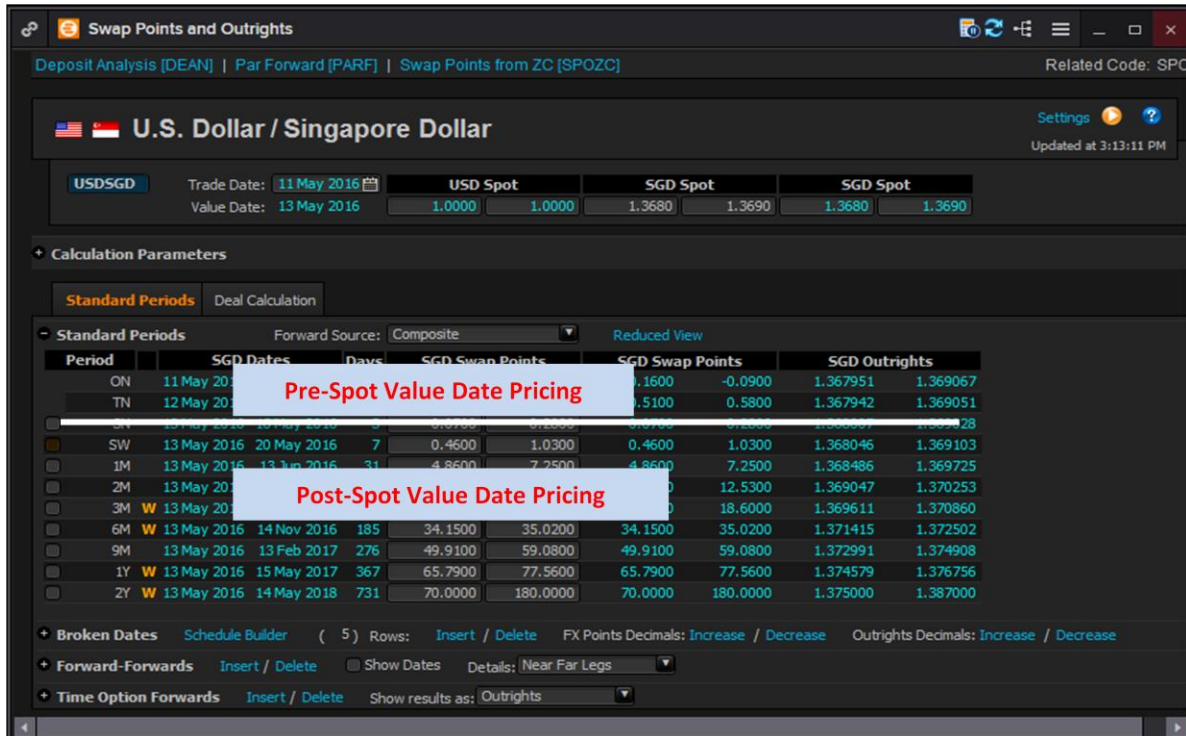
Notation	Settlement Date	Money Market Convention
Spot Next	15	From 14 to 15
Spot Week	21	From 14 to 21

1M, 2M etc would all take reference from the Spot Value Date.

Note: If the theoretical value date of a FX outright is on a weekend or a bank holiday, the value date is deferred to the next working date. (denoted by a **H** or a **W**)

Forward Delivery Date

Whether the deliverable outright price is a simple summation of the FX Spot price and the FX swap points depends on whether it is settled pre- or post-spot value date.



To better understand whether to take the bid (left hand side) or the ask (right hand side) swap points, we would first define the following terminology.

Firstly, we would first have to identify the **base currency** in any currency pair.

When we are referring to the USDSGD pair, USD is the base currency here as it is “in SGD per USD”. Secondly, we would have to identify whether it is a BuySell transaction or SellBuy transaction.

For example, in the previous example, if the client wants to sell 1 million USD in 3 months, it would be a **buysell** base currency FX swap transaction. A table to illustrate this.

For Market Taker	Which side of the Swap Points quote should one take ?	
Transaction	Left Hand Side: Bid Price	Right Hand Side: Ask Price
Near Date	Buy base currency	Sell base currency
Far Date	Sell base currency	Buy base currency

Post-Spot Value Date Deliverable FX Outright

FX Outrights for Post-spot-value dates are usually a simple summation of the FX Spot Price and the FX Swap Points for the relevant period, subject to a scaling by a factor.

For example, taking the previous example into consideration where the client wishes to sell 1 million USD to get SGD in 3 months, the following figures would be utilized.

U.S. Dollar / Singapore Dollar

Trade Date: 11 May 2016
Value Date: 13 May 2016

USD Spot	SGD Spot	SGD Spot	SGD Spot
1.0000	1.0000	1.3680	1.3690

Calculation Parameters

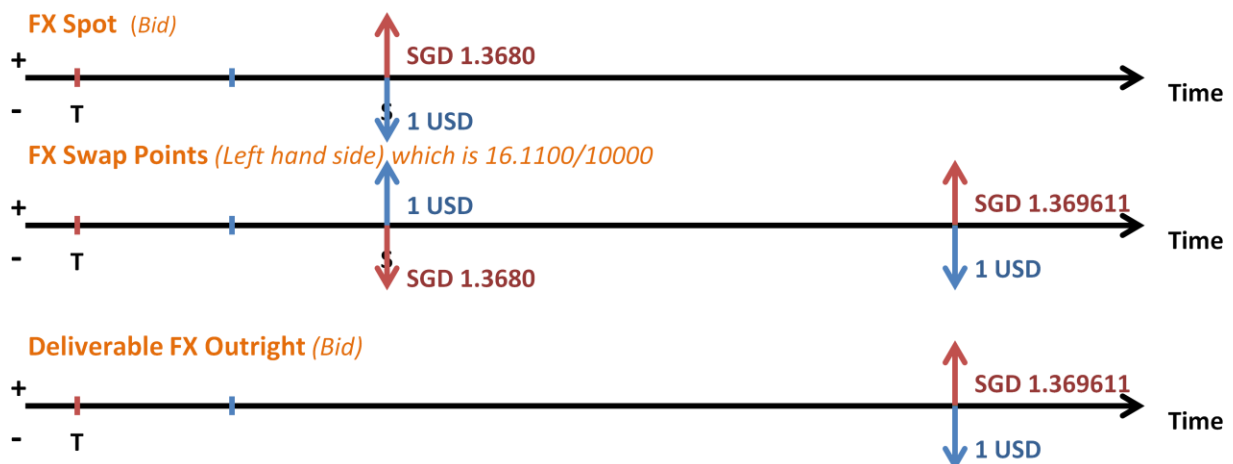
Standard Periods Deal Calculation

Period	SGD Dates	Days	SGD Swap Points	SGD Swap Points	SGD Outrights
ON	11 May 2016 12 May 2016	1	-0.1600	-0.0900	1.367951 1.369067
TN	12 May 2016 13 May 2016	1	-0.5100	0.5800	1.367942 1.369051
SN	13 May 2016 16 May 2016	3	0.0700	0.2800	1.368007 1.369028
SW	13 May 2016 20 May 2016	7	0.4600	1.0300	1.368046 1.369103
1M	13 May 2016 13 Jun 2016	31	4.8600	7.2500	1.368486 1.369725
2M	13 May 2016 13 Jul 2016	61	10.4700	12.5300	1.368947 1.370253
3M	13 May 2016 15 Aug 2016	94	16.1100	18.6000	1.369611 1.370860
6M	13 May 2016 14 Nov 2016	185	34.1500	35.0200	1.371415 1.372502

Since it is a 3M period with the value date ending on a weekend, the value date is deferred to the next working day.

The transaction involves selling 1 million USD to get SGD 3 months from the spot date, and hence the left hand side figure (bid swap price) is used.

Thus, subject to the 4 decimal place scaling factor, the FX Outright is a simple summation.



Pre-Spot Value Date Deliverable FX Outright

However, it is different for dates pre-spot value.

When the forward transaction is settled on a pre-spot value date, the FX outright is now no longer a simple summation of the swap points and the FX Spot Price.

U.S. Dollar / Singapore Dollar

Trade Date: 11 May 2016 | Value Date: 13 May 2016

USD Spot	SGD Spot	SGD Spot
1.0000	1.3680	1.3690

Calculation Parameters

Standard Periods | Deal Calculation

Period	SGD Dates	Days	SGD Swap Points	SGD Swap Points	SGD Outrights
ON	11 May 2016 - 12 May 2016	1	-0.1600	-0.0900	1.367851
TN	12 May 2016 - 13 May 2016	1	-0.5100	0.5800	1.367942
SN	13 May 2016 - 16 May 2016	3	0.0700	0.2800	1.368007

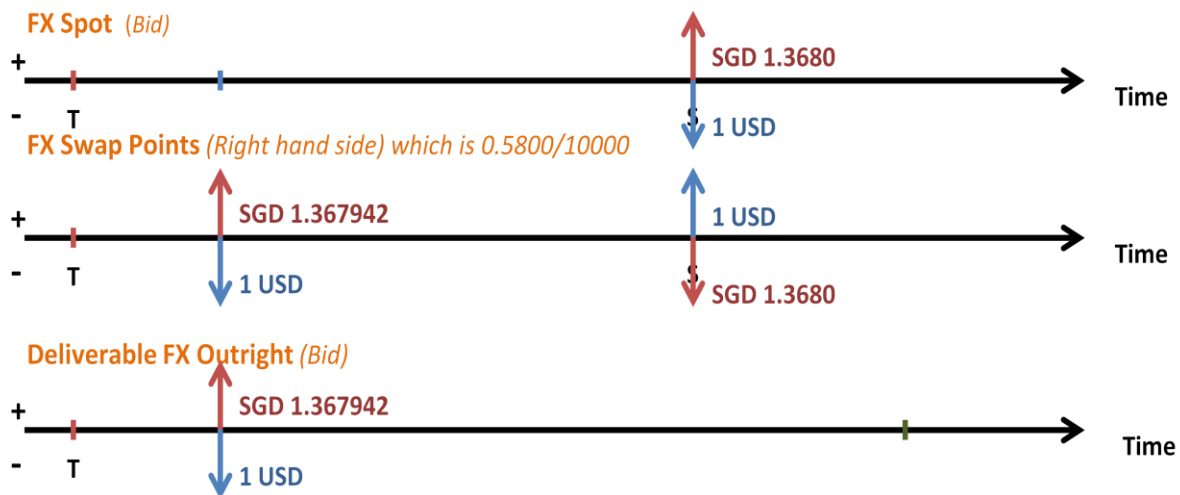
Let's take another example,

A client would like to lock in a forward contract which settles TomNext (TN) which is usually 1BD after the trade date.

Here, instead of adding the swap points (adjusted for the scaling factor) to the FX Spot Price, we would deduct it in order to "discount" the FX Spot Price to the FX TN Price.

The Right Hand Side (Ask) Swap points were used in this case as the transaction is considered a **sellbuy** of the base currency (USD).

Thus, while the FX Spot and Deliverable FX Outright bid prices were used and quoted, the ask swap points was used.



3b. Non Deliverable FX Outrights

Why is there a need for Capital Controls?

Capital controls are usually implemented in order to insulate the domestic interest rate from offshore speculation by restricting lending (directly and indirectly via the FX Swap market) by residents to non-residents using domestic currency. This essentially means that the country is trying to prevent the outflow of local currency.

This could be implemented by ensuring the onshore domestic currency interest rate is lower than the offshore domestic currency interest rate and was especially seen during the onset of the Asian Crisis, in Indonesia, Korea, Malaysia and Thailand to prevent indirect lending. Hence, **Non Deliverable Forwards** started to be used.

What are Non-Deliverable Forwards?

In a usual deliverable FX outright, there would be an exchange of two currencies, the base and counter currencies. However, in a NDF, the local currency (usually the counter currency) will not be exchanged and only the profiting party would receive the profit in USD.

Currently, countries such as Indonesia, Korea, Malaysia and Thailand make use of these NDFs.

How to use Eikon to derive NDF Outrights?

1. In the Eikon Toolbar, search <NDF>
2. Key in the Base and NDF Currency as indicated below (i.e. for USDKRW, USD is the base currency and KRW is the NDF currency, where the profiting party will receive the profit in USD terms at the end of the contract).
3. Look under the <USD/KRW Outrights> for the price of the FX NDF

U.S. Dollar / Korean Won

Base Currency: USD | Trade Date: 12 May 2016 | USD Spot: 1.0000 | KRW Spot (Offshore): 1165.4000 | USD/KRW Spot: 1165.4000
 NDF Currency: KRW | Value Date: 16 May 2016 | KRW Spot (Offshore): 1165.7000 | USD/KRW Spot: 1165.7000

Calculation Parameters: Main | FRAs

Standard Periods: NDF PIPs/NDFOR: NDF Outrights

Period	USD/KRW Dates		Fixing Date	Days	KRW Outright		USD Deposit		KRW Deposit		USD/KRW Swap Points		USD/KRW Outrights	
SW	16 May 2016	23 May 2016	19 May 2016	7	1,165.400000	1,166.000000	0.270	0.400	0.274	1.748	0.0000	30.0000	1,165.400000	1,166.000000
1M	16 May 2016	16 Jun 2016	14 Jun 2016	31	1,166.000000	1,166.600000	0.590	0.690	1.205	1.609	60.0000	90.0000	1,166.000000	1,166.600000
2M	16 May 2016	18 Jul 2016	14 Jul 2016	63	1,166.600000	1,167.300000	0.720	0.820	1.327	1.628	120.0000	160.0000	1,166.600000	1,167.300000
3M	16 May 2016	16 Aug 2016	11 Aug 2016	92	1,167.070000	1,167.870000	0.770	0.870	1.350	1.622	167.0000	217.0000	1,167.070000	1,167.870000
6M	16 May 2016	16 Nov 2016	14 Nov 2016	184	1,168.070000	1,168.970000	0.940	1.040	1.410	1.614	267.0000	327.0000	1,168.070000	1,168.970000
9M	16 May 2016	16 Feb 2017	14 Feb 2017	276	1,168.070000	1,169.070000	1.090	1.290	1.411	1.694	267.0000	337.0000	1,168.070000	1,169.070000
1Y	16 May 2016	16 May 2017	12 May 2017	365	1,168.120000	1,169.120000	1.260	1.350	1.514	1.666	272.0000	342.0000	1,168.120000	1,169.120000
2Y	16 May 2016	16 May 2018	14 May 2018	730	1,163.550000	1,165.250000	1.580	1.680	1.520	1.683	-185.0000	-45.0000	1,163.550000	1,165.250000

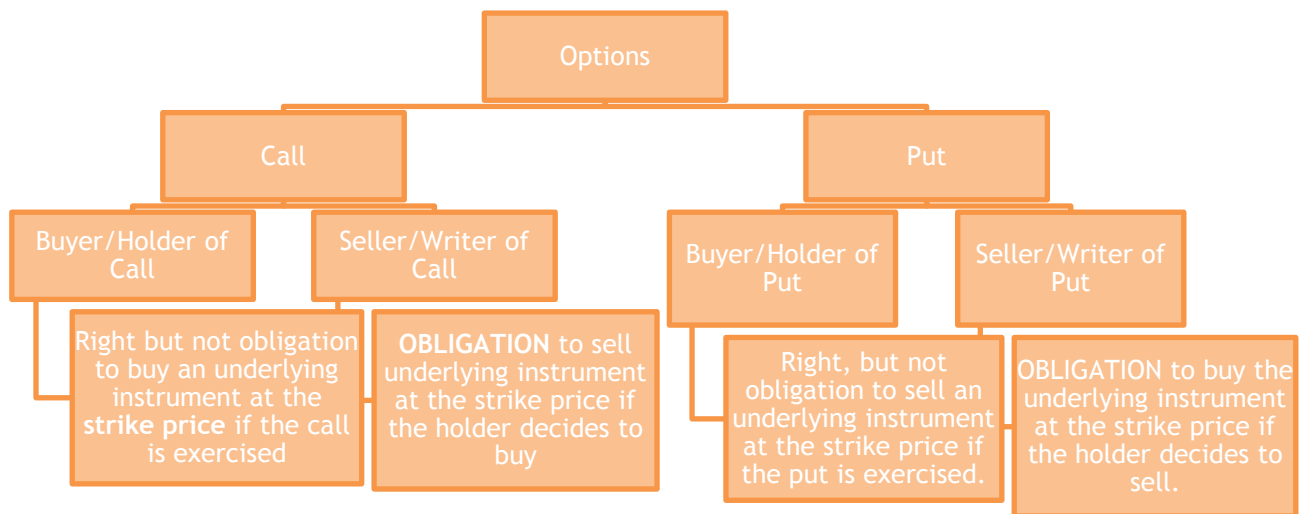
4. FX Options

Overview

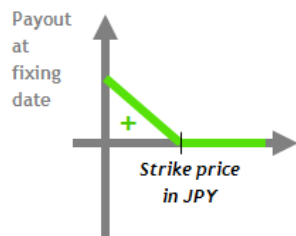
FX Options are a form of contingent claim. For an Option buyer, after the purchase of an option, they can choose whether or not to exercise the option (to buy or sell the underlying instrument) depending on whether they are going to make a profit.

There are two types of options:

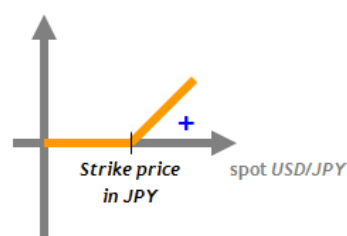
1. Call
2. Put



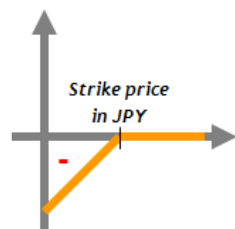
Long a USD vanilla Put



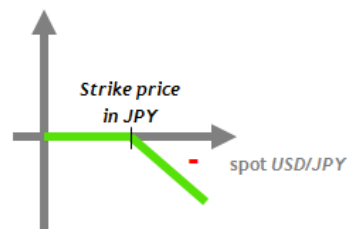
Long a USD vanilla Call



Short a USD vanilla Put



Short a USD vanilla Call



Options - FX and Money Views <FXMVFXO>

The screenshot displays the 'Options - FX & Money Views' interface. On the left, a list of FX Spot prices is shown for various currency pairs like NZDUSD, USDNOK, USDSEK, EURAUD, EURCAD, EURCHF, EURDKK, EURGBP, EURJPY, EURNOK, EURNZD, EURSEK, GBP AUD, GBPCAD, GBPCHF, GBPJPY, GBPNZD, and GBPSEK. The central area shows 'USDJPY' with 'ATM Bid / Ask' and '25D RR Bid / Ask' prices. Below this is a line chart titled 'Daily JPY2MO=R, JPY=' showing price fluctuations from Jan 16 to Jul 16. The right-hand side contains several data panels: 'DB FX Volatility Index' with Bid/Ask values, 'Equity Indices' listing DJ INDU AVERAGE, S&P 500 INDEX, etc., 'Equity Index Volatility' with MKT VOLILITY NDX, and 'Futures' and 'Bonds' sections listing various instruments like 100 OZ GOLD JUL6 and US 10Y T-NOTE.

The Options - FX and Money Views <FXMVFXO> is a useful overview page for viewers to view all related information to trade FX options.

Here, the left hand column provides a list of FX Spot prices and a list of ATM (At the Money) Volatilities and Cash prices in the centre column.

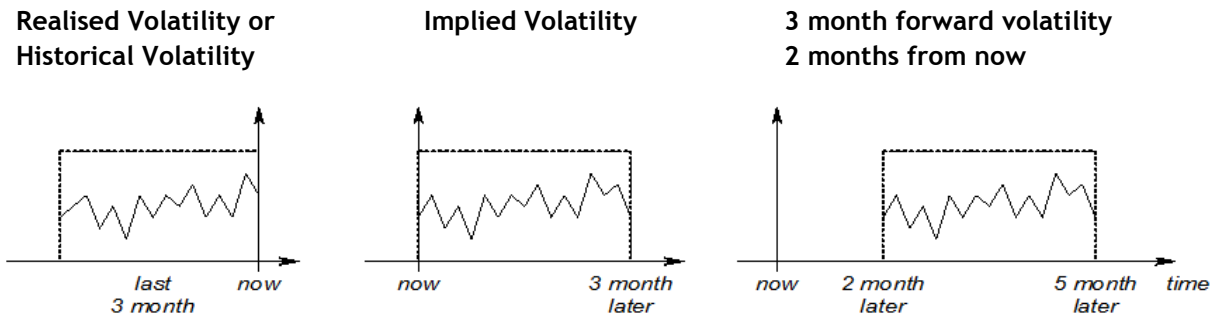
At the right hand column, there are equity indices as well as the volatilities of the different equity indexes.

In order to navigate to the above page, simply search <FXMVFXO> in the Eikon Toolbar, and select your preferred FX Spot from the left-hand column. For lesser traded FX currency pairs, you could search by the geographical region as shown in the tab bar above.

FX Volatility

FX Volatility is a measure of the rate and magnitude of the change of prices or returns of the underlying asset which in this case is the price of the FX currency pair. On the other hand, the standard deviation is a measure of Historical Volatility.

Options traders trade implied volatility, because price volatility is the only uncertain parameter during the time of execution. Hence, they would buy at low implied volatility and sell high implied volatility.



FX Implied Volatility Term Structure

Implied volatility is the trader’s estimate of how volatile spot FX will be. The price of a FX Option is quoted in implied volatility, especially in OTC Markets. Formulae such as the Black-Scholes translates option premium into implied volatility.

For example, to view the FX Volatility Term Structure of the USDJPY, one can do the following.

Press F4 to open the quote app, search <JPYVOL> and press enter.

The screenshot shows a trading terminal window titled 'JPYVOL Quote' with a search bar containing 'JPYVOL'. The main display area shows the following table:

	JPY		DEALING		
SW	10.820	12.520	ThomRtrs	TRC	15:52
1M	13.150	13.750	ThomRtrs	TRC	15:52
2M	12.425	12.875	ThomRtrs	TRC	15:52
3M	12.015	12.465	ThomRtrs	TRC	15:52
6M	11.635	12.085	ThomRtrs	TRC	15:46
9M	11.280	11.730	ThomRtrs	TRC	15:52
1Y	11.038	11.438	ThomRtrs	TRC	15:48
2Y	10.925	11.425	ThomRtrs	TRC	15:46
3Y	10.950	11.600	ThomRtrs	TRC	15:46
5Y	11.028	11.727	ThomRtrs	TRC	15:46
7Y	11.950	12.450	ThomRtrs	TRC	15:46
10Y	13.705	14.305	ThomRtrs	TRC	15:46

FX Implied Volatility

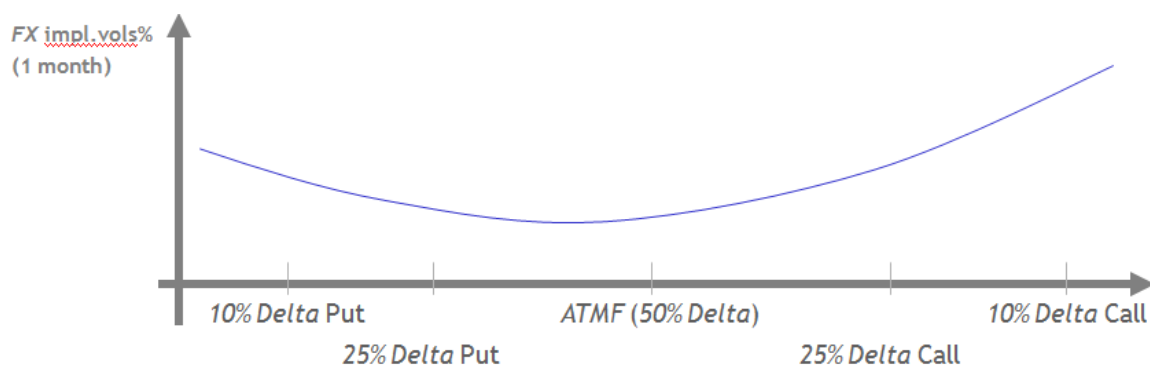
Option traders trade implied volatility which implies that inherent in any option premium is an implicit estimate of the future volatility which is the implied volatility.

There are two ways for traders to quote options, strike prices or delta.

First, let us understand the concept of Delta.

Delta or Delta_Spot is the changes in the option premium which represents the change in the price of underlying asset. Hence, it is the first degree differentiation of the profit or loss at expiry at strike. When given the delta figures, users will use these figures and the tenor in order to determine the strike price.

Delta can also be used to define whether the option is at the money, in the money and out of the money.



When the Delta is at 50%, the FX vanilla option is At The Money Forward (ATMF), which means it has a strike price that is equivalent to the relevant FX Outright price.

At 10% Delta Put, it is also equivalent to a 90% Delta Call. Here, the Call option is in the money while the put option is out of the money.

Correspondingly, at the 10% Delta Call which is also a 90% Delta Put, the Put option is in the money while the Call Option is out of the money.

Hence, when delta is more than 50%, the option is in the money and when delta is less than 50%, the option is out of the money. Moneyness is interpreted from the FX Option buyer's perspective.

Secondly, there are two types of Options styles traded, in general.

1. European-style options

European-style options are options that can only be exercised on the stipulated expiry date of the option.

2. American-style options

American-style options are options that can be exercised anytime before or on the expiry date.

FX Implied Volatility Surface

On Eikon, a series of volatility surface quotes can be obtained. Using this page, users can choose any tenor necessary (Vertical column) and any strike price (priced using the delta figure) (Horizontal row). Here, the delta figures range from 10D Put (90D Call) to a 10D Call (90D Put).

To arrive at the following page,

Press F4 to open the quote app, and search <JPYVOLSURF>.

	10D PUT	15D PUT	20D PUT	25D PUT	30D PUT	35D PUT	40D PUT	45D PUT	ATM	45D CALL	40D CALL	35D CALL	30D CALL	25D CALL	20D CALL	15D CALL	10D CALL
ON Mid	9.894	9.458	9.048	8.690	8.401	8.173	7.994	7.850	7.735	7.618	7.520	7.437	7.370	7.322	7.294	7.279	7.273
Bid	3.481	4.396	5.137	5.526	5.454	5.051	4.504	4.001	3.735	3.797	4.062	4.335	4.424	4.137	3.349	2.188	0.848
Ask	16.307	14.520	12.960	11.853	11.347	11.295	11.484	11.700	11.735	11.440	10.979	10.539	10.316	10.507	11.238	12.371	13.698
3M Mid	14.391	13.842	13.326	12.873	12.506	12.214	11.985	11.802	11.670	11.525	11.429	11.374	11.369	11.424	11.543	11.706	11.889
Bid	12.253	12.296	12.291	12.186	11.952	11.634	11.295	10.997	10.820	10.741	10.762	10.805	10.809	10.712	10.474	10.130	9.739
Ask	16.529	15.387	14.360	13.560	13.059	12.795	12.675	12.608	12.520	12.309	12.097	11.943	11.929	12.136	12.611	13.282	14.038
2M Mid	15.690	15.100	14.549	14.068	13.677	13.368	13.128	12.944	12.835	12.696	12.627	12.597	12.611	12.671	12.778	12.919	13.076
Bid	14.566	14.286	14.000	13.695	13.366	13.034	12.730	12.482	12.353	12.255	12.250	12.275	12.297	12.281	12.204	12.084	11.947
Ask	16.815	15.915	15.099	14.441	13.989	13.702	13.526	13.405	13.317	13.138	13.003	12.919	12.925	13.061	13.351	13.754	14.205
3M Mid	16.079	15.482	14.924	14.436	14.039	13.725	13.482	13.298	13.196	13.060	12.999	12.978	12.998	13.059	13.160	13.289	13.429
Bid	15.254	14.883	14.518	14.155	13.799	13.464	13.170	12.937	12.822	12.718	12.707	12.728	12.755	12.762	12.730	12.669	12.597
Ask	16.904	16.081	15.331	14.717	14.280	13.987	13.795	13.658	13.570	13.403	13.292	13.228	13.240	13.356	13.590	13.909	14.260
1M Mid	16.347	15.745	15.183	14.691	14.291	13.974	13.730	13.546	13.450	13.317	13.263	13.249	13.273	13.334	13.431	13.550	13.675
Bid	15.730	15.296	14.875	14.474	14.099	13.762	13.476	13.255	13.150	13.044	13.029	13.048	13.079	13.101	13.100	13.079	13.050
Ask	16.964	16.194	15.490	14.908	14.482	14.186	13.983	13.836	13.750	13.590	13.497	13.449	13.466	13.567	13.761	14.021	14.300
6M Mid	16.335	15.658	15.027	14.476	14.028	13.673	13.396	13.182	13.076	12.897	12.817	12.779	12.787	12.841	12.937	13.063	13.197
Bid	15.708	15.202	14.716	14.261	13.846	13.479	13.168	12.923	12.809	12.654	12.606	12.593	12.600	12.606	12.601	12.584	12.562
Ask	16.963	16.115	15.338	14.691	14.211	13.868	13.624	13.442	13.343	13.141	13.028	12.965	12.974	13.075	13.274	13.543	13.832
2M Mid	16.312	15.541	14.823	14.200	13.693	13.290	12.971	12.720	12.600	12.363	12.247	12.180	12.167	12.211	12.308	12.443	12.587
Bid	15.674	15.077	14.510	13.988	13.523	13.117	12.775	12.500	12.375	12.158	12.066	12.013	11.987	11.973	11.962	11.950	11.937
Ask	16.951	16.004	15.137	14.411	13.863	13.462	13.167	12.940	12.825	12.567	12.428	12.348	12.347	12.448	12.655	12.936	13.237
3M Mid	16.261	15.349	14.515	13.814	13.276	12.873	12.571	12.337	12.240	11.981	11.851	11.774	11.761	11.826	11.969	12.164	12.371
Bid	15.504	14.820	14.180	13.610	13.123	12.715	12.381	12.117	12.015	11.784	11.684	11.624	11.593	11.583	11.584	11.599	11.595
Ask	17.018	15.878	14.849	14.019	13.430	13.031	12.761	12.558	12.465	12.178	12.018	11.924	11.930	12.070	12.354	12.739	13.146
4M Mid	16.222	15.271	14.405	13.678	13.119	12.698	12.382	12.139	12.059	11.785	11.663	11.600	11.604	11.688	11.850	12.063	12.284
Bid	15.479	14.753	14.077	13.476	12.964	12.537	12.189	11.918	11.835	11.589	11.496	11.447	11.433	11.442	11.464	11.494	11.522
Ask	16.964	15.790	14.733	13.881	13.273	12.859	12.575	12.361	12.284	11.981	11.831	11.752	11.775	11.934	12.235	12.633	13.047
5M Mid	16.193	15.220	14.336	13.595	13.024	12.595	12.273	12.025	11.956	11.674	11.558	11.502	11.516	11.611	11.784	12.008	12.236
Bid	15.459	14.709	14.012	13.394	12.869	12.432	12.077	11.803	11.732	11.479	11.391	11.349	11.343	11.363	11.598	11.441	11.481
Ask	16.926	15.732	14.659	13.796	13.180	12.758	12.468	12.248	12.181	11.870	11.725	11.655	11.690	11.859	12.169	12.575	12.992
6M Mid	16.163	15.171	14.272	13.521	12.943	12.507	12.181	11.931	11.873	11.586	11.474	11.424	11.447	11.551	11.732	11.965	12.198

Double click on any on quote and the detailed price for the corresponding option will be presented as follows.

USD Put VOL							
Bid	Ask	Mid	Contributor	Loc	Time	High	12.966
12.492	12.932	12.712	REUTERS	RTR	15:57	Low	12.676
12.500	12.940	12.720			15:57	Open	12.966
12.500	12.940	12.720			15:56	His.Cls	12.966
						Cls.Date	30JUN16
	Bid	Ask	Mid	Maturity Date			
STRIKE	101.7493	101.8271	101.7882	02SEP16		Period	2M
PREM	1.864	1.932	1.8981			Delta	45DPUT
USDJPY			0.470			Expiry	02SEP16
SKEW			-0.547			Delivery	06SEP16
KURTOSIS			0.743				

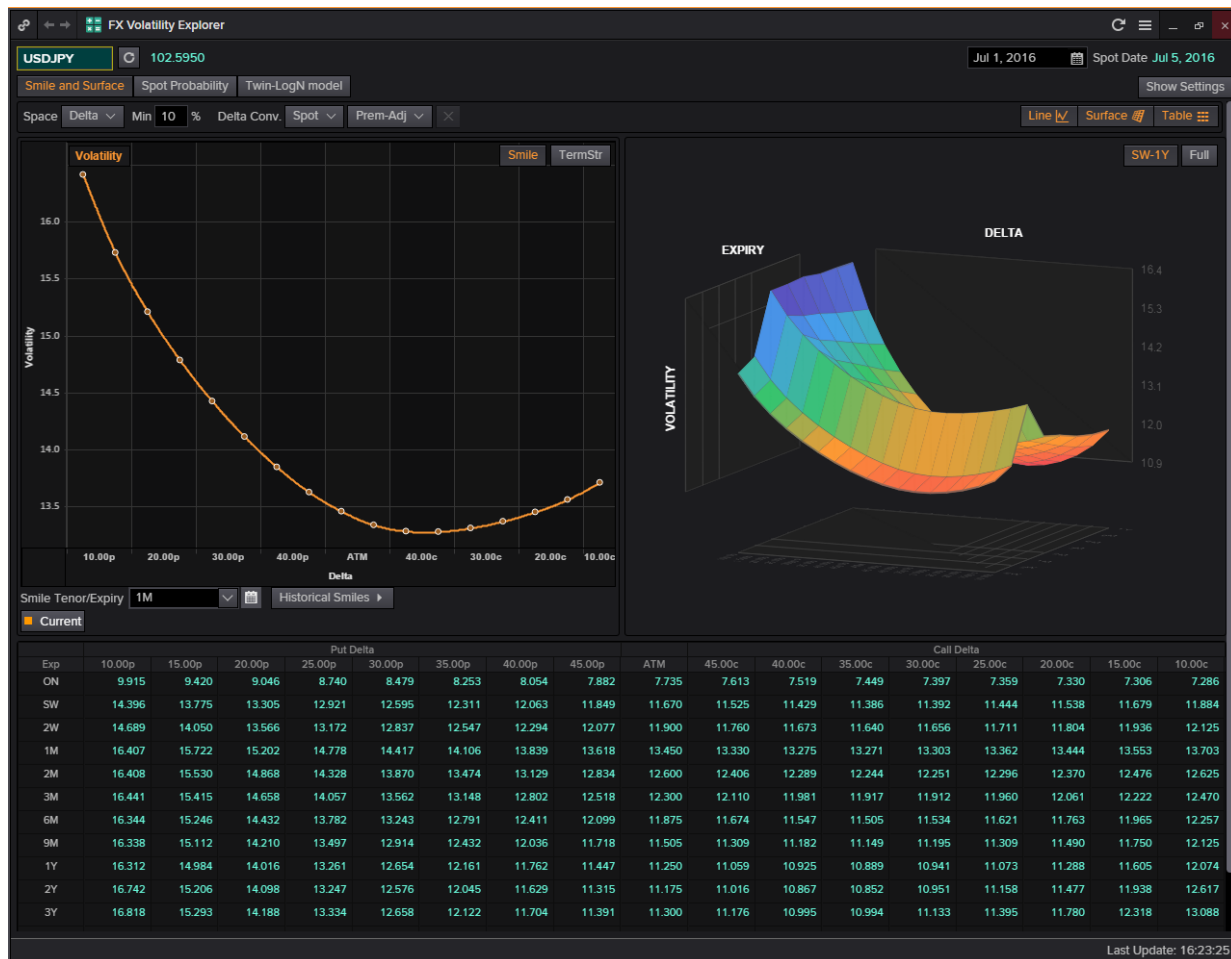
FX Volatility Explorer <FXVE>

Here, using the FX Volatility Explorer, users are able to view the volatility smiles (Volatility against Delta) at different expiries. Furthermore, the spot probabilities are provided in the second tab, where the different probabilities as well as the implied probability distributions are plotted. Here, the discrepancy between the implied distribution curve and the log-normal distribution curve, especially at the lower delta values would give rise to the “fat-tail effect” or the smile at the two ends of the implied volatility curve.

However, one should note that should the “fat tail effect” only occurs if the probability distribution of the implied and log-normal distribution differs. If not, a “smirk” like curve as seen below would be presented.

In order to utilise the <FXVE> application,

1. In the Eikon Toolbar, search <FXVE>
2. Choose your currency pair and view the different tenors and deltas in order to obtain the implied volatility of the option premium necessary.



FX Vanilla Option Pricing and Greek Analysis

Currency Options Calculator <COPT>

In order to calculate the price of a basic vanilla option, one could use the **Currency Options Calculator <COPT>** to calculate the price you would need to pay.

In the Eikon Toolbar, search <COPT>

The screenshot displays the Currency Options Calculator (COPT) interface for a U.S. Dollar / Japanese Yen Vanilla option. The interface is divided into several sections:

- Header:** U.S. Dollar / Japanese Yen, Vanilla, Strategy Portfolio, Updated at 2:09:23 PM.
- Trade Information:** USDJPY, Trade Date: 07 Jul 2016, Value Date: 11 Jul 2016 (2WD), USD: Call, JPY: Put, Deal Type: Buy, Option Type: Vanilla.
- Calculation Parameters:**
 - Option Definition: Buy USD Call JPY Put Vanilla
 - Exercise Type: European
 - Expiration (91 days): 06 Oct 2016
 - Delivery (96 days): 11 Oct 2016
 - Amount in: 1,000,000.00, In JPY: 99,000,000.00
 - Strike: 99.000000, In USD: 1.010101
- Market Data:** Volatility Source: VOLSURF. Includes Bid and Ask prices for Spot, FX Points, Outright, USD Rate, and Volatility.
- Results:** Methodology: Black and Scholes, Spot, Solve for: Premium. Includes Bid and Ask prices for % Amt USD, Price USD, Moneyness, Break-Even JPY, FX Points JPY, Price JPY, % Amt Strike JPY, and % Amt Fwd JPY.
- Sensitivities:** Spot, Premium In: JPY. Includes Bid and Ask prices for % USD, USD Amount, and JPY Amount for various Greeks (Delta, Gamma, Vega, Volga, Theta, Rho).

You would need to change or adjust the following according to your specifications.

1. Currency Pair
2. Buy/Sell a Call/Put
3. Notional Amount
4. European or American Style
5. Tenor
6. Strike Price
7. Delta if any.

You would then refer to the Price (JPY) for example, for the price you would need to pay in JPY or the corresponding Price (USD) for the price in USD.

Sensitivities

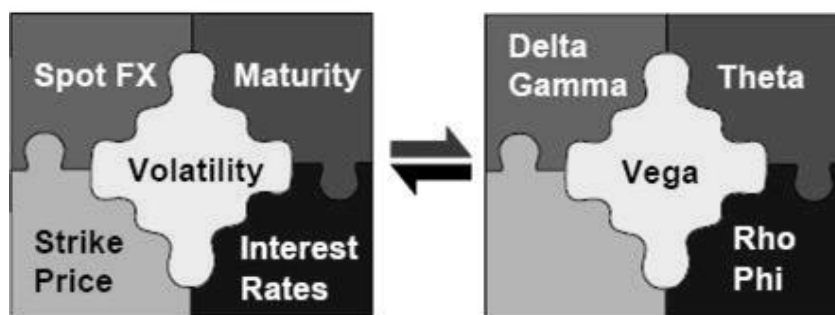
In mathematical finance analysis, Greeks refer to quantities which represent the sensitivity of the price of derivatives to such as options to a change in underlying parameters

Gamma, Γ , refers to changes in delta over changes in underlying price. In other words, it is the rate of change of delta, which is the rate of change of the theoretical option value with the price of the underlying asset.

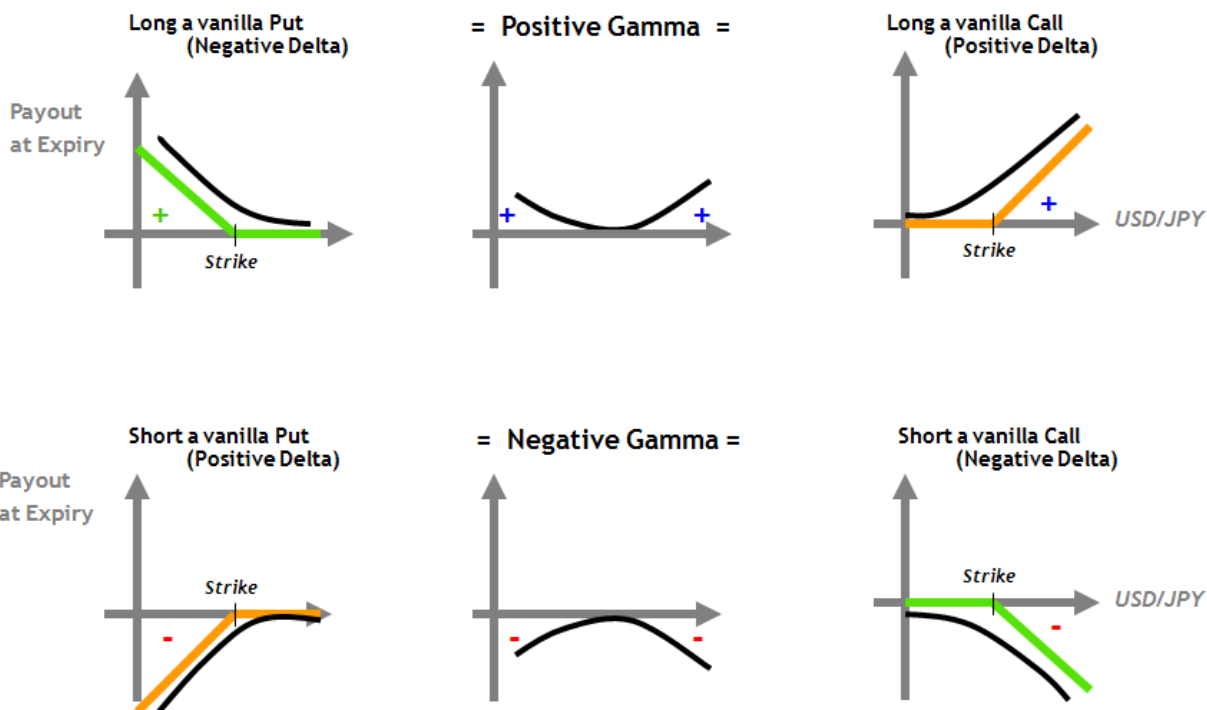
Theta, θ , refers to the change in option premium over a unit change in time to expiry. It measures the time decay of the option over time.

Rho, ρ , measures the changes in option premium over a 1% change in interest rates.

Vega, v , measures the changes in option premium over changes in implied volatility of the underlying asset.

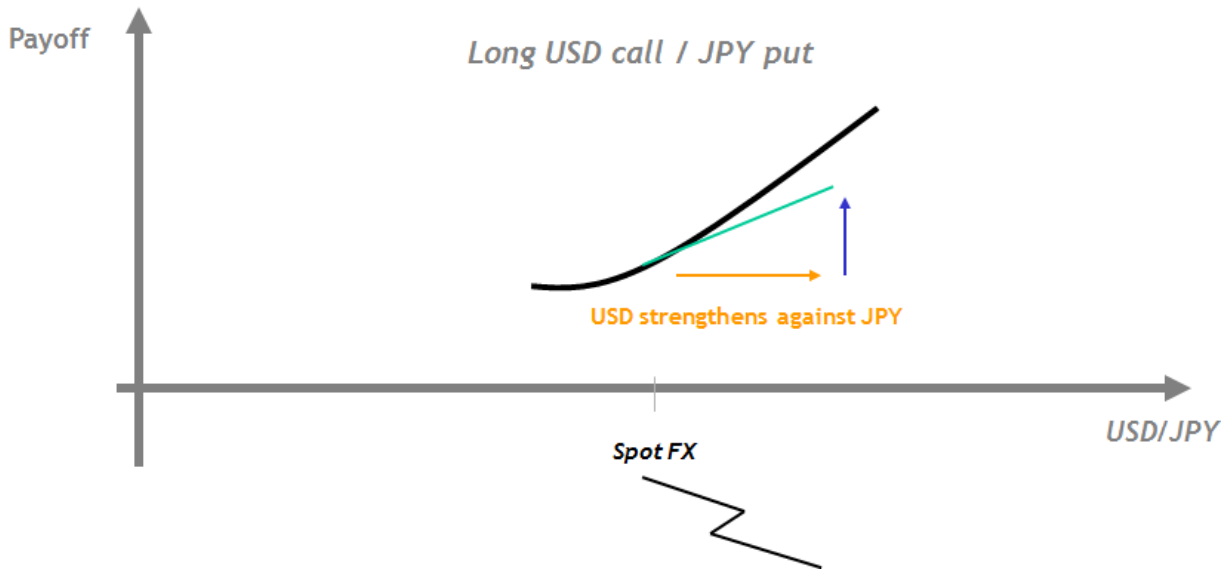


Relationship between Delta and Gamma



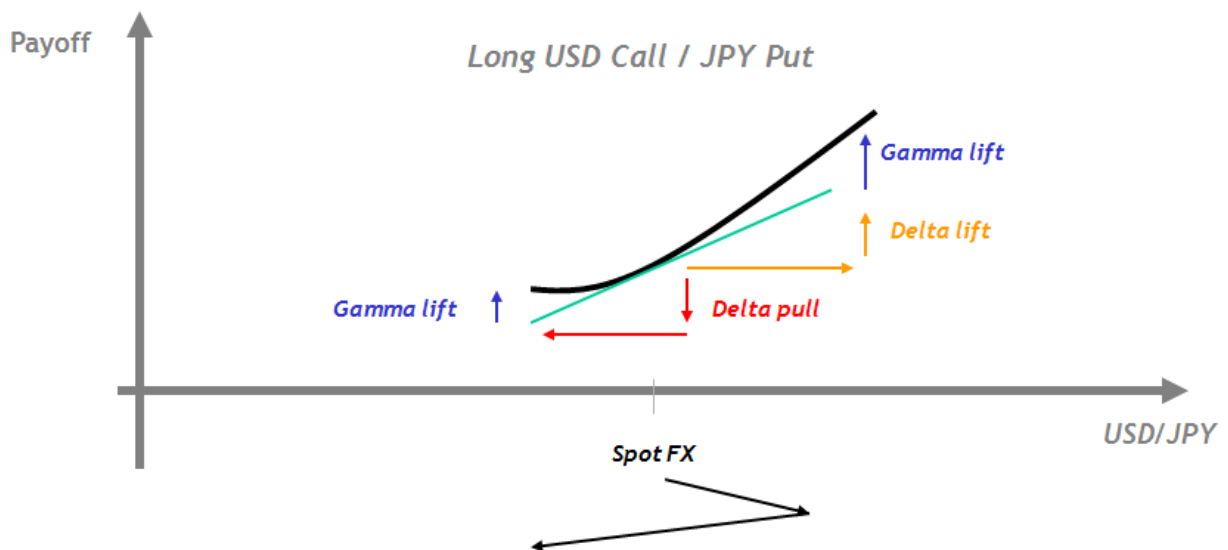
Positive Delta would allow holders of options to gain if the trend is bullish but to lose money if the trend is bearish. Hence the market o market value increases as USD strengthens against JPY.

Mark to Market value increases as USD strengthens against JPY.



However, the situation is alleviated with a positive gamma, which allows quick gains and slow losses.

**Mark to Market value increases quickly as USD strengthens against JPY and
Mark to Market value gets extra lift despite delta pulls down the value
as USD weakens against JPY.**



We will cover more about trading strategies involving delta and gamma subsequently.

FX Options Calculator <FXOC>

For calculating the option premium costs for other types such as:

1. Vanilla
2. Barrier
3. European Digital
4. Touches
5. Average
6. Lookback
7. Forward Start
8. Compound
9. Chooser
10. Vanilla Strategy
11. Multi-Leg Strategy (User Defined Strategy + Strip Builder)

Users are able to utilise the FXOC in order to find the option premium in a similar way as to how to utilise COPT.

FX OPTIONS CALCULATOR			
USDJPY	102.5100	102.5400	
Jul 01, 2016	Spot Date Jul 05, 2016		
Vanilla			
OPTION TERMS			
Deal Type	Buy		
Expiry Tenor / Date	1M	Aug 03, 2016	33d
Delivery	Aug 05, 2016		
Style	European		
Call/Put	USD	Call	
Strike	102.3447		
Notional	USD	1,000,000	
MARKET DATA			
ATM Vol (%)	13.188	13.788	
RR (%)	10D	-3.191	-1.941
BF (%)	10D	1.150	1.900
Fwd	Points	-9.8000	-9.4200
USD Depo (%)	0.750		
JPY Depo (%)	-0.361		
PRICING			
Black and Scholes			
Volatility (%)	13.188	13.788	
Premium	USD	16,090	17,060
Premium Price (%)	1.6090		
Premium Date	Spot	Jul 05, 2016	
Delta (%)	Spot	50.119	
Delta Notional (USD)	501,195		
Vega (USD)	1,197		

In the Eikon Toolbar, search <FXOC>

Adjust the following settings:

1. Currency Pair
2. Type of Strategy (e.g. Vanilla)
3. Buy or Sell
4. Expiry or Tenor
5. European or American
6. Call or Put

Note that the ATM Strike is by default the FX Outright at the end of the tenor.

Strip Builder


In order to build a series of options, users can utilise the strip wizard function in order to repeat the same option over and over again.

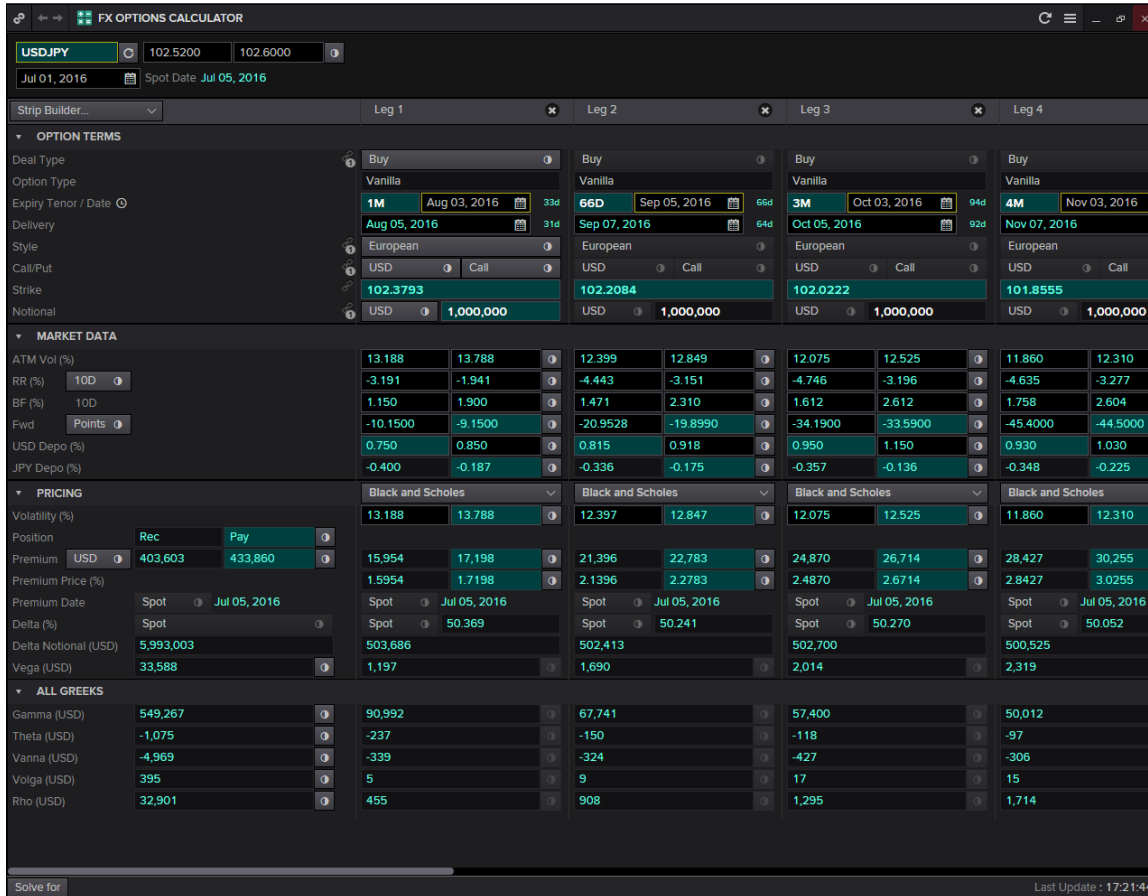
For example, using the previous Vanilla option, we wish to repeat this for 12 times every month.

1. Select the Strip Builder through Multi-leg strategy>Strip Builder
2. In the following page, adjust the number of expires and the repetition frequency.

3. The following page will appear, with a series of options being repeated consecutively.

	Leg 1	Leg 2	Leg 3	Leg 4
OPTION TERMS				
Deal Type	Buy	Buy	Buy	Buy
Option Type	Vanilla	Vanilla	Vanilla	Vanilla
Expiry Tenor / Date	1M Aug 03, 2016	66D Sep 05, 2016	3M Oct 03, 2016	4M Nov 03, 2016
Delivery	Aug 05, 2016	Sep 07, 2016	Oct 05, 2016	Nov 07, 2016
Style	European	European	European	European
Call/Put	USD Call	USD Call	USD Call	USD Call
Strike	102.3695	102.3695	102.3695	102.3695
Notional	USD 1,000,000	USD 1,000,000	USD 1,000,000	USD 1,000,000
MARKET DATA				
ATM Vol (%)	13.188	12.399	12.075	11.860
RR (%)	-3.191	-4.443	-4.746	-4.636
BF (%)	1.150	1.471	1.612	1.758
Fwd	-9.7800	-20.6545	-34.5000	-45.3900
USD Depo (%)	0.750	0.815	0.960	0.930
JPY Depo (%)	-0.358	-0.319	-0.359	-0.348
PRICING				
Volatility (%)	13.188	12.346	11.987	11.748
Position	Rec	Pay	Pay	Pay
Premium (USD)	344,136	20,505	22,992	25,703
Premium Price (%)	1.5971	2.0505	2.2992	2.5703
Premium Date	Spot Jul 05, 2016	Spot Jul 05, 2016	Spot Jul 05, 2016	Spot Jul 05, 2016
Delta (%)	Spot 50.338	Spot 49.098	Spot 48.267	Spot 47.478
Delta Notional (USD)	503,375	490,982	482,665	474,780
Vega (USD)	1,197	1,693	2,019	2,327
ALL GREEKS				
Gamma (USD)	563,218	68,271	58,246	50,995
Theta (USD)	-1,081	-150	-118	-98
Vanna (USD)	35,758	634	1,320	2,010
Volga (USD)	689	-9	-15	-11
Rho (USD)	30,013	455	1,243	1,626

- By default, the calculator would synchronise all the strike prices to the same price. However, users are able to adjust this, by clicking on the  button at the strike row.
- This would cause the strike prices to unsynchronise and will now follow the FX outright price at each of the expiry dates.



The screenshot displays the 'FX OPTIONS CALCULATOR' interface for a USDJPY strip. The main configuration shows a 102.5200 / 102.6000 spread with a spot date of Jul 05, 2016. The strip consists of four legs (Leg 1 to Leg 4) with varying tenors and expiry dates.

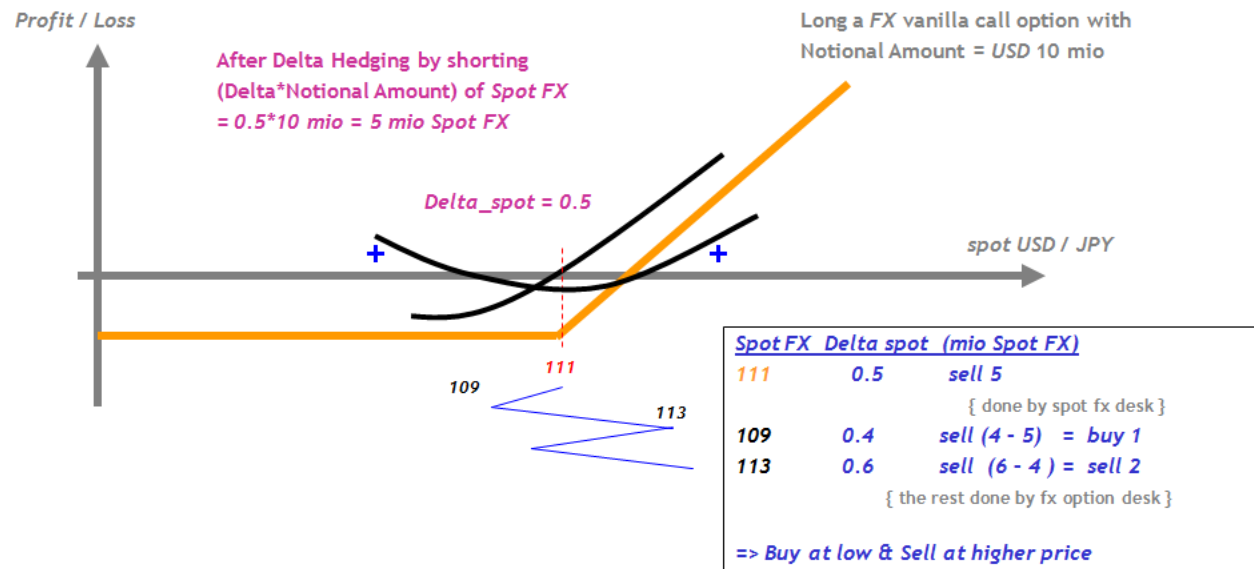
Deal Type	Option Type	Expiry Tenor / Date	Delivery	Style	Call/Put	Strike	Notional
Buy	Vanilla	1M Aug 03, 2016	Aug 05, 2016	European	USD Call	102.3793	1,000,000
Buy	Vanilla	66D Sep 05, 2016	Sep 07, 2016	European	USD Call	102.2084	1,000,000
Buy	Vanilla	3M Oct 03, 2016	Oct 05, 2016	European	USD Call	102.0222	1,000,000
Buy	Vanilla	4M Nov 03, 2016	Nov 07, 2016	European	USD Call	101.8555	1,000,000

The 'MARKET DATA' section provides volatility and forward rates for various tenors (10D, 10D, Points). The 'PRICING' section shows Black and Scholes model results for each leg, including volatility, premium, delta, and vega. The 'ALL GREEKS' section summarizes the overall portfolio risk metrics.

Trading Strategies

Dynamic Delta Hedging: Gamma Trading

FX vanilla option holders with time-decay in time, will carry out *dynamic delta hedging* to greatly reduce spot FX sensitivity so that they can focus on Gamma Trading.



When option holders conduct dynamic delta hedging, they remove the price trend and instead focus on the changes in implied volatility.

With Notional of USD 10 million.

When Delta_{spot} is 0.5

=> holder of FX vanilla call option owns approximately USD 5 millions, he/she can sell off USD 5 millions.

Asset (owns)	Liability (sells by FX spot desk)	becomes	Asset	Liability
USD 5 millions (changing figure)	- USD 5 millions		USD 5 millions	USD 5 millions

When Delta_{spot} is 0.4,

=> holder of FX vanilla call option owns approximately USD 4 millions, he/she needs to buy back USD 1 million.

Asset (buys more)	Liability (sold)	becomes	Asset	Liability
USD 4 millions (changing figure)	USD 5 millions		USD 4 millions	USD 4 millions
	- USD 1 millions			

When Delta_{spot} is 0.6

=> holder of FX vanilla call option owns approximately USD 6 millions, he/she needs to sell off USD 1 million.

Asset (owns)	Liability (sells by FX option desk)	becomes	Asset	Liability
USD 6 millions (changing figure)	USD 4 millions		USD 6 millions	USD 6 millions
	+ USD 2 million			

With Gamma trading, when there is a greater change in price, meaning more volatility, holders will now profit instead of facing the risk of losing money.

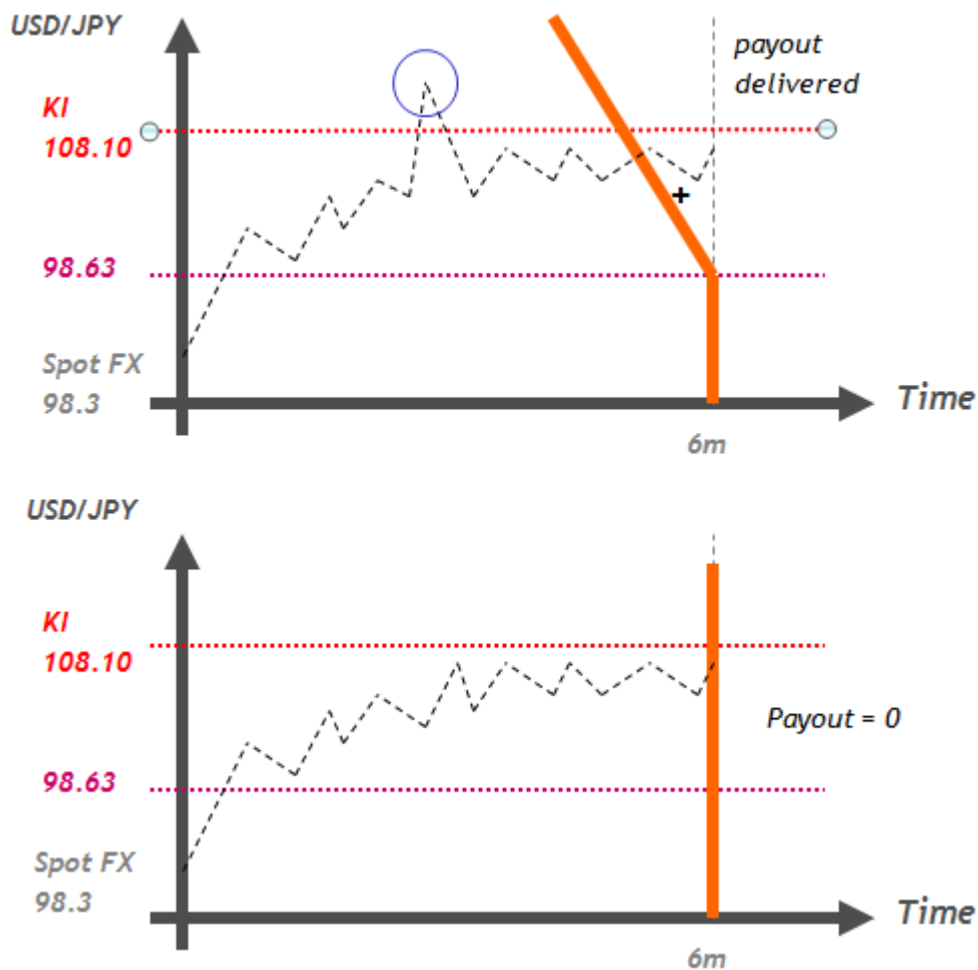
Barriers

FX Barriers options are path-dependent standard options with conditions attached. They can either knock-in (appear) or knock-out (disappear) or both.

Holders of FX Knock-In barriers will own nothing first and if the price crosses that of the barrier, the FX Vanilla Option appears.

However, holders of FX Knock-Out Barriers will own a FX Option first and if the price crosses that of the barrier, the FX Vanilla Option will disappear.

Some Corporate Treasurers prefer these options as the barrier options may be cheaper than the usual FX vanilla options.



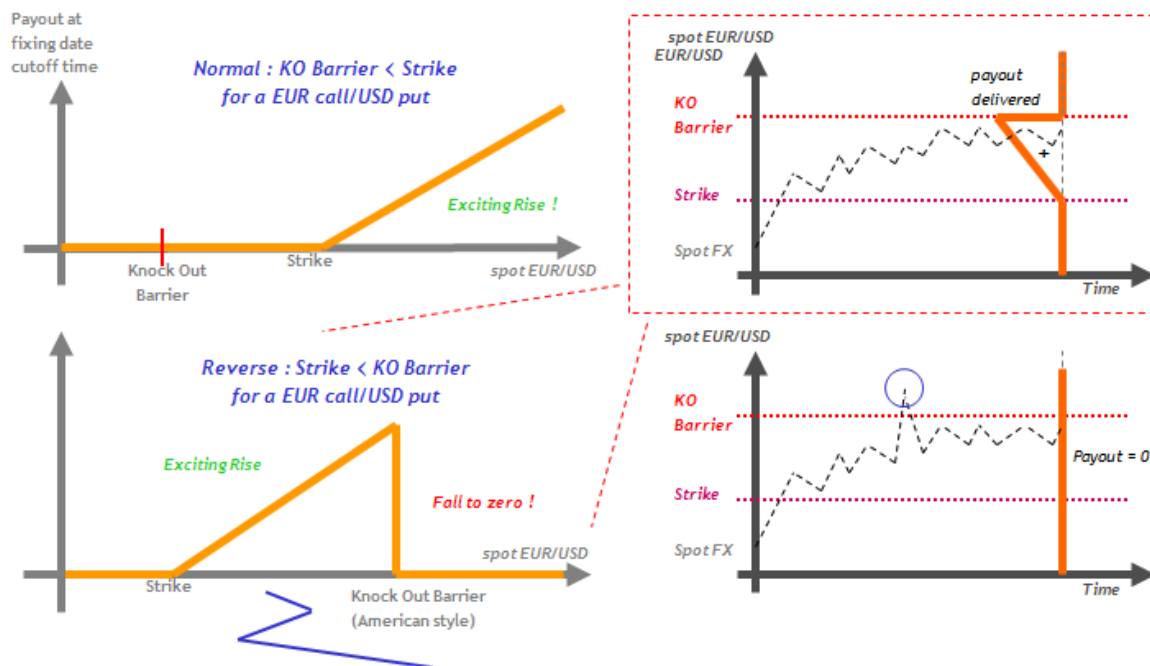
Above is two scenarios, with the first being when the price crosses the Knock-in barrier and the second being when the price does not cross the Knock-in barrier.

American Style FX Accumulator

An American Style FX Accumulator is a structured product that may allow client to buy a currency against another at a lower rate than spot FX or lower rate than FX Outright or both at the trade date.

After entering the contract, clients are committed to buying the currency at agreed rate (strike) on fixing dates until maturity.

While this may allow clients to purchase the currency at a cheap price, they face the danger that if spot FX trades above the Knock-out barrier, they do not have any more accumulation and if the spot FX trades below strike, the clients have to accumulate more, for example at twice the amount at agreed rate.



For example, users may purchase a series of Reverse Knock-Out Calls and Knock-Outs Puts which the Puts having double the notional amount of that of Calls.

Client buys EUR against USD.

Contract Period (Maturity)	: 6 months
Settlement Period	: half-yearly
Fixing Period (Observation Frequency)	: monthly
Amount	: EUR 15,000 per month (cumulative = EUR 90,000)
Spot EUR/USD	: USD 1.32
Agreed Accumulative Rate	: 98.48% of spot EUR/USD = USD 1.30
Knock-out level	: 101.5% of spot EUR/USD = USD 1.34
Leverage = 1:2	(client is advised to buy one RKO call and sell two KO puts)
Cost	: zero to client

A table to illustrate the ideal and a possible outcome

Observations	Ideally, client buys 1 EUR @ 1.30 USD	Actual Outcomes 1 EUR @ 1.30 USD
First Month	EUR 15,000	EUR 15,000
Second Month	EUR 15,000	EUR 30,000
Third Month	EUR 15,000	EUR 15,000
Forth Month	EUR 15,000	EUR 15,000
Fifth Month	EUR 15,000	Knocked out
Sixth Month	EUR 15,000	Nothing
Total accumulated	EUR 90,000	EUR 75,000

Profit realised = USD 75000*(1.36 - 1.30)

Here is how to perform the above using the FXOC. After setting the different settings, users should set the cost to 0.

First, select the “Solve For” button at the bottom left and click the strike for the Reverse KO option. Next select the premium (highlighted in orange) and set it to 0. Press enter and the new strike will appear. Ensure that they are all set at the same strike price and that the notional for KO puts is twice that of the regular KO calls (for leverage of 1:2)

The screenshot displays the FX Options Calculator interface for USDJPY. The main window is titled "FX OPTIONS CALCULATOR" and shows the following details:

- Deal Type:** Buy
- Option Type:** Reverse Knock Out
- Expiry Tenor / Date:** 1M, Aug 04, 2016
- Delivery:** Aug 08, 2016
- Style:** European
- Call/Put:** USD Call
- Strike:** 94.9858
- Barrier:** 104.9490
- Rebate (JPY):** 0
- Window Type / Date:** None
- Notional:** USD 1,000,000

The interface also shows a "MARKET DATA" section with "PRICING" and "ALL GREEKS" for four different legs (Leg 1 to Leg 4). The pricing table includes values for Premium, Delta, Vega, and other metrics. The "ALL GREEKS" section lists Gamma, Theta, Vanna, Volga, and Rho for each leg.

5. Indicative Data v Tradable Data

What is the Key Difference?

For general users, there is no dire need to understand the difference between indicative figures as well as tradable figures, since we are unlikely to trade on the numbers and merely need there for analysis.

However, when quoting figures to clients, some bankers may choose to use tradable figures which could be traded upon. Tradable figures usually exhibit a smaller bid-ask spread as compared to indicative figures.

Also, if the bankers has any preferred contributor data that he would like to use, it could be customized whereas the indicative figures is merely a composite of the different figures available from Reuters list of contributors.

How to search for it on Eikon?

For **indicative data**: Press **F4** in Eikon and search for “<CUR>=” replacing CUR with the currency code. Alternatively, “<CUR>=ICAP” is also an alternative indicative figure provider

For **tradable data**: Press **F4** in Eikon and search for “<CUR>=EBS” for Electronic Broking Services, which is a matching platform.

Alternatively, a conventional platform, can be used by: Press **F4** in Eikon and search for “<CUR>=D2”.

The image displays three screenshots of Eikon quote windows for the SGD/USD pair on May 13, 2016.

Top Window: SGD=EBS Quote
 *USD/SGD EBS USDSGD 13MAY16

Trade	Net.Chng	% chg	Date	Time	Bid	Ask	Time
s 1.37450	+0.00250	0.18 %	13MAY16	13:22	1.37380	1.37420	13:41
450					380	420	
s 1.37430				11:17	1.37380	1.37430	
s 1.37360				10:13	1.37370	1.37430	

Middle Window: SGD= Quote
 Singapore Dollar SPOT USDSGD 13MAY16

Bid	Ask	Net.Chng	% chg	Contributor	Loc	Src Deal	Time
B↑ 1.3738	1.3741	+0.0015	0.11 %	CARL KLIEM	LUX	CKLU CKLU	13:42
738	741						
B↓ 1.3738	1.3741			CARL KLIEM	LUX	CKLU CKLU	13:42
B↑ 1.3735	1.3744			BTM	TOK	BTMJ	13:42

Bottom Window: SGD=D2 Quote
 *USD/SGD D3000 SP 13MAY16

Trade	Net.Chng	% chg	Date	Time	Bid	Ask	Time
s 1.3740	+0.0010	0.07 %	13MAY16	13:41	1.3739	1.3741	13:43
740					739	741	
s 1.3739				13:37	1.3739	1.3740	
b 1.3739				13:37	1.3740	1.3741	

Certain currencies such as USDJPY, EURUSD, USDCHF and EURCHF are popular in EBS while the rest are mostly traded on D2, hence figures for the above currencies may be more accurate than the counterpart since it is more commonly traded.

6. FX Applications

Swap Data Repository View <SDRV>

SDRV is a reporting tool for OTC trades reported by financial institutions within the USA. The tool pulls in all declared swaps and options and this allows users to swap on all asset classes.

Information on this page is sourced from two repositories:

1. **DTCC:** The Depository Trust and Clearing Corporation.

It is a US-based post-trade financial services company which provides clearing and settlement services to the financial markets.

2. **CME:** Chicago Mercantile Exchange

It trades commodities and financial instruments using the open outcry format and the electronic trading through Globex.

In order to utilise the following page,

In the Eikon Toolbar, search for <SDRV> and choose from the different asset classes in order to view the trades available.

One way to view all the trades for a specific currency would be to select on the Notional Currency 1 or 2 to sort the results obtained.

Trade Date/Time	Ntnl CCY1	Ntnl Amt1	Ntnl CCY2	Ntnl Amt2	Strike	Transaction Type
2016-07-07 23:57:21		0		0		TRADE
2016-07-07 23:57:21		0		0		TRADE
2016-07-07 23:57:11		0		0		TRADE
2016-07-07 23:57:11		0		0		TRADE
2016-07-07 23:24:58	USD	5	JPY	510	102	TRADE
2016-07-07 23:17:36	GBP	434,783	USD	500,000	1.15	TERMINATION
2016-07-07 23:16:06	GBP	869,565	USD	1,000,000	1.15	TERMINATION
2016-07-07 23:14:14	GBP	277,778	USD	350,000	1.26	TERMINATION
2016-07-07 23:11:44	EUR	10,000,000	USD	11,000,000	1.1	TERMINATION
2016-07-07 23:09:12	GBP	5,223,881	USD	7,000,000	1.34	TERMINATION
2016-07-07 22:59:13	USD	11,000,000	CLP	7,535,000,000	685	TRADE
2016-07-07 22:58:12	USD	3,000,000	CLP	2,055,000,000	685	TRADE
2016-07-07 22:50:50	USD	440,000	JPY	42,240,000	96	TRADE
2016-07-07 22:15:01	USD	61,000,000		0		TRADE
2016-07-07 22:06:33	USD	66,000,000		0		TRADE
2016-07-07 22:01:45	AUD	100,662,252	USD	76,000,000	0.755	TRADE
2016-07-07 21:56:21	USD	30,000,000	MXN	565,350,000	18.845	TRADE
2016-07-07 21:50:23		0		0		TRADE
2016-07-07 21:49:20	USD	33,000,000	JPY	2,970,000,000	90	TRADE
2016-07-07 21:49:18	USD	59,000,000	JPY	5,310,000,000	90	TRADE
2016-07-07 21:24:05		0		0		TRADE
2016-07-07 21:19:31	AUD	150,000,000	JPY	11,340,000,000	75.6	TERMINATION
2016-07-07 21:19:15	AUD	150,000,000	JPY	11,340,000,000	75.6	TERMINATION
2016-07-07 21:19:06	AUD	95,000,000	JPY	6,745,000,000	71	TRADE
2016-07-07 21:19:06	AUD	100,946,372	JPY	8,000,000,000	79.25	TRADE
2016-07-07 21:18:29		0		0		AMENDMENT
2016-07-07 21:16:34	USD	61,000,000		0		TRADE
2016-07-07 21:12:39		0		0		AMENDMENT
2016-07-07 21:03:21	USD	380,000		0		AMENDMENT

Currency Performance/Value Tracker <FXPT>

Using the Currency Performance/ Value Tracker application, users can compare how a specific currency performed historically and currently. While the 3 months implied volatility implies the market's sentiments on the currency pair currently, the 3 months realised volatility is the traded volatility 3 months ago.

Hence, comparing the two figures could be beneficial to an options buyer as to whether they should buy or sell an option right now.

In the Eikon Toolbar, search <FXPT>.

The screenshot shows the 'Currency Performance/Value Tracker' application interface. At the top, there are tabs for 'Heat map', 'Outliers', 'Performers', 'Overview', and 'About'. The status bar indicates 'Updated 08-Jul-2016 5:43 PM' and includes 'Refresh' and 'Show Settings' buttons. Below the tabs is a color scale legend from 'MIN' (red) to 'MAX' (green). The main table displays data for 'USDCAD and 64 more' currency pairs. The table columns are: Currency, Spot, 3M Implied Vol, 6M Implied Vol, 1Y Implied Vol, 3M Realized Vol, 6M Realized Vol, 1Y Realized Vol, 3M Risk Reversal skew, 6M Risk Reversal skew, and 1Y Risk Reversal skew. The data is color-coded: red for negative values and green for positive values.

Currency	Spot	3M Implied Vol	6M Implied Vol	1Y Implied Vol	3M Realized Vol	6M Realized Vol	1Y Realized Vol	3M Risk Reversal skew	6M Risk Reversal skew	1Y Risk Reversal skew
USDCAD	1.30	9.69	9.70	9.82	9.36	10.95	9.54	1.13	1.23	1.30
USDCHE	0.98	8.24	8.85	9.22	8.05	8.25	9.21	-1.02	-1.07	-1.02
USDJPY	100.69	12.85	12.45	11.90	14.97	13.13	10.85	-2.63	-2.60	-2.52
USDNOK	8.50	12.01	12.21	12.34	14.34	13.02	12.39	1.25	1.54	1.75
USDSEK	8.56	9.85	10.29	10.63	11.84	10.31	10.75	1.20	1.20	1.35
GBPUSD	1.29	13.80	13.30	12.76	20.64	16.45	12.73	-2.21	-2.41	-2.58
NZDUSD	0.73	13.05	13.15	13.25	13.87	14.09	13.62	-1.46	-1.76	-2.08
AUDUSD	0.75	11.71	11.95	12.25	13.51	13.23	12.25	-1.55	-1.85	-2.15
EURUSD	1.11	9.32	9.65	9.82	9.45	8.97	9.99	-1.40	-1.65	-1.86
EURAUD	1.47	10.85	11.05	11.30	9.82	11.57	13.38	0.96	1.23	1.70
EURCAD	1.44	9.78	10.09	10.47	8.25	10.84	12.03	0.17	0.20	0.25
EURCHF	1.08	6.25	6.80	7.00	5.81	5.06	5.48	-2.00	-2.10	-2.40
EURGBP	0.85	12.40	12.05	11.76	16.90	13.73	11.87	1.77	1.76	1.82
EURJPY	111.45	14.00	13.65	13.30	17.66	14.29	11.71	-3.15	-3.35	-3.50
EURNOK	9.41	8.70	8.85	8.93	8.17	8.94	9.77	1.13	1.32	1.48
EURNZD	1.53	11.65	11.61	12.18	10.60	11.53	14.01	0.79	1.07	1.57
EURSEK	9.48	6.60	6.91	7.17	6.08	5.93	6.40	0.69	0.71	0.75
GBP AUD	1.72	13.35	13.22	13.45	18.12	15.01	13.18	-1.55	-1.25	-0.90
GBPCAD	1.69	12.43	12.20	11.90	17.89	14.77	12.33	-2.13	-2.13	-2.15
GBPCHE	1.27	13.21	12.94	12.76	21.11	16.65	13.47	-3.05	-3.08	-3.13
GBPJPY	130.40	18.63	17.38	16.30	33.11	25.46	19.05	-4.33	-4.58	-4.92
CHFJPY	102.76	13.40	13.05	12.68	16.06	13.16	10.90	-1.35	-1.40	-1.48
AUDCAD	0.98	8.68	8.82	8.95	9.07	8.68	9.07	-0.38	-0.50	-0.50
AUDCHE	0.74	11.44	11.96	12.35	12.49	13.24	14.00	-2.08	-2.29	-2.60

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For example,


Here, the 3M implied volatility for USDCAD is 9.69 while the 3M realised volatility is 9.36.

Hence the currency pair USDCAD is currently more volatile as compared to 3M ago.

FX Top of Book <TOB>


An application which enables users to view different currency pairs as well as their corresponding spot and forwards is the FX Top of Book <TOB> Application.

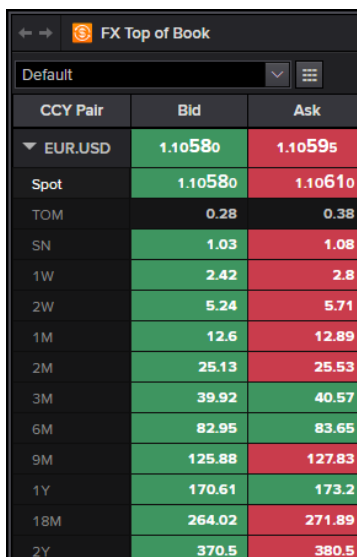
In the Eikon Toolbar, search <TOB>.

Press  in order to add new profiles (groups of currencies) or different currencies into a group.



EUR.USD (14:09:08)	JPY.USD (---:--)	SGD.USD (14:09:05)																																													
<table border="1"> <tr><td>Sell EUR</td><td>Buy EUR</td></tr> <tr><td>1.10</td><td>1.10</td></tr> <tr><td>632</td><td>649</td></tr> </table>	Sell EUR	Buy EUR	1.10	1.10	632	649	<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.0095880</td><td>0.0095900</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.0095880	0.0095900	TOM	--	--	SN	--	--	1W	--	--	<table border="1"> <tr><td>Sell SGD</td><td>Buy SGD</td></tr> <tr><td>0.741</td><td>0.741</td></tr> <tr><td>600</td><td>800</td></tr> </table>	Sell SGD	Buy SGD	0.741	0.741	600	800																		
Sell EUR	Buy EUR																																														
1.10	1.10																																														
632	649																																														
Tenor	Bid	Ask																																													
Spot	0.0095880	0.0095900																																													
TOM	--	--																																													
SN	--	--																																													
1W	--	--																																													
Sell SGD	Buy SGD																																														
0.741	0.741																																														
600	800																																														
GBP.USD (14:09:08)	AUD.USD (14:09:06)	CHF.USD (14:09:04)																																													
<table border="1"> <tr><td>Sell GBP</td><td>Buy GBP</td></tr> <tr><td>1.32</td><td>1.33</td></tr> <tr><td>997</td><td>033</td></tr> </table>	Sell GBP	Buy GBP	1.32	1.33	997	033	<table border="1"> <tr><td>Sell AUD</td><td>Buy AUD</td></tr> <tr><td>1.02</td><td>1.02</td></tr> <tr><td>350</td><td>400</td></tr> </table>	Sell AUD	Buy AUD	1.02	1.02	350	400	<table border="1"> <tr><td>Sell CHF</td><td>Buy CHF</td></tr> <tr><td>1.012</td><td>1.012</td></tr> <tr><td>300</td><td>500</td></tr> </table>	Sell CHF	Buy CHF	1.012	1.012	300	500																											
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KRW.USD (---:--)	CNY.USD (---:--)	CAD.USD (---:--)																																													
<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.0008714</td><td>0.0008730</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.0008714	0.0008730	TOM	--	--	SN	--	--	1W	--	--	<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.1496</td><td>0.1496</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.1496	0.1496	TOM	--	--	SN	--	--	1W	--	--	<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.765200</td><td>0.765500</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.765200	0.765500	TOM	--	--	SN	--	--	1W	--	--
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EUR.SGD (14:09:07)	KRW.SGD (---:--)	KRW.JPY (---:--)																																													
<table border="1"> <tr><td>Sell EUR</td><td>Buy EUR</td></tr> <tr><td>1.49</td><td>1.49</td></tr> <tr><td>130</td><td>190</td></tr> </table>	Sell EUR	Buy EUR	1.49	1.49	130	190	<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.0011745</td><td>0.0011774</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.0011745	0.0011774	TOM	--	--	SN	--	--	1W	--	--	<table border="1"> <tr><td>Tenor</td><td>Bid</td><td>Ask</td></tr> <tr><td>Spot</td><td>0.09090</td><td>0.09100</td></tr> <tr><td>TOM</td><td>--</td><td>--</td></tr> <tr><td>SN</td><td>--</td><td>--</td></tr> <tr><td>1W</td><td>--</td><td>--</td></tr> </table>	Tenor	Bid	Ask	Spot	0.09090	0.09100	TOM	--	--	SN	--	--	1W	--	--									
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1W	--	--																																													

Alternatively select  for the following view of a table of spot and forward figures for the currencies within the profile group.



CCY Pair	Bid	Ask
EUR.USD	1.10580	1.10595
Spot	1.10580	1.10610
TOM	0.28	0.38
SN	1.03	1.08
1W	2.42	2.8
2W	5.24	5.71
1M	12.6	12.89
2M	25.13	25.53
3M	39.92	40.57
6M	82.95	83.65
9M	125.88	127.83
1Y	170.61	173.2
18M	264.02	271.89
2Y	370.5	380.5

Part 6: Money Market

1. Overview of the Money Market

The money market facilitates the trade of short-term loans between banks and other financial institutions. Instruments traded in this market have high liquidity and short maturities (usually less

Financial assets traded on this market, than a year), including stocks and bonds will mature in one year or less. Financial institution, corporations, governments and the US treasury are active in the money markets as they will attempt to adjust their short term portfolios.

Information on these markets as well as interest rate related data can be obtained through:

Press F4, enter <MONEY>.

```

MONEY MONEY GUIDE PAGE
To access information, double-click on t
=====FX RELATED DATA=====
FXMM RICs FAQs.....<FXINFO>
Spot Rates.....<SPOT/1>
Spot Correlations.....<SPOTCORREL>
Cross Rates.....<CROSS/1>
Hourly FX Snapshots.....<FXHOURLY>
FX realised volatility.....<FXREALVOL>
OTC FX Vols Majors.....<FXVOL>
OTC FX Vols Major.....<XFXVOL>
All OTC FX Options.....<OPS/FX1>
Risk Reversals.....<OPS/FX4>
Forwards.....<FWD/1>
Non-Deliverable Forwards.....<NDF/1>
Non-Deliverable Money data...<NONDEL/1>
Fwd Enhanced Displays...<0#FWD-ENHANCED>
Fwd outrights.....<0#FX-OUTRIGHTS>
Dealing 3000 Spot Display.....<D3FX=>
Hourly D3000 Snaps/Ranges...<DEALHOURLY>
Thomson Reuters FX Spot View...<D4FX=>
Hourly FX Spot View Data...<DEALHOURLZ>
Dealing 3000 Forwards...<0#D3FORWARDS>
Dealt Rate Speed Guide.....<DEALT1>
EBS Dealt Rate Display.....<EBSFX=>
Reuters Forex Polls.....<FOREXPOLL01>
IMF Special Drawing Rights.....<XDRX=>
Calc. Cross Rics from EURO...<CROSS=REU>
Calc. Cross Scaling.....<CROSS/SCALING>
Implied FX Correlations.<IMPLIEDCORREL>
Cross FX Forwards.....<XFXFORWARD>
WM Reuters Fixings.....<WMMENU>

=====INTEREST RATE RELATED DATA=====
Deposits.....<DEPO/1>
Interest Rate Swaps.....<SWAP/1>
Overnight Index Swaps.....<OIS/1>
Forward Rate Agreements.....<FRA/1>
Swaptions.....<SWAPTION/1>
Cap and Floors.....<IRGS/1>
Money Market (CD's,BA's,etc)...<MMKT/1>
Zero Coupon Yield Curves...<ZEROCURVES>
LIBORS.....<LIBOR01>
LIBOR Recaps.....<LIBORS>
EURIBOR.....<EURIBOR=>
EURIBOR 365.....<EURIBOR365=>
EURIBOR Recap.....<EURIBOR>
IR Volatility Term Structures...<IRVOL>
Forward Interest Rates.....<IRFORWARD>
Commercial Paper.....<CPAPER/1>
Repos.....<REPO/1>
Islamic Money Market.....<ISL/MONEY>
Money News Guide.....<MONEY/NEWS1>
All Money News.....[M]
Top FX Headlines.....[TOP/FRX]
G7 Real Time ECI Data.<ECON>or<G7TODAY>
Real Time MM Newswrap.....[MMNEWS]
Top Central Bank News.....[TOP/CES]
Monetary Policy News.....[INT|CEN]
ECI News Index.....<INDICATOR/NEWS1>
Historical Economic Data...<ECONINF001>

=====EXCHANGE TRADED DATA=====
Currency Options.....<OPT/FX1>
Interest Rate Options.....<OPT/IR1>
Currency Futures.....<FUT/FX1>
Interest Rate Futures.....<FUT/IR1>
Futures Implied Yield...<IMPLIEDYIELD>

```

We will be discussing the following,

1. Forward Rate Agreements (FRA)
2. Futures (STIR and ED)
3. Interest Rate Swaps
4. Basis Swaps
5. Implied Deposits (to be covered as a case study)
6. Cross Currency Swap (to be covered as a case study)

Rates View Money Market

The Rates Views and Money Market pages enable users to have an overview of all different information commonly used in the money market.

For example, here key money market rates as well as basic swaps and interest rate forwards for different tenors could be found.

In the Eikon Toolbar, search <RVMM> in order to open the application.

One can also search which country or sector they would like to view in particular.

2. Cost of Borrowing

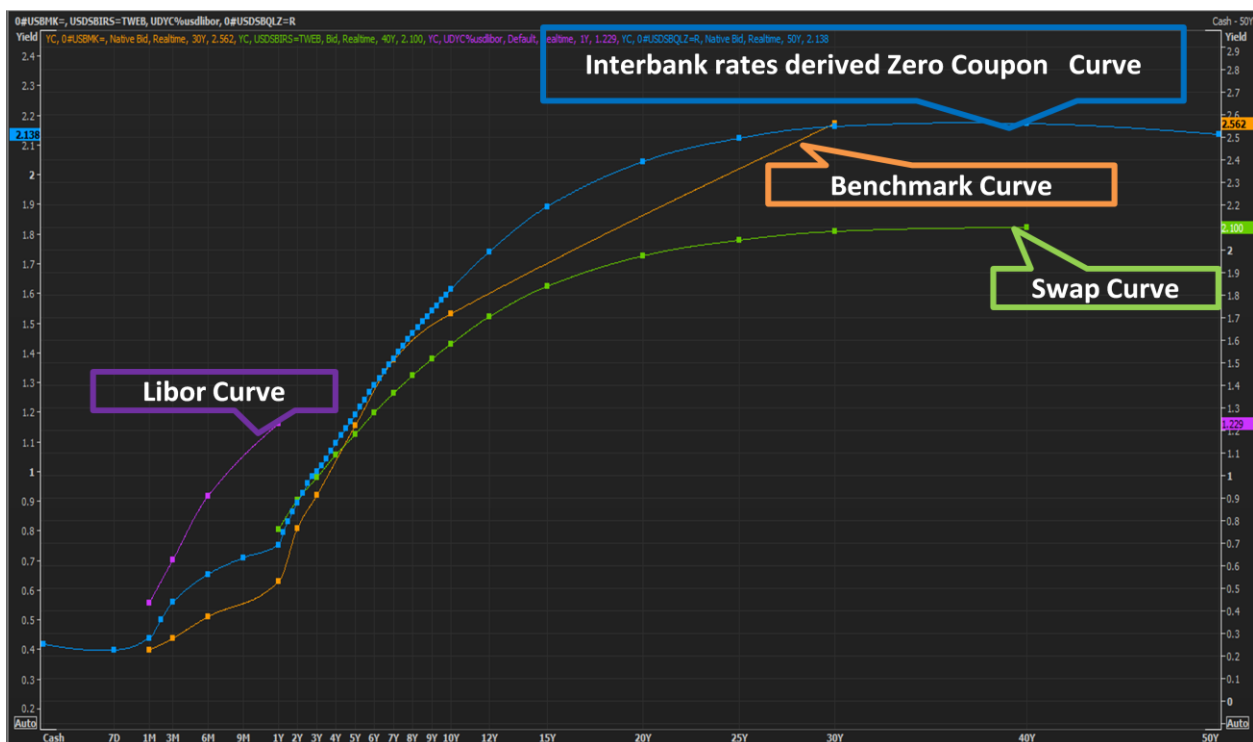
Zero Coupon Yield Curve

Before a company decides which hedging instrument they would like to employ, it would be advisable to first plot their zero coupon curve in order to determine their cost of borrowing. That way, any rate above the curve would indicate a profit.

What is a Zero Coupon Yield Curve?

The zero coupon curve acts as an interest rate proxy because it provides a continuous stream of interest rates for both short and long term periods.

Furthermore, it is usually constructed using real time tradable liquid financial instruments and is coupon free.



Here are some commonly used graphs,

Benchmark Curve: Represents the Cost of Borrowing for the Government

LIBOR Curve: Short term 1 year interbank borrowing curve

Swap Curve: Long term Interbank Borrowing Curve

Zero Coupon Curve: An example of the zero coupon curve (here an interbank rate derived curve) has been provided above.

In this case, the zero coupon curve is related to the swap curve and the Libor curve (interbank borrowing rates).

For example, a bond's yield to maturity could be found by taking the cash-flow weighted average of the interbank rates derived from the zero coupon curve.

How to obtain indicative data on interbank-rates derived Zero coupon rates?

1. In Eikon, press F4 to open the Quote App
2. Type <USDZ=R> and press F3 → <0#USDZ=R>
3. To check the sources of data, type <0#USDSOURCE>

The screenshot shows two panels from the Thomson Reuters Eikon interface. The left panel displays the 'USD ZERO CURVE' for '0#USDZ=R'. The right panel shows the '0#USDSOURCE' data sources.

USD	Yield	Discount	Time	Maturity Date
1W	0.4144	0.9998983	15:30	25MAY16
1M	0.4403	0.9995799	15:30	20JUN16
2M	0.5013	0.9991396	15:30	18JUL16
3M	0.5624	0.9985605	15:30	18AUG16
6M	0.6530	0.9966976	15:30	18NOV16
9M	0.7109	0.9945758	15:30	21FEB17
1Y	0.7546	0.9924694	15:30	18MAY17
1Y3M	0.7950	0.9900965	15:30	18AUG17
1Y6M	0.8321	0.9875349	15:30	20NOV17
1Y9M	0.8659	0.9848982	15:30	20FEB18
2Y	0.8939	0.9823107	15:30	18MAY18
2Y3M	0.9227	0.9794361	15:30	20AUG18
2Y6M	0.9488	0.9765686	15:30	19NOV18
2Y9M	0.9743	0.9735715	15:30	19FEB19
3Y	0.9984	0.9705208	15:30	20MAY19

0#USDSOURCE	Exchange	USD Zero Source
RIC	ID	Contract
0#USDZ=R	/	USD ZERO CURVE
USDOND=	/	OCBC SIN
USD TND=	/	USD DEPOSIT
USDSWFSR=X	RCT/	
USD1MFSR=X	RCT/	
USD2MFSR=X	RCT/	
USD3MFSR=X	RCT/	
USD6MFSR=X	RCT/	
USD1YFSR=X	RCT/	
EDcm1	IMM/IMM	3-MTH EURO\$ JUN6
EDcm2	IMM/IMM	3-MTH EURO\$ SEP6
EDcm3	IMM/IMM	3-MTH EURO\$ DEC6
EDcm4	IMM/IMM	3-MTH EURO\$ MAR7
EDcm5	IMM/IMM	3-MTH EURO\$ JUN7
EDcm6	IMM/IMM	3-MTH EURO\$ SEP7
USDAM3L2Y=BRKR	/	USD AM3L 2Y
USDAM3L3Y=BRKR	/	USD AM3L 3Y
USDAM3L4Y=BRKR	/	USD AM3L 4Y
USDAM3L5Y=BRKR	/	USD AM3L 5Y
USDAM3L6Y=BRKR	/	USD AM3L 6Y

How to obtain indicative data on government bond-yield derived Zero coupon rates?

1. In Eikon, press F4 to open the Quote App
2. Type <USDZ=R> and press F3 → <0#USDZ=R>
3. To check the sources of data, type <0#USXSOURCE>

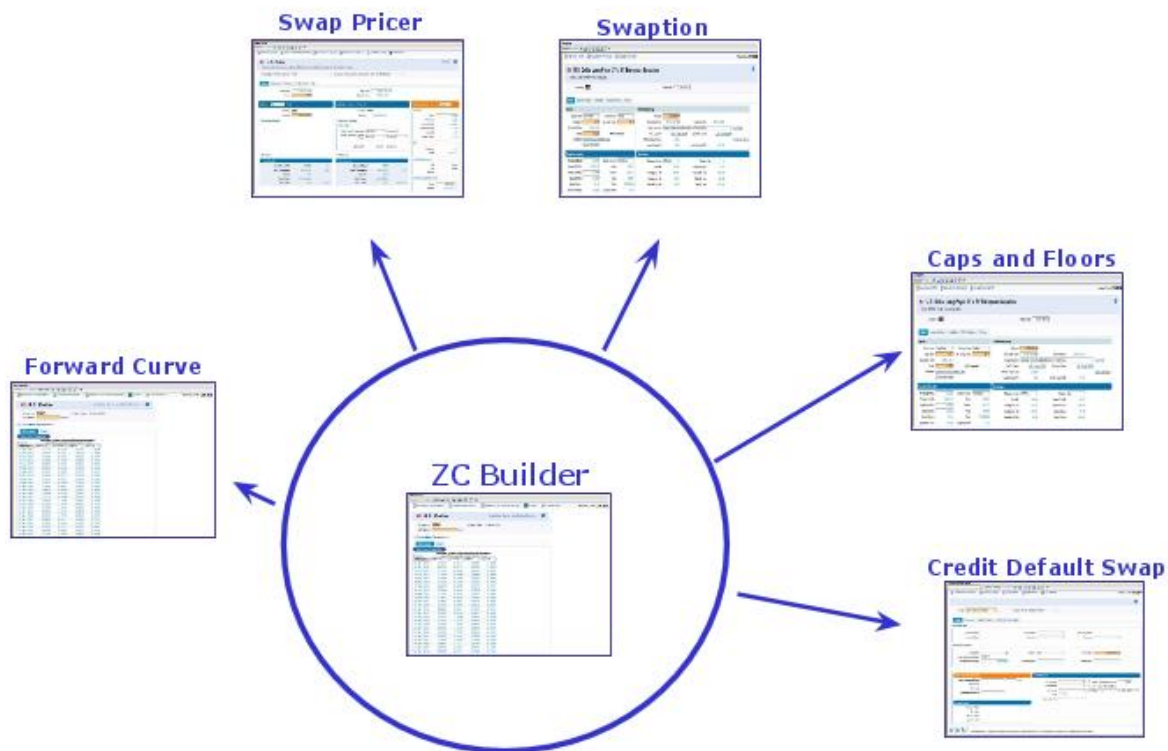
The screenshot shows two panels from the Thomson Reuters Eikon interface. The left panel displays the 'USD ZERO CURVE' for '0#USXZ=R'. The right panel shows the '0#USXSOURCE' data sources.

USD	Yield	Discount	Time	Maturity Date
1M	0.2441	0.9997935	15:31	17JUN16
3M	0.3028	0.9992402	15:31	17AUG16
6M	0.4080	0.9979552	15:31	17NOV16
9M	0.5113	0.9961612	15:31	17FEB17
1Y	0.5960	0.9940757	15:31	17MAY17
2Y	0.7729	0.9847201	15:31	17MAY18
3Y	0.9186	0.9729415	15:31	17MAY19
4Y	1.0998	0.9571641	15:31	18MAY20
5Y	1.2701	0.9388442	15:31	17MAY21
6Y	1.4150	0.9191507	15:31	17MAY22
7Y	1.5347	0.8988733	15:31	17MAY23
8Y	1.6366	0.8782145	15:31	17MAY24
9Y	1.7271	0.8570968	15:31	19MAY25
10Y	1.8055	0.8361166	15:31	18MAY26
11Y	1.8723	0.8154235	15:31	17MAY27

0#USXSOURCE	Exchange	USD Zero Source
RIC	ID	Contract
0#USXZ=R	/	USD ZERO CURVE
912828VL1=	/	UST 0 5/8 7/16
912828LD0=	/RCT	UST 3 1/4 7/16
912828QX1=	/RCT	UST 1 1/2 07/16
912828WX4=	/	UST 7/16
912828FQ8=	/RCT	UST 4 7/8 8/16
912828VR8=	/	UST 0 5/8 08/16
912828D64=	/	UST 0 1/2 8/16
912828LL2=	/RCT	UST 3 8/16
912828RF9=	/RCT	UST 1 8/16
912828VW7=	/	UST 0 7/8 9/16
912828RJ1=	/	UST 1 9/16
912828F47=	/	UST 0 5 9/16
912828LP3=	/RCT	UST 3 9/16
912828WA4=	/	UST 0 5/8 0/16
912828F88=	/	UST 1/2 10/16
912828RM4=	/RCT	UST 1 0/16
912828LU2=	/RCT	UST 3 1/8 0/16
912810DX3=	/RCT	UST 7 1/2 N/16
912828FY1=	/RCT	UST 4 5/8 N/16
912828WF3=	/	UST 0 5/8 N/16

User-defined Yield Curves

Even though Eikon has pre-defined yield curves available for use in the following applications, certain users may still choose to rely on their own **user-defined yield curve** which can be imputed into the different applications on the Eikon App Platform.



To do so, it would be possible to utilize the **ZC Builder (ZC BR)** on Eikon in order to generate a customized curve with the user's preferred list of contributors.

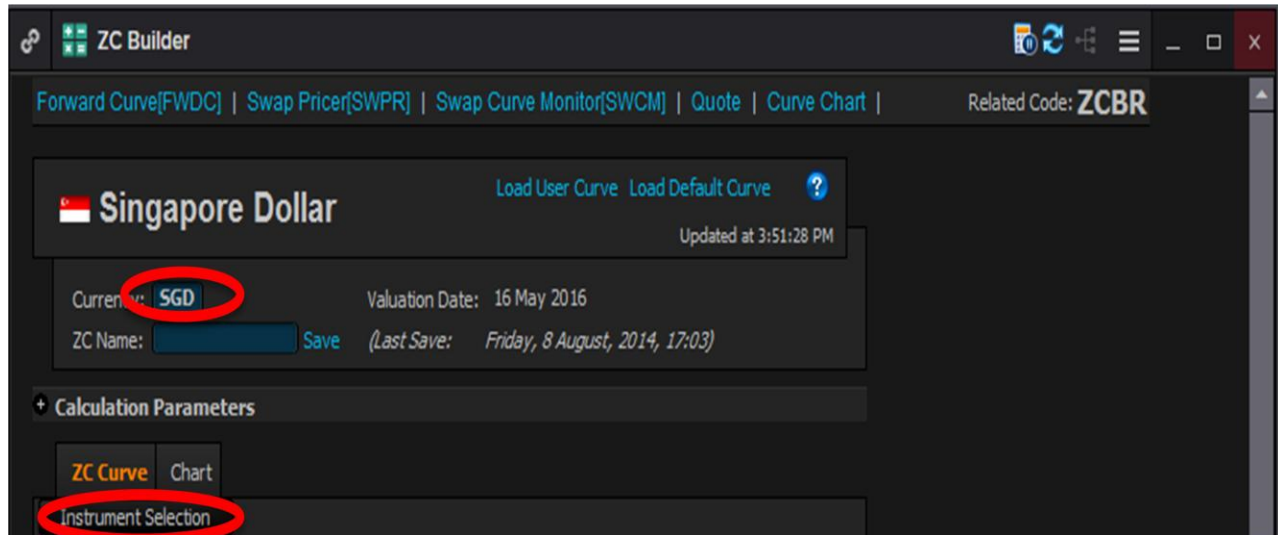
ZC Builder could be used to

- Build curves for different currencies
- Add spreads
- Select different methods to construct the curve
- Choose different types of rates to calculate the curve
- Select specific instruments to build the curve (deposits, fixed rates, swaps, futures and bonds)
- View Charts

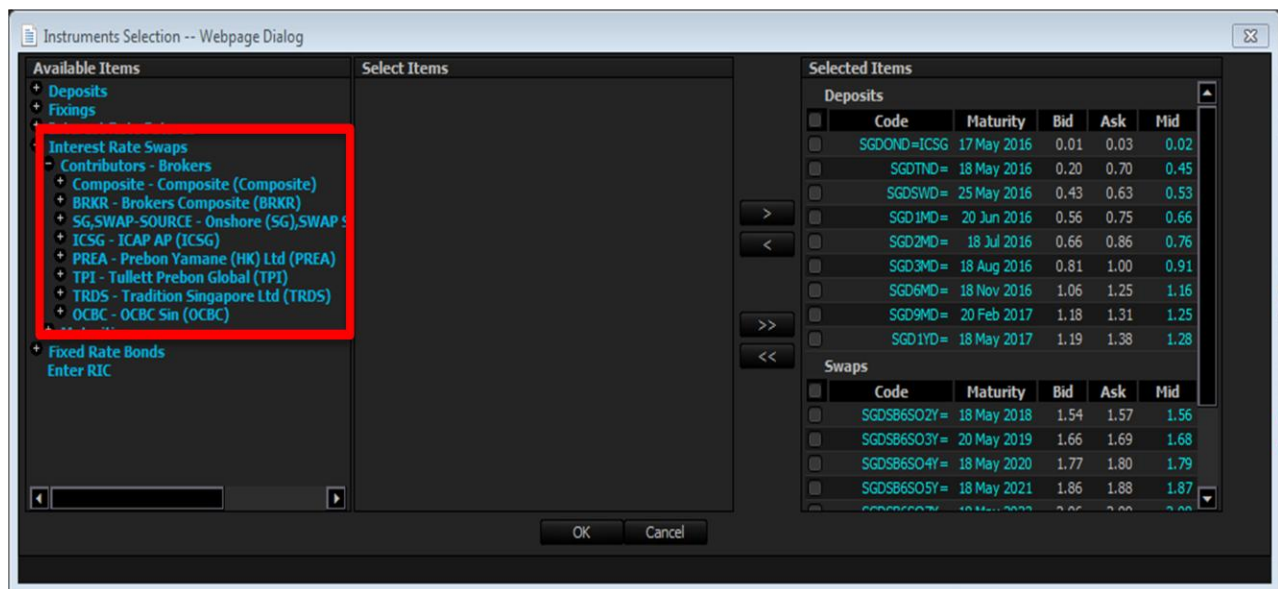
The calculator is based on the bootstrapping method; knowing one spot rate to begin with, the spot rate for the next period is calculated; and knowing two spot rates, the third spot rate is performed.

How to customize your own user-defined yield curve? <ZCBR>

1. In the Eikon Toolbar, type <ZCBR> (Zero Curve Builder)
2. Key in the currency needed, (i.e. <SGD>)
3. If you wish to choose the instruments used, click on “Instrument Selection”



4. Select the futures, bonds or swaps desired from the list by screening through the contributors list.



5. Save the curve and use it in different applications, e.g. Swap Pricer, Swaption, Credit Default Swap, Forward Curve etc.

3. Cross Exchange Rates

Sometimes, a pair of currencies not calculated against the USD may be required. E.g. EURJPY

In this case,

1. Press F4.
2. Enter <EURJPY=>

bid	ask	Net.Chng	% chg	Contributor	Loc	Src	Deal	Time
B 123.07	123.11	+0.27	0.22 %	BARCLAYS	LON	BCFX		16:37
B 123.07	123.11			BCOPOPOLARE	BGM	FXBP	FXBP	16:37
B 123.06	123.11			PIRAEUS BANK	ATH	PBGR		16:37

ChangeSummary		Daily View		Calendar Highs & Lows			
		Value	Time	Weekly	Monthly	Yearly	
MTD% chg	0.31 %	122.77	03:00	High 123.20	High 124.62	High 132.25	
3M% chg	-3.16 %	123.20	10:59	Date 16MAY16	Date 12MAY16	Date 29JAN16	
6M% chg	-6.49 %	122.65	06:24	Low 122.65	Low 121.50	Low 121.50	
YTD% chg	-6.59 %	122.80	13MAY	Date 15MAY16	Date 06MAY16	Date 06MAY16	

Session O/H/L/C			Related Data			
Asia	-0.31		Europe	-0.18	US	-1.17
O	122.77	03:00	O	122.99	O	123.51
H	123.20	10:59	H	123.15	H	123.80
L	122.65	06:24	L	122.94	L	122.77
C	123.07	16MAY16	C	123.25	C	122.80
(5PM TOK)			(5PM LON)		(5PM NY)	

Certain exotic pairs such as CNYSGD (in SGD per CNY) may be used. In this case, searching for it normally would not yield a result. Hence, the following search could be done.

1. Press F4
2. Enter <CNYSGD=R>
3. The "R" here represents a cross performed by Reuters (Eikon) since it does not exist and hence constitutes secondary data.

bid	ask	Net.Chng	% chg	Contributor	Loc	Src	Deal	Time
B 0.2097	0.2104	+0.0001	0.05 %	Reuters	LON	BCFX		16:40
B 0.2097	0.2104			Reuters				16:40
B 0.2097	0.2104			Reuters				16:40

CNY vs SGD	CROSS	CNYSGD	0.2104
Scaling Factor: 1			

4. Spot Deposits

Starting from the simplest money market instrument would be a simple spot deposit.

Through these rates, an investor could invest in the money market for a short period of time (overnight or tomnext) or could invest for a longer period (up to a year). The rates are quoted in the typical bid/ask numbers for use.

Press **F4** and type <SGDDEPO=>

The three letter code denominating the currency of interest could easily be changed to the one necessary.

The tenors of the deposits could be chosen (overnight, tomnext, spot week etc)

RIC	Bid/Ask	Contributor	Loc	Srce	Deal	Time	High	Low
SGD0ND=	↓ 0.03/0.10	BROKER	GFX	BRKR		18:00		
SGD0ND=	↓ 0.03/0.10	BROKER	GFX	BRKR		18:00		
SGDTND=	↑ 0.37/0.50	BROKER	GFX	BRKR		08:55		
SGDSWD=	↑ 0.50/0.62	BROKER	GFX	BRKR		17:15		
SGD2WD=	↑ 1.20/2.05	ABN AMRO	AMS	ABNA	ABNA	09:45		
SGD1MD=	↓ 0.5625/00	ANZ	SIN	ANZS	ANZS	10:20		
SGD2MD=	↓ 0.66/0.86	OCBC	SIN	OCBC	OCBS	08:50	0.66	0.86
SGD3MD=	↓ 0.8125/00	ANZ	SIN	ANZS	ANZS	10:20		
SGD6MD=	↓ 1.0625/00	ANZ	SIN	ANZS	ANZS	10:20		
SGD7MD=	↑ 1.30/1.80	ABN AMRO	AMS	ABNA	ABNA	09:52		
SGD8MD=	↑ 1.30/1.80	ABN AMRO	AMS	ABNA	ABNA	09:52		
SGD9MD=	↓ 1.10/1.30	OCBC	SIN	OCBC	OCBS	10:30		
SGD10MD=	↓ 1.40/1.90	ABN AMRO	AMS	ABNA	ABNA	09:00		
SGD11MD=	↑ 1.50/2.00	ABN AMRO	AMS	ABNA	ABNA	09:54		
SGD1YD=	↓ 1.1875/50	ANZ	SIN	ANZS	ANZS	10:20		

These figures are used in FRA Pricing through the forward formula as shown later on.

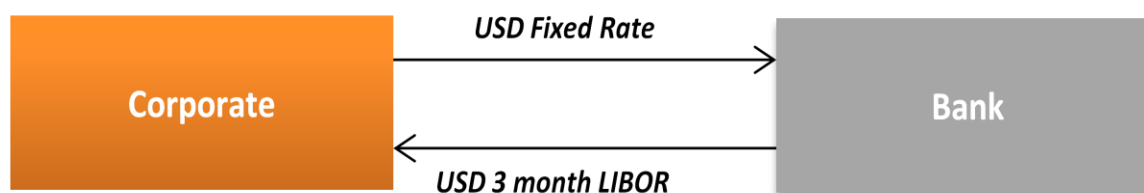
5a. Forward Rate Agreements

What is an FRA agreement?

A FRA agreement is a forward agreement between parties that determines the 1. Currency exchange rate or 2. Rate of interest that is to be paid or received on an obligation beginning at a future start date.

FRAs are similar to swaps except payment is only made once at maturity and not periodically. Furthermore, there is no exchange of principals and only the exchange of either the difference in exchange rates, or the difference in interest rates. In this case, we will focus more on the exchange of interest rates.

The diagram below shows the typical FRA agreement



Here, the corporate treasurer will pay a bank a fixed USD rate while the bank will pay a floating rate. At the end of the tenor, a differential on the notional amount will be paid to the profiting party.

For example,

A client will receive payment in 9 months but needs to pay his suppliers in 12 months, hence he wants to purchase a 9 month forward start, 3 month period FRA.

What this means is that the client wants to buy a forward which starts 9 month from today, which will last for 3 months. Hence, the contract will conclude in a total of 12 months.

A buyer of an FRA would lock in a fixed rate while the seller would pay a floating rate.

From here, the concept of **implied forward rate** arises.

There are two ways to find this implied forward rate using Eikon,

1. Forward Rate Formula
2. FRA Pricing Calculator

Both methods are only possible because the contract is concluded today and all the rates are agreed upon the trade date.

Forward Rate Formula

By using the forward rate formula, there is an underlying assumption that there is an auto rollover. What this means is that, using our previous example, despite the contract only beginning 9 months from today, the interest rate still takes into account the forward rate for the 9 months prior to the start of the FRA's 3 month tenor.

Hence, similar to the spot deposit, the following steps could be performed

RIC	Bid/Ask	Contributor	Loc	Srcce	Deal	Time	High	Low
SGD0ND=	0.03/0.06	BROKER	GFX	BRKR		17:45	0.03	0.06
SGD0ND=	0.03/0.06	BROKER	GFX	BRKR		17:45	0.03	0.06
SGD1ND=	0.20/0.35	BROKER	GFX	BRKR		10:10	0.40	0.35
SGD5WD=	0.50/0.62	BROKER	GFX	BRKR		04:30		
SGD2WD=	0.60/1.10	ABN AMRO	AMS	ABNA	ABNA	08:56		
SGD1MD=	0.5625/00	ANZ	SIN	ANZS	ANZS	10:17	0.5625	0.7500
SGD2MD=	0.81/0.93	BROKER	GFX	BRKR		04:30		
SGD3MD=	0.8125/00	ANZ	SIN	ANZS	ANZS	10:17	0.8125	1.0000
SGD6MD=	1.0625/00	ANZ	SIN	ANZS	ANZS	10:17	1.0625	1.2500
SGD7MD=	1.20/1.70	ABN AMRO	AMS	ABNA	ABNA	08:59		
SGD8MD=	1.25/1.75	ABN AMRO	AMS	ABNA	ABNA	08:59		
SGD9MD=	1.18/1.31	BROKER	GFX	BRKR		04:30		
SGD10MD=	1.40/1.90	ABN AMRO	AMS	ABNA	ABNA	09:00		
SGD11MD=	1.45/1.95	ABN AMRO	AMS	ABNA	ABNA	09:00		
SGD1YD=	1.1875/50	ANZ	SIN	ANZS	ANZS	10:17	1.1875	1.3750

Press **F4** in Eikon, type in <SGDDEPO=> for a FRA in SGD.

Retrieve the data for the 9 months and 12 months deposit rates (the date from which the tenor begins and the period when the FRA ends)

$$(1 + 12 \text{ months Bid} \times \alpha) = (1 + 9 \text{ months Bid} \times \beta) (1 + 9 \text{ months FRA} \times \delta)$$

Where α , β and δ are the Actual number of days/ 360 or 365.

Also, note that $\beta + \delta = \alpha$

Whether it is 360 or 365 could be obtained by going to the background information page and looking at the <Domestic Day Basis>

While the figures for the 12 and 9 month bid can be obtained from the table, the 3month bid has to be calculated.

From the above figure, the 9 month bid is 1.18% and the 12 month bid is 1.1875%. Hence the implied bid for 3 months can be calculated.

Note that the figure will be different from the figure in the table as this is a mere indicative figure.

How to Price an FRA?

Eikon uses 2 main ways to price a FRA.

1. Futures
2. Zero Coupon Curve

In the Eikon Toolbar, search <FRAP> in order to open the FRA Pricing Calculator.

The screenshot displays the Eikon FRA Pricing Calculator for Singapore Dollar (SGD). The currency is set to SGD, with a trade date of 23 May 2016 and a value date of 25 May 2016. The calculation parameters are set to 3M (3 months) and Single FRA. The pricing method is set to Futures, and the contract is SSD. The input curves section shows a cash rate of 0.813 and a stub rate of 1.747. The table below shows the implied and real-time FRAs for various periods.

Period	Start Date	End Date	Implied FRAs	Real-Time FRAs
1X4	15 Jun 16	21 Sep 16	0.850	1.033
4X7	21 Sep 16	21 Dec 16	0.903	1.080
7X10	21 Dec 16	15 Mar 17	0.952	1.124
10X13	15 Mar 17	21 Jun 17	1.003	1.170
13X16	21 Jun 17	20 Sep 17	1.056	1.218
16X19	20 Sep 17	20 Dec 17	1.107	1.264
19X22	20 Dec 17	21 Mar 18	1.159	1.310
22X25	21 Mar 18	20 Jun 18	1.210	1.356
25X28	20 Jun 18	19 Sep 18	1.262	1.403
28X31	19 Sep 18	19 Dec 18	1.314	1.449
31X34	19 Dec 18	20 Mar 19	1.367	1.496
34X37	20 Mar 19	19 Jun 19	1.419	1.543
37X40	19 Jun 19	18 Sep 19	1.472	1.591
40X43	18 Sep 19	18 Dec 19	1.525	1.638
43X46	18 Dec 19	18 Mar 20	1.578	1.686

Here, enter the required currency as well as the method of pricing and the time periods necessary.

IMM Dates Convention

- H= March
- M= June
- U = September
- Z = December

These are the months that FRA contracts usually trade (each with 3 months tenors). Hence, although FRAs can commonly be traded in almost all months in a year, predominantly, a high number of trades occur during these months.

Implied FRAs is the bid and ask rate of interest that the FRA predict will be the spot rate at the date of maturity and hence would be the values used to trade.

5b. STIR Futures

STIR Futures (Short Term Interest Rate Futures) work in the same way as Forward Rate Agreements (FRAs) with one key difference.

Whereas FRAs are bought in the over the counter market and can be customized, STIR futures are exchange traded and hence cannot be customized.

In the Eikon Toolbar, search <STIR> in order to open the following application and enter the specific currency to find the futures available.

The screenshot displays the Eikon interface for STIR Futures. It is divided into two main sections: Singapore Dollar and U.S. Dollar. Both sections show contract details such as Trade Date (18 May 2016), Value Date (20 May 2016), and Contract Terms (CME/ED). The U.S. Dollar section also shows Mean Reversion (%) at 1.58 and Volatility (%) at 0.93.

Below the contract details is a 'Calculation Parameters' section with a 'Synthetic Forward' tab. It includes 'Input Curves' with Cash Rate (0.626) and Stub Rate (0.569). The main part of the screenshot is a table of futures data, organized into 'Short', 'Medium', and 'Long' tenors. The table has columns for Start Date, End Date, and Rates. Below this is a 'Broken Dates' section with a table of rows for different tenors and dates.

Period	Start	Futures	Last	Imp. Rate
M6	15 Jun 16	99.330	99.333	0.007
U6	21 Sep 16	99.200	99.205	0.008
Z6	21 Dec 16	99.100	99.105	0.009
H7	15 Mar 17	99.030	99.035	0.010
M7	21 Jun 17	98.965	98.970	0.010
U7	20 Sep 17	98.905	98.910	0.011
Z7	20 Dec 17	98.835	98.840	0.012
H8	21 Mar 18	98.785	98.790	0.012
M8	20 Jun 18	98.730	98.735	0.013
U8	19 Sep 18	98.680	98.685	0.013
Z8	19 Dec 18	98.620	98.625	0.014
H9	20 Mar 19	98.580	98.585	0.014
M9	19 Jun 19	98.535	98.540	0.015
U9	18 Sep 19	98.485	98.490	0.015
Z9	18 Dec 19	98.430	98.435	0.016
H0	18 Mar 20	98.385	98.390	0.016
M0	17 Jun 20	98.335	98.340	0.017
U0	16 Sep 20	98.280	98.285	0.017
Z0	16 Dec 20	98.225	98.230	0.018
H1	17 Mar 21	98.180	98.185	0.018

Start Date	End Date	Days	Date	Rates	Date	Rates	Synthetic Fwd Rates
1M	4M	92	20 Jun 16	0.572	20 Sep 16	0.651	0.677
3M	4M	29	22 Aug 16	0.630	20 Sep 16	0.651	0.717
1M15D	4M15D	92	05 Jul 16	0.589	05 Oct 16	0.662	0.698
8M	12M	122	20 Jan 17	0.734	22 May 17	0.804	0.941

Futures usually trade during the IMM dates of March, June, September and December.

When hovering over the month in the **ED Page** in Quotes, (Press F4, type “ED:” and hit F3, a code such as EDZ6 could be seen. Here, Z is the month code and 6 represents the year (in this case 2016).

However, this is not the only way to generate information about the details of that contract. There are three different ways for us to generate the information.

<EDZ6>: Where Z is the month code and 6 is the last digit of the year

<EDcm3>: These are for IMM dates (the next quarterly contract) being cm1)

<EDc1>: These are for monthly contracts (the nearest monthly contract)

If <EDZ6=> is typed, a more detailed page could be obtained, as seen from the picture.

The image displays three screenshots from a trading platform, each showing a different type of quote for STIR futures contracts.

Top Screenshot: O#ED: Quote
 This screenshot shows a list of futures contracts. The columns include: Mth, Last, Net.Ch, Bid, Ask, Size, Open, High, Low, and Settle. The contracts listed are for various months from JUN6 to MAR9. The search bar at the top contains "O#ED:".

Middle Screenshot: EDc7 Quote
 This screenshot shows detailed quote information for the EDc7 contract. It includes fields for Last, Status, Bid, Ask, Size, and various range and limit values. The search bar at the top contains "EDc7".

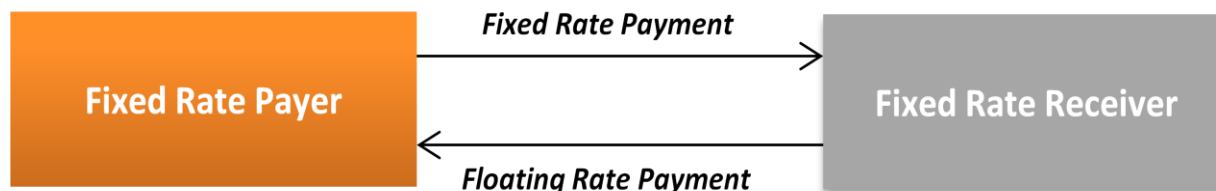
Bottom Screenshot: EDZ6= Quote
 This screenshot shows detailed quote information for the EDZ6= contract. It includes fields for Adj Implied Yield, Convexity, Time, Date, Contributor, and various range and limit values. The search bar at the top contains "EDZ6=".

6. Interest Rate Swaps (IRS)

What is an Interest Rate Swap?

An interest rate swap is a derivative in which one party exchanges a stream of **fixed** interest payments for another party's stream of **floating** cash flows.

It is a financial derivative and can be explained through the chart below,



Some common floating rate indexes often used include the USD 3m Libor, KRW 91d CD, AUD 3m Bank Bill and CNY 7d Repo.

Conventions

There are certain terminologies utilized in IRS.

Through market convention, the counterparty paying the fixed rate is the “payer” (while receiving the floating rate) and the counterparty receiving the fixed rate is the “receiver” (while paying the floating rate).

Hence, the convention is to quote the payer and receiver in terms of the fixed rate.

Also, in cases where the IRS lasts shorter than a day, the day count convention of the currency will be used. (refer to background info of country)

Note: The difference between the Money Market and Zero Coupon Curve convention

Zero Coupon Curve:

Notional $\times <1 + (\text{ZC rate})^{\text{Actual}/365}>$

Money Market:

Notional $\times <1 + (\text{LIBOR}) \times \text{Actual Number of Days}/360>$

The MM could be seen as an approximation of the ZC rate.

How to get indicative data on IRS Figures?

The screenshot displays the Eikon interface for Interest Rate Swaps (IRS) in Singapore Dollar. The main table shows the following data:

Term	Pay	Receive	Net Change	PV01	Duration	Maturity	1W Net Change	1M Net Change
1Y	1.3700	1.4000	-0.0200	98.6088	-1.011	19-May-2017	-9.50	-3.00
18M	1.4700	1.4900	-0.0050	147.8669	-1.513	20-Nov-2017	-8.50	-2.00
2Y	1.5350	1.5550	-0.0050	194.6578	-1.991	21-May-2018	-10.00	-2.80
3Y	1.6700	1.6850	+0.0100	288.4714	-2.952	20-May-2019	-10.00	-3.00
4Y	1.7780	1.7900	+0.0080	378.5067	-3.878	19-May-2020	-11.70	-3.70
5Y	1.8700	1.8850	+0.0100	465.0970	-4.77	19-May-2021	-11.50	-4.00
6Y	1.9650	1.9800	+0.0100	548.6726	-5.635	19-May-2022	-11.50	-4.00
7Y	2.0700	2.0900	+0.0050	629.5772	-6.469	19-May-2023	-11.50	-4.50
10Y	2.2900	2.3050	+0.0100	854.0522	-8.797	19-May-2026	-11.00	-4.50

On the home page of **Eikon**, navigate through the following
 Asset Classes>Money Markets> Swaps> Interest Rate Swaps
 Change the Currency, Swap type and contributor as needed.

How to get data on IRS Figures?

The screenshot shows two windows from the Eikon terminal. The top window is titled 'USDIRS Quote' and displays 'USD IRS FOCUS' data. The bottom window is titled 'USDIRS=TWEB Quote' and displays 'AnlM/SemiB 3M L' data.

	USD	AM-A360/3M LIBOR		DEALING
6M	0.7293	0.7693	BROKER	GFX 24MAY16 16:25
9M	0.7924	0.8324	BROKER	GFX 24MAY16 16:25
1Y	0.8630	0.8690	BROKER	GFX 24MAY16 16:25
18M	0.9500	0.9560	BROKER	GFX 24MAY16 16:25
2Y	1.0192	1.0282	BROKER	GFX 24MAY16 16:25
3Y	1.1390	1.1466	BROKER	GFX 24MAY16 16:25
4Y	1.2331	1.2410	BROKER	GFX 24MAY16 16:25
5Y	1.3138	1.3219	BROKER	GFX 24MAY16 16:25

Time	Contributor	IRS	USD	USD	Contributor	Time
		Anl Mny/3M LIBOR	SB vs 3mn LIBOR			
16:24	TWEB	NYC 0.8630	0.8650	1Y	0.8740 0.8750	TWEB NYC 16:24
16:24	TWEB	NYC 1.0240	1.0280	2Y	1.0370 1.0410	TWEB NYC 16:24
16:23	TWEB	NYC 1.1410	1.1450	3Y	1.1540 1.1580	TWEB NYC 16:23
16:27	TWEB	NYC 1.2330	1.2370	4Y	1.2480 1.2520	TWEB NYC 16:26
16:27	TWEB	NYC 1.3150	1.3190	5Y	1.3310 1.3350	TWEB NYC 16:27
16:27	TWEB	NYC 1.3980	1.4020	6Y	1.4140 1.4180	TWEB NYC 16:27
16:27	TWEB	NYC 1.4760	1.4800	7Y	1.4930 1.4970	TWEB NYC 16:26

To get indicative and tradable figures for commonly traded IRS such as those in USD, Eikon can deliver quotes for bid and ask numbers.

Press F4 and type

<USDIRS> (for indicative and composite numbers)

<USDIRS=TWEB> (for tradable numbers)

How to price a new IRS deal (Eikon)

One way to price a new IRS deal is to use the Swap Pricer to set the different parameters in order to generate the fixed rate which should be paid by the fixed rate payer.

The screenshot displays the Eikon Swap Pricer Calculator interface. The main window title is "Swap Pricer Calculator" and it includes a "BETA" notice. The interface is set to "USD" and shows a swap structure: "Pay US Dollar Fixed 1M Semi-Annual Bond 30/360 | Receive US Dollar Float 1M Quarterly MM Act/360 In Advance".

Key parameters and results are as follows:

- Currency:** USD
- Collateral Type:** Collateralized
- Swap Type:** Vanilla: Fixed - Float
- Structure:** American Semi-Annual Bond Basis vs 3-Mo...
- Leg 1 Notional:** 1,000,000.00
- Leg 2 Notional:** 1,000,000.00
- Start Date:** May 31, 2016
- Maturity Date:** Jun 1, 2021
- Fixed Rate (1st Leg):** 1.3445%
- Spread (2nd Leg):** 0.00 bp
- Market Value (1st Leg):** -65,527.00
- Market Value (2nd Leg):** 65,527.00

The "SWAP RESULTS" table shows the following values:

Item	Value
NPV	0.00
Premium	0.00
Par Rate (%)	1.3445
Principal Value	0.00
Accrued	0.00
Market Value	0.00

The "RISK" table shows the following values:

Item	Value
DV01	-481.29
Annuity	-487.37
Modified Duration	-4.74
BP DV01	-4.81

In the Eikon Toolbar, type <SWPR> (PREVIEW SWPR)

As shown above, set the necessary parameters for

1. Currency type (must be collateralized as per new FRS specifications)
2. Swap Type
3. Structure
4. Notional
5. Solving for 1st Leg (Payer of fixed rate in this case)

See the fixed rate for today and the market value of the IRS today.

If a spread is to be imposed, it could be included as shown in the blue box above.

How to price a new IRS deal (Eikon Excel)

If you do not wish to use SWPR in order to calculate your figures, the other method is as follows.

1. Construct a zero curve and calculate the discount factors
2. Calculate the implied forward rates from the zero rates and identify the cash flows for the floating leg and calculate the total NPV
3. Calculate the Swap Rate

Below is a spreadsheet which could be performed on Eikon Excel.

Today	25 May, 2016								
Currency	USD								
Calendar	USA								
Notional	\$1,000,000								
Payment Frequency	6M								
Floating Rates Table	Start date	End date	Cost of Borrowing % Zero Coupon Rates %	Discount Factors	Period	Fixing (or zero coupon rate) and Implied forward interest rates	Cashflows	Discounted Cashflows or Present Values	
6M	27 May, 2016	28 November, 2016	0.9752	0.9950276	0x6	0.9682%	\$4,975.22	\$4,950.48	
1Y	28 November, 2016	30 May, 2017	1.0911	0.9891480	6x12	1.2123%	\$6,162.68	\$6,095.81	
1Y6M	30 May, 2017	30 November, 2017	1.1788	0.9824492	12x18	1.3521%	\$6,910.90	\$6,789.60	
2Y	30 November, 2017	31 May, 2018	1.2522	0.9752520	18x24	1.4792%	\$7,478.25	\$7,293.18	
								\$25,129.07	Total PV
						Suggested fixed rate			
						1.2506%			
Fixed Rate Table	Start date	End date	Cost of Borrowing % Zero Coupon Rates %	Discount Factors		IRS's fixed rate	Cashflows	Discounted Cashflows or Present Values	
6M	27 May, 2016	28 November, 2016	0.9752	0.9950276		1.2506%	\$6,426.78	\$6,394.82	
1Y	28 November, 2016	30 May, 2017	1.0911	0.9891480		1.2506%	\$6,357.30	\$6,288.31	
1Y6M	30 May, 2017	30 November, 2017	1.1788	0.9824492		1.2506%	\$6,392.04	\$6,279.85	
2Y	30 November, 2017	31 May, 2018	1.2522	0.9752520		1.2506%	\$6,322.56	\$6,166.09	
								\$25,129.07	Total PV
								0	Difference*10000

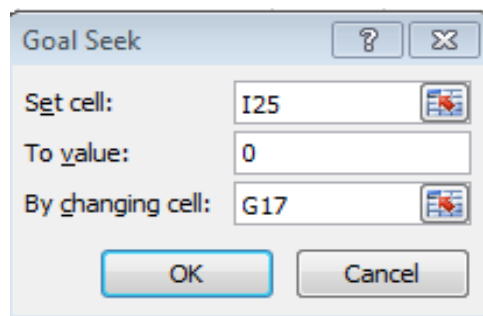
Using the above spreadsheet, the PV could be calculated by the following steps

Press **Alt+T+G** in Excel

Fill in the box as follows (Set cell **I25** to value **0**, by changing cell **G17**)

For your reference, the two boxes have been highlighted in blue.

The PV is the box highlighted in red



How to price an existing IRS deal

If either party wishes to cancel the IRS deal halfway through the tenor, the SWPR calculator could be used to calculate the penalty that should be paid (by other sign as shown by the sign of the NPV)

Here is an example that continues from the previous screenshot.

Assuming that the start date of the contract was on January 14, 2015, where a 2% fixed rate was agreed upon. Today is 26/5/2016.

The screenshot displays the Swap Pricer Calculator interface. Key elements include:

- Contract Details:** USD, Pay US Dollar Fixed 1M Semi-Annual Bond 30/360, Receive US Dollar Float 1M Quarterly MM Act/360 In Advance. Swap Type: Vanilla: Fixed - Float. Start Date: Jan 14, 2015. Valuation Date: May 26, 2016. Tenor: 5Y. Maturity Date: Jan 14, 2020. Leg 1 Notional: 1,000,000.00, Leg 2 Notional: 1,000,000.00.
- 1ST LEG (Pay):** USD, FIXED, Interest Rate, Notional. Element Type / Pay Freq: Fixed, Semi-Annual. Start / End Date: Jan 14, 2015, Jan 14, 2020. Cpn. / Accrued Type: Bond 30/360, Bond 30/360.
- 2ND LEG (RECEIVE):** USD, FLOAT, Interest Rate, Notional. Element Type / Pay Freq: Float, Quarterly. Start / End Date: Jan 14, 2015, Jan 14, 2020. Underlying / Reset Type: Fixing, In Advance. Index Name / Fixing Date: LIBOR, Apr 12, 2016. Index Tenor / Reset Freq: 3M, Quarterly. Cpn. / Accrued Type: MM Act/360, MM Act/360.
- VALUATION:** NPV: -33,543.69. Premium: -3.35. Par Rate (%): 1.1438. Principal Value: -26,954.63. Accrued: -6,589.06. Market Value: -33,543.69.
- RISK:** DV01: -344.56. Annuity: -391.76. Modified Duration: -3.33. BP DV01: -3.45.
- LEG RESULTS:**

Item	1st Leg	2nd Leg
Fixed Rate (%)	2.0000	0.00
Spread (bp)	0.00	0.00
NPV / Premium	-78,352.10	44,808.41
Accrued	-7.84	734.53
Market Value	-7,323.60	44,073.88
Market Value	-71,028.51	
- RISK (continued):**

Item	1st Leg	2nd Leg
PVBP / DV01	-14.48	-330.08
Mod. Dur. / BP DV01	3.46	0.13
Annuity / BP Annuity	391.76	0.00

Hence, in the SWPR, we would change the following information.

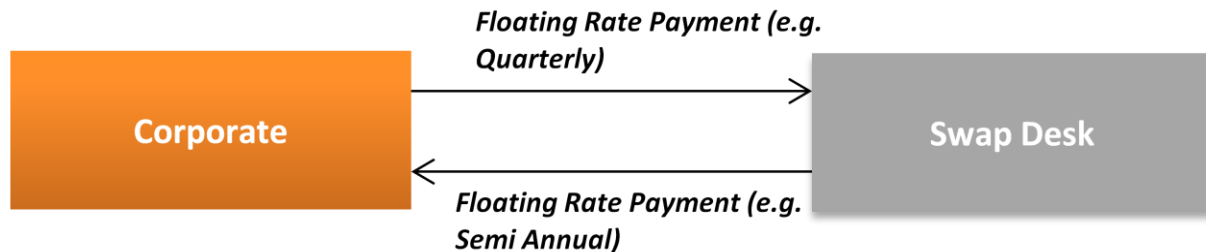
1. Change the start date to the date of the contract (here 14/1/2015)
2. Change the fixed rate agreed upon (i.e. 2%)
3. Change the “Solve for” to NPV
4. Find the NPV of the IRS. Here the value is negative and hence the payer of the fixed rate would have to pay for the cancellation of the IRS deal.

Similarly a spread could be added if needed.

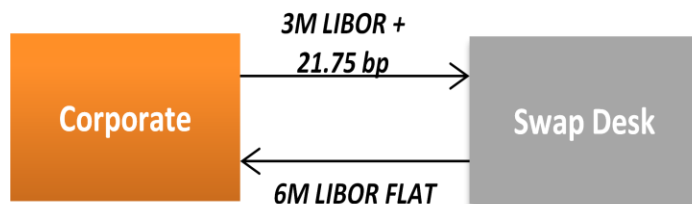
7. Basis Swap

What is a Basis Swap?

A basis swap involves the exchange of two floating payments (as opposed to the IRS where a fixed rate is exchanged for a floating rate)



USD	BS SWP	USD	BS SWP	USD	BS SWP
3M Lib v 1M Lib		6M Lib v 1M Lib		6M Lib v 3M Lib	
6M 14.375	16.375	6M 35.375	37.375	6M 19.75	21.75
1Y 15.000	17.000	1Y 35.750	37.750	1Y 19.75	21.75
18M 15.000	17.000	18M 35.125	37.125	18M 19.125	21.125
2Y 14.750	16.750	2Y 34.000	36.000	2Y 18.250	20.250
3Y 14.375	16.375	3Y 32.125	34.125	3Y 16.750	18.750
4Y 13.500	15.500	4Y 29.875	31.875	4Y 15.375	17.375
5Y 12.625	14.625	5Y 27.875	29.875	5Y 14.250	16.250
6Y 11.875	13.875	7Y 25.500	27.500	6Y 13.750	15.750
7Y 11.000	13.000	10Y 24.125	26.125	7Y 13.500	15.500
8Y 10.500	12.500	12Y 24.375	26.375	8Y 13.25	15.25



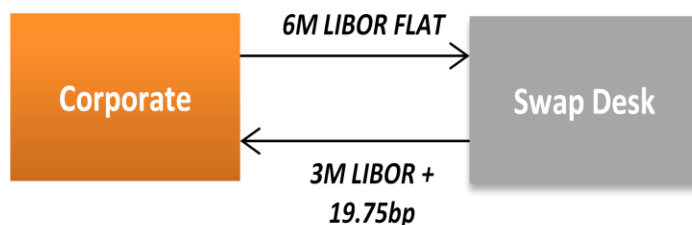
How to do it on Eikon?

E.g. if there is a switch of a quarterly floating rate and a semi-annual floating rate payment for a tenor of one year, we would do the following.

Press F4 and type <USDLBS=SMKR>

Use the figures for a 1 year tenor

When the Swap Desk receives the payment for a quarterly payment, they would charge the ask bid points (bp)



When the Swap Desk pays the quarterly payment, they will pay the bid bp which is lower.

CVA and DVA Adjustments

Previously, we have assumed that IRS calculated all had implied ratings of AA. Since IRS are priced off Libor curves and Libor is the average of banks offered rates, Libor has an implied credit rating equal to the average of the banks in the Libor pool. (i.e. AA rating)

However, when one party has a better rating than Libor, a reduction spread will be applied on the swap rate and conversely, when one party has a worse rating than the other, an additional spread will be applied.

Credit Valuation Adjustment:

CVA represents the additional cost to account for the possibility of the counterparty's default on the IRS deal. (If the counterparty has a rating lower than AA)

Debt Valuation Adjustment:

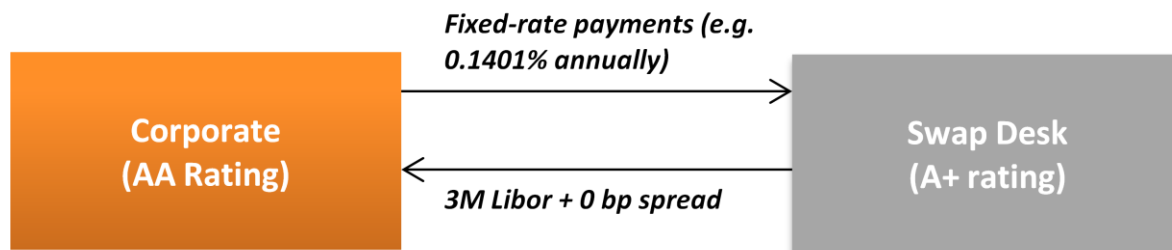
DVA represents the additional cost to account for one's own default (Market Maker)

Bilateral:

This is the combination of the above 2.

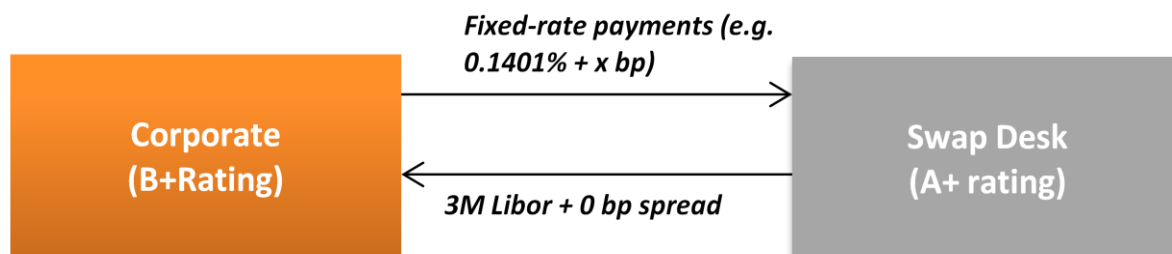
An example is given as follows,

The counterparty of the same credit rating as the Swap Desk and hence there is no need for CV



Now, the corporate has a lower credit rating than the swap desk. The bp is calculated to be 0.1401%, however the swap desk wants to be insured against their default hence they asked for a credit charge from the Credit desk who tells them the CVA should be x bp. Hence, the swap desk adds x bp.

The counterparty has the lower credit rating hence the cost is to be borne by the lower rating party



Note: if the swap desk has a lower rating or both have ratings below AA, a DVA or bilateral is added to the corresponding party

How to input these into Eikon's SWPR?

In order to perform this on the new SWPR, the “collateralized” should be changed to “OTC”

Under the CVA tab, different settings could be chosen as shown below.

E.g. Here we used CDS Curves for Ford Motor (CVA- Counterparty) and Citibank (DVA- Self)

CREDIT CURVE

Counterparty Self

CDS Curve Load Save

Ford Motor Co

Entity **F5YUSAX=R** Q

Rec. Rate (%) **38.0000**

Contributor Thomson Reuters EOD

ZC Curve ISDA Curve

Currency USD

Frequency Quarterly

Seniority Senior

Doc Clause No Restruct (2014 Pr...

Cash Settle... T+1

CREDIT CURVE

Counterparty Self

CDS Curve Load Save

Citibank NA

Entity **CITC5YUSAX=R** Q

Rec. Rate (%) **40.0000**

Contributor Thomson Reuters EOD

ZC Curve ISDA Curve

Currency USD

Frequency Quarterly

Seniority Senior

Doc Clause No Restruct (2014 Pr...

Cash Settle... T+1

Hence, the swap results would reflect a CVA and DVA as shown and a new Fixed rate could be displayed as well.

CREDIT ADJUSTMENT

CVA

Unilateral CVA **85.39**

Unilateral DVA **948.71**

Net Bilateral CVA **-856.52**

Adjust by Bilateral CVA

Fixed Rate (%) **1.1404**

Float Spread (bp) **0.00**

NPV **-33,543.69**

8. Cross Currency Swaps (CRS)

What is a Cross Currency Swap?

A cross currency swap (CCS or CRS) (e.g. EURJPY) has the features of an Interest Rate Swap while giving each counterparty access to a different foreign currency.

For example,

Currency principal amounts may be exchanged at the outset and re-exchanged at maturity at the same exchange rates.

As a result,

Exchange risk on the principal amounts is eliminated, while retaining

- The Interest Rate Exposure and
- Currency Exposure on the Interest flows and
- on the Net Result of any transaction that has been closed out prior to Maturity.

Therefore, these cash flows that occur as part of a CCS could be in the following manner.

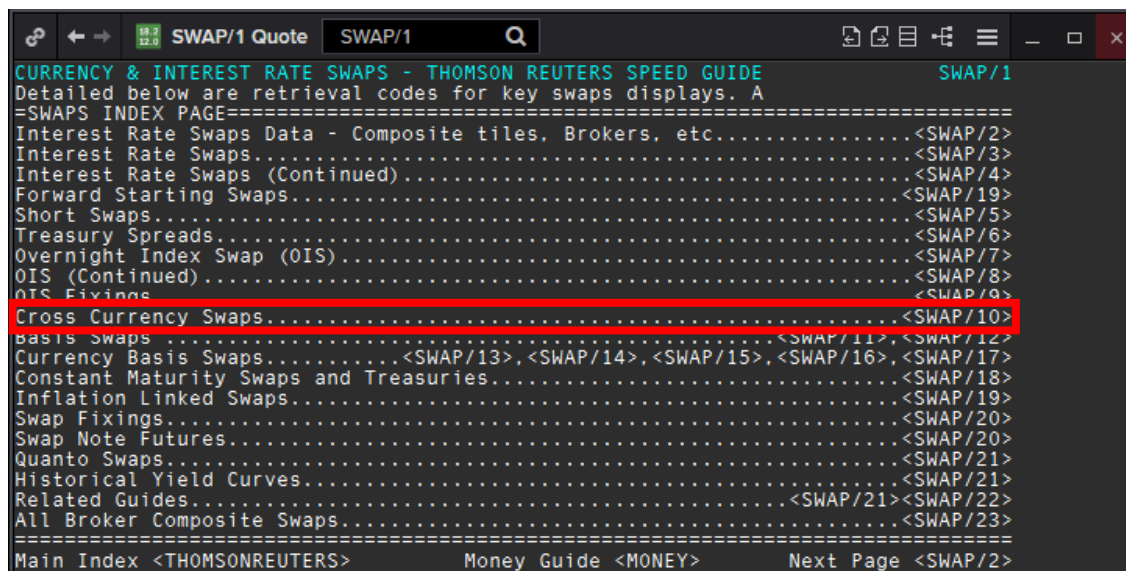
- Fixed against floating
- Floating against floating
- Fixed against Fixed
- Linked with the Returns of an Asset (e.g. an equity indices or Islamic Swap of a bank)

Hence, a currency basis swap is likely to exist between the two floating rates of the different currencies.

How to get Indicative Data on Cross Currency Swap?

In order to get indicative data on CRS or CCS rates, one should refer to the Speed Guide page on Eikon for swaps.

Press F4, and type <SWAP/1>.

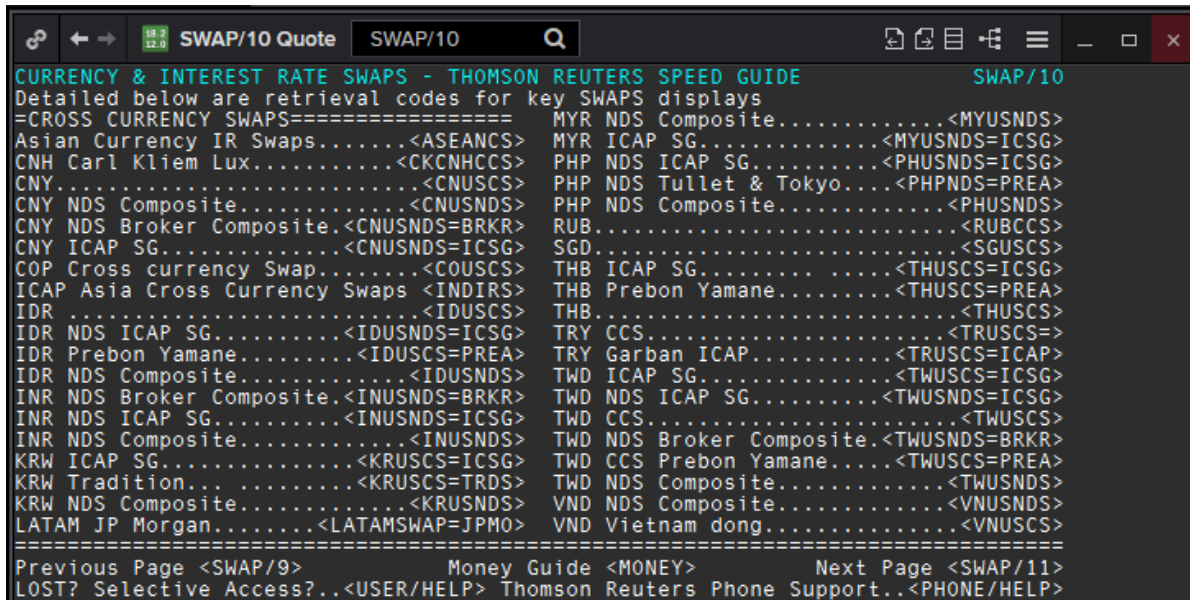


```

CURRENCY & INTEREST RATE SWAPS - THOMSON REUTERS SPEED GUIDE          SWAP/1
Detailed below are retrieval codes for key swaps displays. A
=SWAPS INDEX PAGE=====
Interest Rate Swaps Data - Composite tiles, Brokers, etc.....<SWAP/2>
Interest Rate Swaps.....<SWAP/3>
Interest Rate Swaps (Continued).....<SWAP/4>
Forward Starting Swaps.....<SWAP/19>
Short Swaps.....<SWAP/5>
Treasury Spreads.....<SWAP/6>
Overnight Index Swap (OIS).....<SWAP/7>
OIS (Continued).....<SWAP/8>
OIS Fixings.....<SWAP/9>
Cross Currency Swaps.....<SWAP/10>
basis Swaps.....<SWAP/11>,<SWAP/12>
Currency Basis Swaps.....<SWAP/13>,<SWAP/14>,<SWAP/15>,<SWAP/16>,<SWAP/17>
Constant Maturity Swaps and Treasuries.....<SWAP/18>
Inflation Linked Swaps.....<SWAP/19>
Swap Fixings.....<SWAP/20>
Swap Note Futures.....<SWAP/20>
Quanto Swaps.....<SWAP/21>
Historical Yield Curves.....<SWAP/21>
Related Guides.....<SWAP/21><SWAP/22>
All Broker Composite Swaps.....<SWAP/23>
=====
Main Index <THOMSONREUTERS>          Money Guide <MONEY>          Next Page <SWAP/2>

```


Select <SWAP/10> to arrive at the cross currency swaps page.

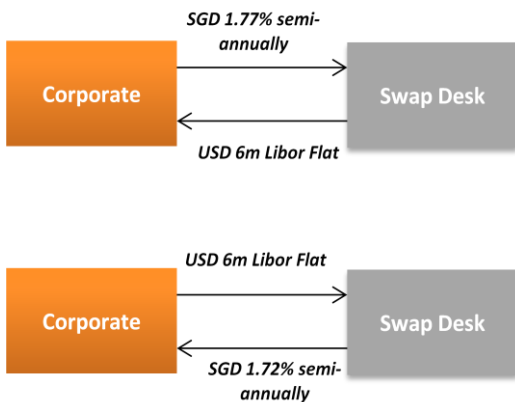


For example, if you are looking for a USDSGD Cross Currency Swap, you would select <SGUSCS>.

The screenshot shows the Thomson Reuters SGUSCS Quote page. The page title is "SGUSCS Quote" and "SGUSCS". The table below shows the swap rates for various maturities. The table has columns for "SGDUSD", "Sem Bnd/6M LIBOR", and "DEALING". The 5Y maturity row is highlighted in red.

	SGDUSD	Sem Bnd/6M LIBOR		DEALING
1Y	1.44	1.50	BROKER	GFX 09:45
2Y	1.62	1.67	BROKER	GFX 09:43
3Y	1.69	1.77	BROKER	GFX 09:31
4Y	1.71	1.78	BROKER	GFX 09:42
5Y	1.72	1.77	BROKER	GFX 10:23
7Y	1.76	1.86	BROKER	GFX 09:54
10Y	1.94	1.98	BROKER	GFX 15:25
12Y	1.750	1.895	BROKER	GFX 11:10

Therefore, the quote page would be as such. However, how does one make sense of these numbers?



In the case of a 5Y Cross Currency Swap, The Corporate will pay SGD fixed (1.77%) semi-annually in the first example and receive USD floating.

On the other hand the example below it shows the scenario when the corporate instead receives a fixed SGD payment.

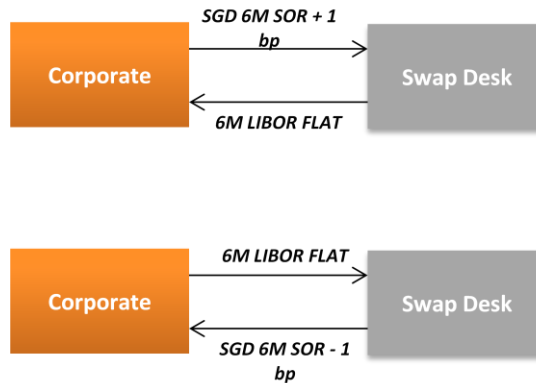
Thus, the bid figure is used when the corporate receives SGD fixed and the ask when they pay SGD fixed.

How to get Indicative Data on Currency Basis Swap?

On the Swap Speed Guide page <SWAP/1>, select the Currency Basis Swap option <SWAP/13> to <SWAP/17>, navigating through the pages with the Next Page function.

For example, for a 1 year USDSGD Currency Basis Swap

Term	BID	ASK	TIME
1Y	-1	1	09:38
2Y	-1.9	-0.5	10:03
3Y	-10	-8	10:07
4Y	-20	-16	09:38
5Y	-28	-25.8	09:38
6Y	-35	-32	09:38
7Y	-43	-38	09:38
10Y	-59	-55	09:38
12Y	-71	-61	09:38
15Y	-77	-63	09:38
20Y	-83.5	-68.5	09:37
30Y	-83.5	-68.5	09:38



This implies that the corporate pays SGD 6M Swap Offer Rates with an additional 1bp as a premium in the first scenario and in the second, the corporate receives SGD 6M Swap Offer Rates less 1bp.

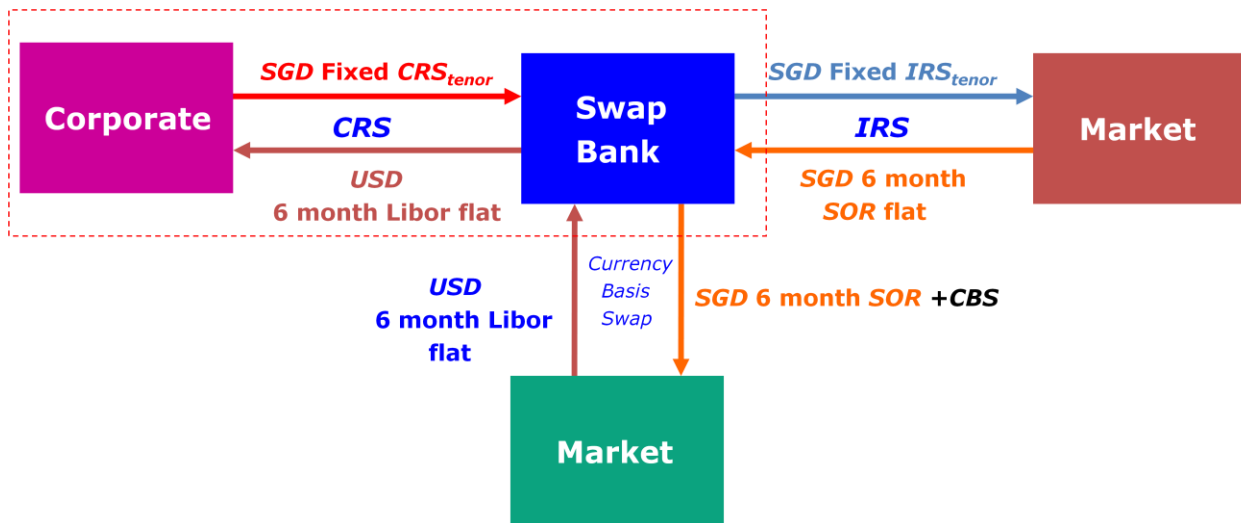
Both parties receive floating rate payments.

Relationship between Currency Basis Swaps, CRS and IRS

If we assume the same notional amount for all structures, in yield's perspective:

$$\text{Fixed Rate of CRS}_{\text{tenor}} = \text{Fixed rate of IRS}_{\text{tenor}} + \text{CBS}_{\text{tenor}}$$

Here, CBS refers to the Currency Basis Spread



PYSGD Quote		PYSGD		HK03118		PYSGD	
TULLETT PREBON ASIA				[ALL PRICES INDICATIVE]			
PLEASE CALL SING:+65 6922 1214 (MARC, JON, STEVEN, DENNIS, MOLLY, SHENG, JANIS)				SEE <PYSGFRA> FOR SGD FRA/SPS			
SEMI/ACT365	BASIS	SEMI/ACT365	SGD/USD	SGD FWD	SGD DEP	SGD FWD	SGD DEP
6MO	2.07/-2.0	2.07/-2.0	1.520/1.450	0/N	-0.14/-0.05	0/N	0.1250/0.0500
1YR	1.510/1.460	1.07/-1.0	1.595/1.540	T/N	-0.09/-0.05	I/D	0.0000/0.0000
18M	1.595/1.560	0.07/-2.0	1.611	S/N	-0.1/0	T/N	0.3750/0.2500
2YR	1.630	1.9	1.670	1WK	+0.1/+0.4	1WK	0.6250/0.5000
3YR	1.770	10.0	1.695	1MO	+2.5/+3.25	1MO	0.7500/0.6250
4YR	1.895	20.0	1.710	2MO	+5.5/+7.5	2MO	0.9375/0.8125
5YR	1.990	28.0	1.725	3MO	+9/+12	3MO	1.0000/0.8750
6YR	2.105/2.075	35.0	1.740	6MO	+24/+27	6MO	1.2500/1.1250
7YR	2.200/2.170	43.0	1.780	9MO	+38/+48	9MO	1.3125/1.1875
10YR	2.390/2.370	-55.0/-59.0	1.840/1.780	1YR	+45/+65	1YR	1.3750/1.2500
12YR	2.480/2.445	-61.0/-71.0	1.870/1.735				
15YR	2.580/2.540	-63.0/-77.0	1.950/1.770				
20YR	2.650/2.610	-68.5/-83.5	1.965/1.775				
30YR	2.720/2.660	-68.5/-83.5	2.035/1.825				
	OIS	OIS	SHORT SWAPS			QRTLY SWAPS	
1MO	0.900/0.400	6MO	1.200/0.750	3Mv1	0.800/0.400	6MQQ	1.150/1.050
2MO	0.900/0.500	9MO	1.200/0.800	6Mv1	0.900/0.600	9MQQ	1.220/1.120
3MO	1.050/0.550	1YR	1.410/0.960	9Mv1	0.950/0.600	1YQQ	1.315/1.242
4MO	1.050/0.550			1Yv1	1.250/0.750		
5MO	1.050/0.550			18Mv1	1.395/1.160		

Hence, for a 1year tenor,

$$\text{Fixed Rate of CRS} = \text{Fixed Rate of IRS} + \text{CBS}$$

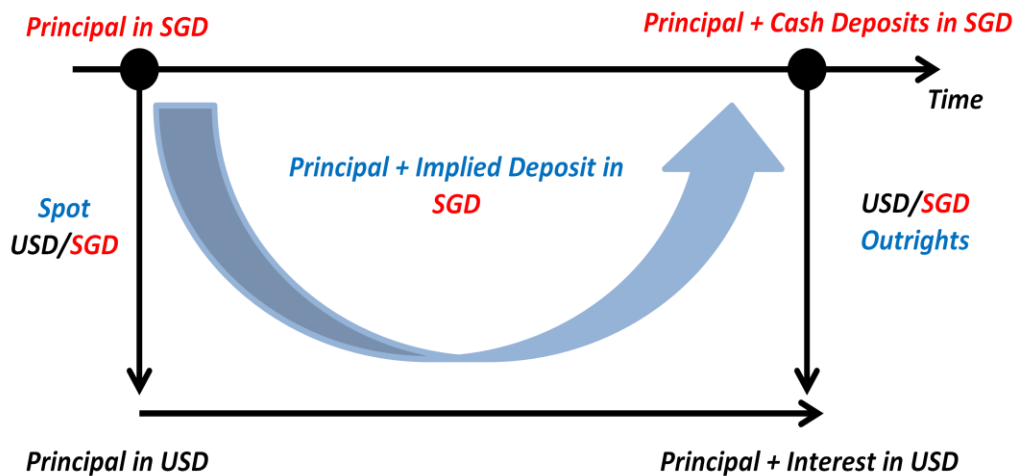
$$1.520\% = 1.510\% + (1.0/100)\%$$

Note that prices in this page are presented from the broker's swap desk perspective, with the ask being presented first, followed by the bid price.

Refer to the Case Studies for the different Target Markets for Cross Currency Swaps

9. Implied Deposits

What is an implied deposit?



An implied deposit occurs during a FX swap used to hedge foreign exchange risk. For example, if a financial institution lends in SGD alone, there may be a credit risk due to default.

Hence, by going through FX swaps, there will be less credit risk due to currency exchange and there may be better liquidity due to the market depth and a greater amount of market participants.

How to get indicative data on Implied Deposit Rates?

1. Press F4 and type “MONEY”
2. Under Interest Rate Related, select Deposits by pressing on the words <DEPO/1>
3. Select the Implied Deposits tab through <DEPO/4>
4. For more selections, press the <DEPO/5> to be directed to the next page.

A page like follows will appear with the implied deposit rates.

SGD IMPLIED DEPS									
RIC	Bid	Ask	Src	Time	RIC	Bid	Ask	Src	Time
SGDONID=SGR	0.306	0.566	RTRS	14:59	SGDONID=WR	-0.118	1.335	RTRS	16:55
SGDTNID=SGR	0.334	0.966	RTRS	16:55	SGDTNID=WR	-2.183	3.485	RTRS	16:59
SGDSWID=SGR	0.499	0.980	RTRS	16:55	SGDSWID=WR	0.469	1.237	RTRS	16:58
SGD1MID=SGR	0.805	0.967	RTRS	16:01	SGD1MID=WR	1.073	1.432	RTRS	16:58
SGD2MID=SGR	0.703	0.896	RTRS	16:54	SGD2MID=WR	1.006	1.199	RTRS	16:58
SGD3MID=SGR	1.019	1.247	RTRS	16:54	SGD3MID=WR	1.227	1.448	RTRS	16:56
SGD6MID=SGR	1.260	1.505	RTRS	16:54	SGD6MID=WR	1.424	1.670	RTRS	16:58
SGD9MID=SGR	1.465	1.862	RTRS	16:54	SGD9MID=WR	1.599	1.972	RTRS	16:58
SGD1YID=SGR	1.634	1.846	RTRS	16:00	SGD1YID=WR	1.761	1.951	RTRS	16:59
SGD2YID=SGR	1.967	2.220	RTRS	14:49					
SGD3YID=SGR	2.485	2.931	RTRS	16:42					
SGD4YID=SGR	2.499	3.067	RTRS	17:00					
SGD5YID=SGR	2.575	3.178	RTRS	17:00					

How to find information about the Deposit Analysis Calculator <DEAN>?

We will now discuss the possibilities through the use of the Deposit Analysis (DEAN) on Eikon.

First, Eikon uses certain terminologies.

Target Currency: This refers to the currency that is required at the end (the horizontal line of the previous diagram)

Via Currency: The currency that the implied deposit is carried through.

Who would need to use the DEAN?

This model is used by Market Takers who will arbitrage based on these values if they observe a huge difference (spread) between cash deposits and implied deposits.

A case study will be provided subsequently, comparing SGD Deposits to USD, GBP and EUR Implied Deposits.

There are 4 possible cases of implied deposits, which can be summarized in the table below.

Currency Format	Market Taker (Lend at Bid)	Market Taker (Borrow at ask)
Implied Base Currency Deposits	Case A	Case B
Implied Counter Currency Deposits	Case C	Case D

Case A: The Market Taker lends USD (Bid Rate) via SGD

U.S. Dollar / Singapore Dollar
Updated at 10:36:17 AM

Target CCY: **USD**
Via CCY: **SGD**

Trade Date: 26 May 2016
Value Date: 31 May 2016

	USD Spot	SGD Spot	SGD Spot
	1.0000	1.0000	1.3760
			1.3762
			1.3760
			1.3762

USD: *Year Basis:360 Calendar:USA*, SGD: *Year Basis:365 Calendar:SIN*

Standard Periods

Period	End Date	Days	SGD Swap Points	SGD Deposit 365	USD Implied Deposit	Spread	USD Deposit 360
ON	26 May 2016 - 27 May 2016	1	0.0600	0.1000	0.02	0.03	-0.24
TN	27 May 2016 - 31 May 2016	4	0.1700	0.4700	0.55	1.15	0.22
SN	31 May 2016 - 01 Jun 2016	1	-1.5700	2.0000	0.50	0.62	-4.77
SW	31 May 2016 - 07 Jun 2016	7	0.0000	1.2500	0.50	0.62	0.03
1M	31 May 2016 - 30 Jun 2016	30	6.7500	8.2500	0.56	0.75	-0.16
2M	31 May 2016 - 29 Jul 2016	59	10.7500	16.7500	0.81	0.93	0.06
3M	31 May 2016 - 31 Aug 2016	92	17.5000	23.5000	0.81	1.00	0.14
6M	31 May 2016 - 30 Nov 2016	183	39.0000	44.0000	1.06	1.25	0.42
9M	31 May 2016 - 28 Feb 2017	273	55.0000	65.0000	1.18	1.31	0.54
1Y	31 May 2016 - 31 May 2017	365	74.0000	83.0000	1.19	1.38	0.57
2Y	31 May 2016 - 31 May 2018	730	107.0700	191.4400	1.19	1.38	0.48

The process would constitute 2 different steps.

1. Lend **SGD** (Bid Rate) through the Money Market at the Singapore deposit rate
2. Buysell **SGD** and Sellbuy **USD** through FX Swaps (Ask Rate)

This equates to lending **USD** (bid rate) at the Implied Deposit Rate.

Case B: The Market Taker borrows USD (Ask Rate) via SGD

U.S. Dollar / Singapore Dollar
Updated at 10:36:17 AM

Target CCY: **USD**
Via CCY: **SGD**

Trade Date: 26 May 2016
Value Date: 31 May 2016

USD Spot	SGD Spot	SGD Spot	SGD Spot
1.0000	1.0000	1.3760	1.3762
1.0000	1.3760	1.3762	1.3762

USD: Year Basis:360 Calendar:USA*, SGD: Year Basis:365 Calendar:SIN*

Calculation Parameters

Swap To Dep | Dep To Swap

Period	End Date	Days	SGD Swap Points	SGD Deposit	USD Implied Deposit	Spread	USD Deposit					
ON	26 May 2016	27 May 2016	1	0.0600	0.1000	0.03	-0.2	57.46	0.34	0.44		
TN	27 May 2016	31 May 2016	4	0.1700	0.4700	0.55	1.15	0.2	-9.75	0.42	0.50	
SN	31 May 2016	01 Jun 2016	1	-1.5700	2.0000	0.50	0.62	-4.7	4.81	50.98	0.48	0.58
SW	31 May 2016	07 Jun 2016	7	0.0000	1.2500	0.50	0.62	0.0	0.63	8.25	0.36	0.46
1M	31 May 2016	30 Jun 2016	30	6.7500	8.2500	0.56	0.75	-0.1	0.16	45.36	0.40	0.50
2M	31 May 2016	29 Jul 2016	59	10.7500	16.7500	0.81	0.93	0.0	0.45	57.17	0.78	0.87
3M	31 May 2016	31 Aug 2016	92	17.5000	23.5000	0.81	1.00	0.1	0.49	36.31	0.63	0.73
6M	31 May 2016	30 Nov 2016	183	39.0000	44.0000	1.06	1.25	0.4	0.68	43.13	0.93	1.03
9M	31 May 2016	28 Feb 2017	273	55.0000	65.0000	1.18	1.31	0.5	0.76	67.74	1.23	1.43
1Y	31 May 2016	31 May 2017	365	74.0000	83.0000	1.19	1.38	0.5	0.82	62.10	1.27	1.37
2Y	31 May 2016	31 May 2018	730	107.0700	191.4400	1.19	1.38	0.4	0.97	109.73	1.77	1.87

+ Broken Dates Rows: Insert / Delete FX Points Decimals: Increase / Decrease Deposit Decimals: Increase / Decrease

The process would constitute 2 different steps.

1. Borrow SGD (Ask Rate) through the Money Market at the Singapore deposit rate
2. Sellbuy SGD and Buysell USD through FX Swaps (Bid Rate)

This equates to borrowing USD (ask rate) at the Implied Deposit Rate.

Case C: The Market Taker lends SGD (Bid Rate) via USD

Deposit Analysis

Deposits vs Fx Forwards Overview [DEFO] | FRA Pricing [FRAP] | Swap Points and Outrights [SPO] | Base Deposits | Quoted Deposits Related Code: DEAN

Singapore Dollar / U.S. Dollar Updated at 10:51:15 AM

Target CCY: **SGD** Trade Date: 26 May 2016 SGD Spot USD Spot SGD/USD Spot
 Via CCY: **USD** Value Date: 31 May 2016 1.3762 1.3770 1.0000 1.0000 0.7262 0.7266

Calculation Parameters

Swap To Dep Dep To Swap

Period	End Date	Days	SGD Swap Points	USD Deposit	SGD Implied Deposit	Spread	SGD Deposit
ON	26 May 2016 27 May 2016	1	0.0600 0.1000	0.34 0.44	0.50	0.71 -36.26	0.18 0.31
TN	27 May 2016 31 May 2016	4	0.1700 0.4700	0.42 0.50	0.54	0.82 17.14	0.55 1.15
SN	31 May 2016 01 Jun 2016	1	-1.5700 2.0000	0.48 0.58	-3.68	5.89 -54.33	0.50 0.62
SW	31 May 2016 07 Jun 2016	7	0.0000 1.2500	0.36 0.46	0.37	0.94 -9.22	0.50 0.62
1M	31 May 2016 30 Jun 2016	30	6.5000 8.0000	0.40 0.50	0.98	1.21 -44.10	0.56 0.75
2M	31 May 2016 29 Jul 2016	59	10.7500 16.7500	0.78 0.87	1.27	1.64 -58.51	0.81 0.93
3M	31 May 2016 31 Aug 2016	92	17.5000 23.5000	0.63 0.73	1.14	1.42 -37.50	0.81 1.00
6M	31 May 2016 30 Nov 2016	183	39.0000 44.0000	0.93 1.03	1.51	1.68 -44.16	1.06 1.25
9M	31 May 2016 28 Feb 2017	273	55.0000 65.0000	1.23 1.43	1.79	2.09 -69.21	1.18 1.31
1Y	31 May 2016 31 May 2017	365	74.0000 83.0000	1.27 1.37	1.83	2.00 -63.49	1.19 1.38
2Y	31 May 2016 31 May 2018	730	107.0700 191.4400	1.77 1.87	2.20	2.62 -112.62	1.19 1.38

Broken Dates Rows: Insert / Delete FX Points Decimals: Increase / Decrease Deposit Decimals: Increase / Decrease

The process would constitute 2 different steps.

1. Lend **USD** (Bid Rate) through the Money Market at the US deposit rate
2. Buysell **USD** and Sellbuy **SGD** through FX Swaps (Bid Rate)

This equates to lending **SGD** (bid rate) at the Implied Deposit Rate.

Case D: The Market Taker borrows SGD (Ask Rate) via USD

Deposit Analysis

Deposits vs Fx Forwards Overview [DEFO] | FRA Pricing [FRAP] | Swap Points and Outrights [SPO] | Base Deposits | Quoted Deposits

Related Code: DEAN

Singapore Dollar / U.S. Dollar

Updated at 10:51:15 AM

Target CCY: **SGD**
Via CCY: **USD**

Trade Date: 26 May 2016
Value Date: 31 May 2016

SGD Spot	USD Spot	SGD/USD Spot
1.3762	1.0000	0.7262
1.3770	1.0000	0.7266

Calculation Parameters

Swap To Dep | Dep To Swap

Period	End Date	Days	SGD Swap Points	USD Deposit	SGD Implied	Deposit	Spread	SGD Deposit				
ON	26 May 2016	27 May 2016	1	0.0600	0.1000	0.34	0.44	0.50	0.71	-6.26	0.18	0.31
TN	27 May 2016	31 May 2016	4	0.1700	0.4700	0.42	0.50	0.54	0.82	-7.14	0.55	1.15
SN	31 May 2016	01 Jun 2016	1	-1.5700	2.0000	0.48	0.58	-3.68	5.89	-4.33	0.50	0.62
SW	31 May 2016	07 Jun 2016	7	0.0000	1.2500	0.36	0.46	0.37	0.94	-9.22	0.50	0.62
1M	31 May 2016	30 Jun 2016	30	6.5000	8.0000	0.40	0.50	0.98	1.21	-4.10	0.56	0.75
2M	31 May 2016	29 Jul 2016	59	10.7500	16.7500	0.78	0.87	1.27	1.64	-8.51	0.81	0.93
3M	31 May 2016	31 Aug 2016	92	17.5000	23.5000	0.63	0.73	1.14	1.42	-7.50	0.81	1.00
6M	31 May 2016	30 Nov 2016	183	39.0000	44.0000	0.93	1.03	1.51	1.68	-4.16	1.06	1.25
9M	31 May 2016	28 Feb 2017	273	55.0000	65.0000	1.23	1.43	1.79	2.09	-9.21	1.18	1.31
1Y	31 May 2016	31 May 2017	365	74.0000	83.0000	1.27	1.37	1.83	2.00	-3.49	1.19	1.38
2Y	31 May 2016	31 May 2018	730	107.0700	191.4400	1.77	1.87	2.20	2.62	-12.62	1.19	1.38

Broken Dates Rows: Insert / Delete FX Points Decimals: Increase / Decrease Deposit Decimals: Increase / Decrease

The process would constitute 2 different steps.

1. Borrow USD (Ask rate) through the Money Market at the US deposit rate
2. Sellbuy USD and Buysell SGD (Bid) through FX Swaps (Ask Rate)

This equates to borrowing SGD (ask rate) at the Implied Deposit Rate.

Part 7: Case Studies for FX and Money Market

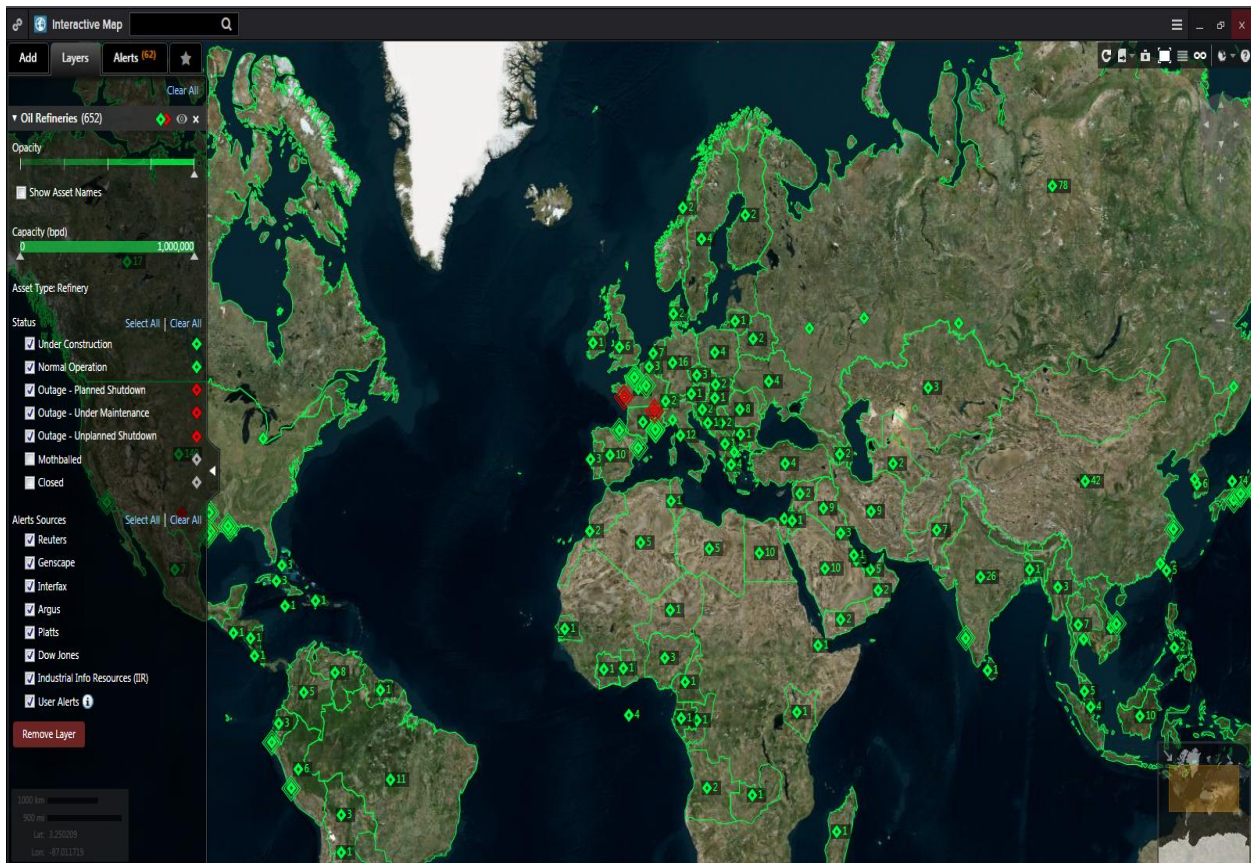
1. Case Study: Spot and Forwards FX

In order to better understand the concept behind spot and forward FX outright, below is an example to help you better visualize the concept.

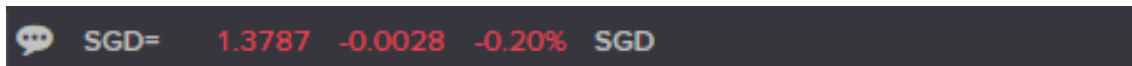
Post-Spot Value Date Forwards

Mark is the **corporate treasurer** of a maintenance service company in Singapore. Among his clients are *US* and *Japan* refineries.

To start of his day, Mark opened his **INTERACTIVE MAP** Application (in order to have an overview on refineries in operation and under maintenance in order to forecast potential businesses in the near future.

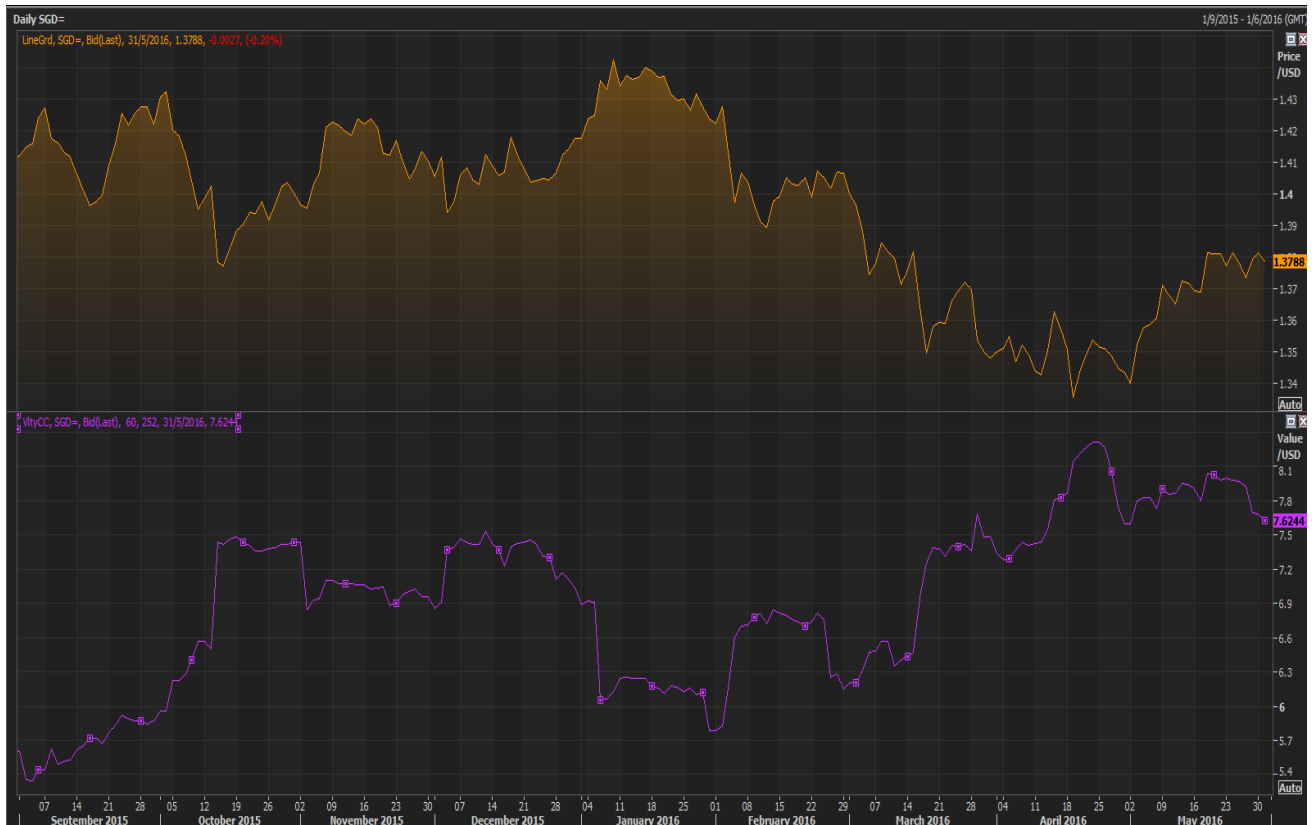


However, suddenly a set of numbers at the top of his screen attracted his attention

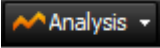


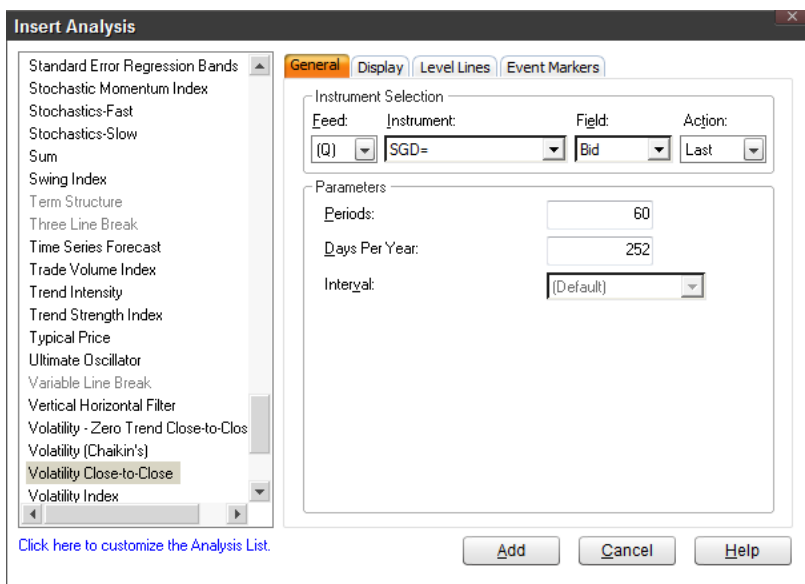
In order to gain a better overview, he pulled out the spot *USDSGD* Chart (in SGD per USD) and analyzed the 60 day historical volatility.

Press **F4** to get the quote page and type **<SGD=>**. In order to pull out the corresponding chart for the quote, press **F10**.

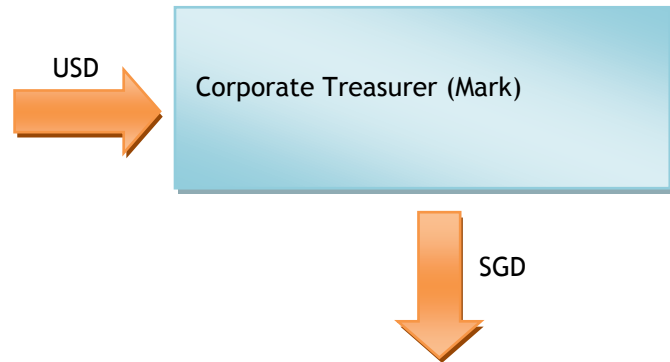


Here is how to plot the Volatility Chart for any given currency pair.

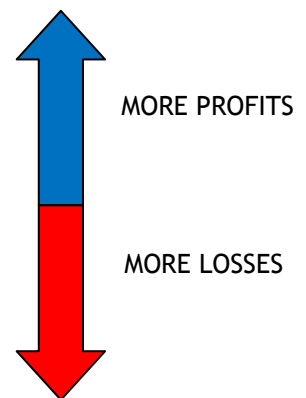
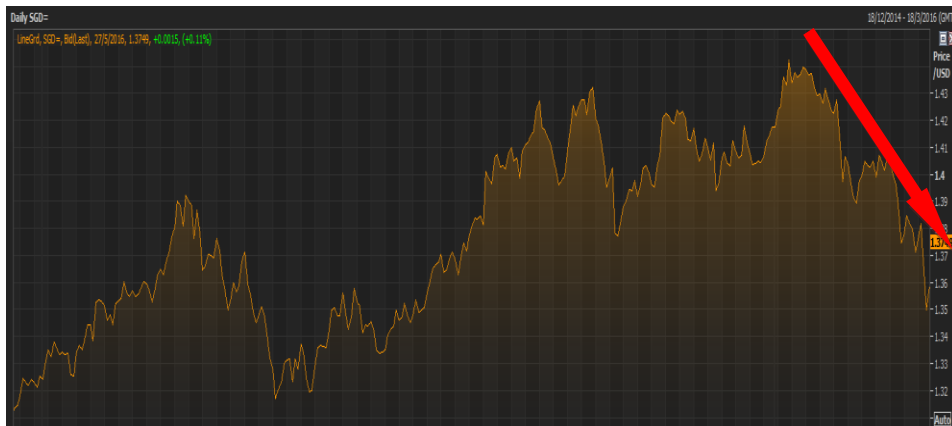
1. Press the  button at the top left corner of the page
2. Click on **<Volatility Close-to-Close>** and set it as follows, changing the instrument as needed. The period, field (bid,ask,mid) can all be specified.



In 3 months time, Mark will be receiving *USD denominated* payments from clients but would require to pay his staffs in *SGD denominated* payments.



Thus, in 3 months time, if the *USD* weakens against *SGD*, he will face a problem paying his Singaporean staff.



Therefore, he decided to remove or reduce this FX exposure and thus called the corporate sales desk of a bank for advice.

The senior corporate sales manager, Jackson immediately had a solution for Mark’s problem:

Sell a 3 month USDSGD outright to lock in the 3 months USDSGD Price.

However, Mark had another problem. The date was not exactly 3 months, but was instead **3 months and 4 days**.

Unaffected, Jackson pulled up the SWAP POINTS AND OUTRIGHTS application.

The screenshot shows the 'Swap Points and Outrights' application for U.S. Dollar / Singapore Dollar. The 'Broken Dates' table has the following data:

Start	End	End Date	Days	USD Swap Points	SGD Swap Points	SGD Swap Points	SGD Outrights	SGD Outrights	
Spot	3M4D	06 Sep 2016	96	20.9671	23.8703	20.9671	23.8703	1.383597	1.384087
Spot	90D	31 Aug 2016	90	19.6297	22.3123	19.6297	22.3123	1.383463	1.383931
Spot	3M	02 Sep 2016	92	20.1800	22.8200	20.1800	22.8200	1.383518	1.383982
Spot	7M	03 Jan 2017	215	42.3100	52.5800	42.3100	52.5800	1.385731	1.386958
3M	6M	02 Dec 2016	91	16.2900	24.2600	16.2900	24.2600	1.385411	1.386144

Since it was not a standard tenor, Jackson typed <3M4D> at the Broken Dates Section. As the date was a holiday, highlighted in red, the calculator moved to the next working day automatically.

As a USDSGD outright comprises of both a spot USDSGD and swap points, Jackson needed 2 sets of tradable data: Tradable spot USDSGD and tradable swap points.

Since the spot prices is always more volatile than the relevant swap points, Jackson first quoted the swap points before quoting the spot price, calling the relevant money market traders for the swap points and the spot FX traders for the spot price, keying both of them into the calculator.

E.g. Swap Points = 22 and Spot Price = 1.3501

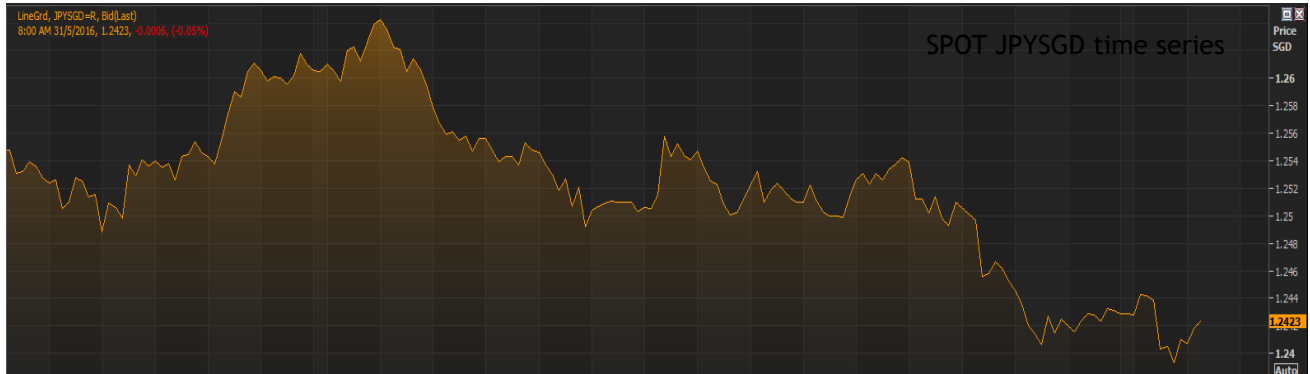
The screenshot shows the 'Swap Points and Outrights' application with updated values. The 'Broken Dates' table now has the following data:

Start	End	End Date	Days	USD Swap Points	SGD Swap Points	SGD Swap Points	SGD Outrights	SGD Outrights	
Spot	3M4D	06 Sep 2016	96	21.5000	23.9235	21.5000	23.9235	1.381950	1.384092
Spot	90D	31 Aug 2016	90	19.5481	22.3823	19.5481	22.3823	1.381755	1.383938
Spot	3M	02 Sep 2016	92	20.1100	22.8900	20.1100	22.8900	1.381811	1.383989
Spot	7M	03 Jan 2017	215	42.2900	52.4400	42.2900	52.4400	1.384029	1.386944
3M	6M	02 Dec 2016	91	16.8700	23.7800	16.8700	23.7800	1.383776	1.386089

Hence, the USDSGD outright price calculated is 1.381950. Hence, Mark's future FX Exposure was successfully hedged.

Pre-Spot Value Date Forwards

However, Mark expressed further concerns. He has a **JPYSGD** exposure due tomorrow. However, news of an earthquake hitting Japan and the news of BOJ adopting more negative rates made him nervous.



Jackson then opened the JPYSGD Swap Points and Outrights, presenting the TomNext (TN) figures to Mark.

Swap Points and Outrights

Deposit Analysis [DEAN] | Par Forward [PARF] | Swap Points from ZC [SPOZC] Related Code: SPO

Japanese Yen / Singapore Dollar Settings Updated at 3:59:12 PM

JPYSGD Trade Date: 31 May 2016 Value Date: 02 Jun 2016

	JPY Spot	SGD Spot	JPY/SGD Spot
	111.1400	1.3809	1.2422
	111.1700	1.3810	1.2426

Calculation Parameters

Standard Periods Deal Calculation

Period	JPY/SGD Dates	Days	JPY Swap Points	SGD Swap Points	JPY/SGD Swap Points	JPY/SGD Outrights
ON	31 May 2016 01 Jun 2016	1	-0.3200	-0.4200	-0.2437	1.242014
TN	01 Jun 2016 02 Jun 2016	1	-0.2800	-0.1200	0.0933	1.242102
SN	02 Jun 2016 03 Jun 2016	1	-0.2500	0.0800	0.2843	1.242629
SW	02 Jun 2016 09 Jun 2016	7	-1.5900	0.7800	2.3780	1.242865

Hence, Mark would be able to hedge his JPYSGD exposure tomorrow by using a TomNext forward contract today, at a JPYSGD Outright price of 1.242102 assuming the spot and swap points were that quoted by the respective traders.

2. Case Study: Implied Deposits

Here, we will present an example of how to utilize implied deposits for profiting purposes. First, the different implied deposits for USD, EUR and GBP can be calculated and subsequently, compared against the domestic deposit rate for SGD.

USD/SGD Spot			
1.3762	1.3764		

USD=			
Updated at 13:59:17			
		BID	ASK
USDON=	ON	0.0000	0.0000
USDTN=	TN	0.0000	0.0000
USDSW=	SW	0.0000	0.0000
USD1M=	1M	0.0000	0.0000
USD2M=	2M	0.0000	0.0000
USD3M=	3M	0.0000	0.0000
USD6M=	6M	0.0000	0.0000
USD9M=	9M	0.0000	0.0000
USD1Y=	1Y	0.0000	0.0000

SGD=			
Updated at 14:01:50			
		BID	ASK
SGDON=	ON	-0.1800	0.3300
SGDTN=	TN	0.2300	0.3900
SGDSW=	SW	1.1100	2.1500
SGD1M=	1M	5.8800	7.4800
SGD2M=	2M	11.9600	14.6000
SGD3M=	3M	18.2700	21.4400
SGD6M=	6M	38.7100	43.4700
SGD9M=	9M	50.7900	60.1100
SGD1Y=	1Y	70.2600	79.8600

SGDDEPO=			
Updated at 13:59:17			
		BID	ASK
SGDOND=	ON	0.1800	0.3100
SGDTND=	TN	0.5500	1.1500
SGDSWD=	SW	0.5000	0.6200
SGD1MD=	1M	0.5625	0.7500
SGD2MD=	2M	0.8100	0.9300
SGD3MD=	3M	0.8125	1.0000
SGD6MD=	6M	1.0625	1.2500
SGD9MD=	9M	1.1800	1.3100
SGD1YD=	1Y	1.1875	1.3750

SGDDEPO= in percentage			
ON	0.180%	0.310%	
TN	0.550%	1.150%	
SW	0.500%	0.620%	
1M	0.563%	0.750%	
2M	0.810%	0.930%	
3M	0.813%	1.000%	
6M	1.063%	1.250%	
9M	1.180%	1.310%	
1Y	1.188%	1.375%	

USDDEPO=			
Updated at 14:02:46			
		BID	ASK
USDOND=	ON	0.3800	0.4800
USDTND=	TN	0.4500	0.5500
USDSWD=	SW	0.4000	0.5500
USD1MD=	1M	0.4500	0.6000
USD2MD=	2M	0.5500	0.7000
USD3MD=	3M	0.8400	0.9300
USD6MD=	6M	1.0400	1.1400
USD9MD=	9M	1.2100	1.4100
USD1YD=	1Y	1.3700	1.4600

USDDEPO= in percentage			
ON	0.380%	0.480%	
TN	0.450%	0.550%	
SW	0.400%	0.550%	
1M	0.450%	0.600%	
2M	0.550%	0.700%	
3M	0.840%	0.930%	
6M	1.040%	1.140%	
9M	1.210%	1.410%	
1Y	1.370%	1.460%	

Target Ccy	SGD	Contributor		Trade Date	26-May-16	USD/USD Spot	1 1	USD/SGD Spot	1.3768 1.3769	USD/SGD Spot	1.3768 1.3769
Via Ccy	USD			Value Date	31-May-16						

Std Periods											
Period	Start Date	End Date	Days	Cont: USD Deposit		Cont: SGD Cash Deposit		SGD Swap Points		Implied Deposit	
ON	26-May-16	27-May-16	1	0.34%	0.44%	0.18%	0.31%	-0.0600	0.0100	0.19%	0.47%
TN	27-May-16	31-May-16	4	0.42%	0.50%	0.55%	1.15%	0.2400	0.3600	0.58%	0.75%
SW	31-May-16	7-Jun-16	7	0.36%	0.46%	0.50%	0.62%	0.0000	1.2500	0.37%	0.94%
1M	31-May-16	30-Jun-16	30	0.40%	0.50%	0.56%	0.75%	3.1500	3.8500	0.68%	0.85%
2M	31-May-16	29-Jul-16	59	0.78%	0.87%	0.81%	0.93%	10.7500	16.7500	1.27%	1.84%
3M	31-May-16	31-Aug-16	92	0.83%	0.73%	0.81%	1.00%	17.5000	23.5000	1.14%	1.42%
6M	31-May-16	30-Nov-16	183	0.93%	1.03%	1.06%	1.25%	39.0000	44.0000	1.51%	1.69%
9M	31-May-16	28-Feb-17	273	1.23%	1.43%	1.18%	1.31%	50.0000	65.0000	1.74%	2.09%
1Y	31-May-16	31-May-17	365	1.27%	1.37%	1.19%	1.38%	70.0000	80.0000	1.80%	1.98%

To de-activate: Proceed to the fx section and CTRL+ENTER is to disable the Array Function (or the Grouping)

To activate: Highlight the blue boxes and F2 to reactivate the Array Function and CTRL+SHIFT+ENTER to publish all the Array Answers (or the Group Answers)

SGDGBP

SGD/GBP Spot			
0.4939	0.4941		

GBPF= Updated at 14:09:08			
		BID	ASK
GBPON=	ON	0.0170	0.0530
GBPTN=	TN	0.1450	0.1550
GBPSW=	SW	0.2300	0.3900
GBP1M=	1M	1.5400	1.8600
GBP2M=	2M	4.2700	5.0100
GBP3M=	3M	8.3100	8.3500
GBP6M=	6M	20.9800	21.5100
GBP9M=	9M	38.2000	38.8000
GBP1Y=	1Y	53.0400	54.3100

SGDF= Updated at 14:09:10			
		BID	ASK
SGDON=	ON	-0.1800	0.3300
SGDTN=	TN	0.2800	0.3400
SGDSW=	SW	1.1500	2.0800
SGD1M=	1M	5.7700	7.6300
SGD2M=	2M	12.9000	14.5000
SGD3M=	3M	18.9800	20.9900
SGD6M=	6M	38.5900	43.4100
SGD9M=	9M	50.1600	59.9600
SGD1Y=	1Y	71.9100	78.3500

SGDDEPO= Updated at 13:59:17			
		BID	ASK
SGDOND=	ON	0.1800	0.3100
SGDTND=	TN	0.5500	1.1500
SGDSWD=	SW	0.5000	0.6200
SGD1MD=	1M	0.5625	0.7500
SGD2MD=	2M	0.8100	0.9300
SGD3MD=	3M	0.8125	1.0000
SGD6MD=	6M	1.0625	1.2500
SGD9MD=	9M	1.1800	1.3100
SGD1YD=	1Y	1.1875	1.3750

GBP= Updated at 14:09:13			
		BID	ASK
		0.679902	0.680133
		1.4703	1.4708

SGD= Updated at 14:09:01			
		BID	ASK
		1.3764	1.3766

SGDGBP Swap Points			
		BID	ASK
SGDGBPON	ON	-0.1363	0.058874
SGDGBPTN	TN	-0.17416	-0.14915
SGDGBPSW	SW	-0.87709	-0.49012
SGDGBP1M	1M	-3.43183	-2.5879
SGDGBP2M	2M	-6.8769	-5.73775
SGDGBP3M	3M	-10.3175	-9.26279
SGDGBP6M	6M	-22.7157	-20.7965
SGDGBP9M	9M	-33.6925	-30.0346
SGDGBP1Y	1Y	-46.019	-43.3515

SGDDEPO= in percentage	ON	0.180%	0.310%
	TN	0.550%	1.150%
	SW	0.500%	0.620%
	1M	0.563%	0.750%
	2M	0.810%	0.930%
	3M	0.813%	1.000%
	6M	1.063%	1.250%
	9M	1.180%	1.310%
	1Y	1.188%	1.375%

Updated at 14:10:41			
GBPDEPO=		BID	ASK
GBPOND=	ON	0.4100	0.5400
GBPTND=	TN	0.4000	0.5400
GBPSWD=	SW	0.4500	0.5900
GBP1MD=	1M	0.4700	0.5900
GBP2MD=	2M	0.6100	0.8100
GBP3MD=	3M	0.6300	0.8300
GBP6MD=	6M	0.7700	0.9700
GBP9MD=	9M	0.8900	1.0900
GBP1YD=	1Y	0.9700	1.1700

GBPDEPO= in percentage	ON	0.410%	0.540%
	TN	0.400%	0.540%
	SW	0.450%	0.590%
	1M	0.470%	0.590%
	2M	0.610%	0.810%
	3M	0.630%	0.830%
	6M	0.770%	0.970%
	9M	0.890%	1.090%
	1Y	0.970%	1.170%

Target Ccy	SGD	Contributor	Trade Date	26-May-16	GBP/USD Spot	USD/SGD Spot	SGD/GBP Spot
Via Ccy	GBP		Value Date	31-May-16	1.4706 1.4711	1.3767 1.3769	0.4937 0.4939

Std Periods		Cont:	Cont:				
Period	Start Date	End Date	Days	GBP Deposit	SGD Cash Deposit	SGD/GBP Swap Points	Implied Deposit
ON	26-May-16	27-May-16	1	0.40%	0.53%	0.18% 0.31%	0.44% 0.94%
TN	27-May-16	31-May-16	4	0.40%	0.53%	0.55% 1.15%	0.63% 0.87%
SW	31-May-16	7-Jun-16	7	0.40%	0.53%	0.50% 0.62%	0.48% 1.15%
1M	31-May-16	30-Jun-16	30	0.43%	0.54%	0.56% 0.75%	0.85% 1.03%
2M	31-May-16	29-Jul-16	59	0.64%	0.84%	0.81% 0.93%	1.33% 1.80%
3M	31-May-16	31-Aug-16	92	0.66%	0.86%	0.81% 1.00%	1.39% 1.77%
6M	31-May-16	30-Nov-16	183	0.79%	0.99%	1.06% 1.25%	1.64% 1.92%
9M	31-May-16	28-Feb-17	273	0.92%	1.12%	1.18% 1.31%	1.73% 2.11%
1Y	31-May-16	31-May-17	365	0.99%	1.19%	1.19% 1.38%	1.86% 2.16%

To de-activate: Proceed to the fx settings page and press CTRL+ENTER to disable the Array Function (or the Grouping)

To activate: Highlight the blue boxes and press F2 to reactivate the Array Function and CTRL+SHIFT+ENTER to publish all the Array Answers (or the Group Answers)

Subsequently, the different implied deposits were placed in a separate sheet in Excel, and comparing against the SGD Cash Deposit Rates.

When comparing with the Bid SGD Depo Rate, the Ask Rate for the corresponding implied deposits were used.

Also, conditional formatting was performed such that the box will light up in a light red whenever there is a money making opportunity.

SGD Cash Deposit		SGD Implied Depo via USD		SGD Implied Depo via EUR		SGD Implied Depo via GBP	
Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask
0.18%	0.31%	0.56%	0.71%	0.50%	0.98%	0.44%	0.94%
0.55%	1.15%	0.62%	0.75%	0.61%	0.88%	0.63%	0.87%
0.50%	0.62%	0.37%	0.94%	0.55%	1.32%	0.48%	1.15%
0.56%	0.75%	0.68%	0.85%	0.93%	1.09%	0.84%	1.04%
0.81%	0.93%	1.27%	1.64%	1.32%	1.70%	1.31%	1.79%
0.81%	1.00%	1.14%	1.42%	1.41%	1.77%	1.37%	1.77%
1.06%	1.25%	1.51%	1.69%	1.62%	1.89%	1.64%	1.92%
1.18%	1.31%	1.74%	2.09%	1.72%	2.06%	1.72%	2.10%
1.19%	1.38%	1.77%	2.02%	1.87%	2.18%	1.84%	2.21%

However, note that these data are only indicative and hence banks are likely to add a spread before quoting a tradable price and hence such money making opportunities are unlikely to exist in abundance due to fear of arbitrage.

3. Cross Currency Swap

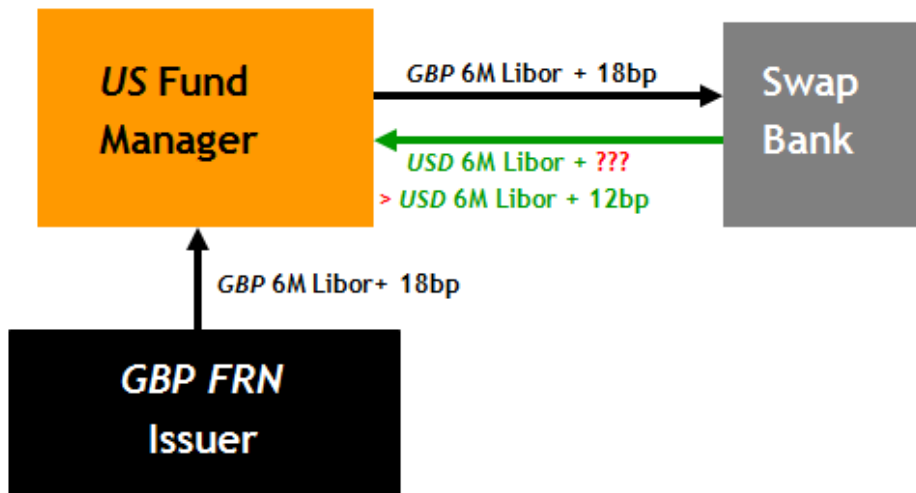
There are four clear target markets with participants likely to require Cross Currency Swaps,

1. Investors who wish to purchase foreign assets but seek to eliminate foreign currency exposure (Searching for higher yield)
2. Debt issuers who can achieve more favourable rates by issuing debt in foreign currency (Searching for lower cost of capital)
3. Liability managers seeking to create synthetic foreign currency liabilities (e.g. currency loss on the assets will be offset by a corresponding currency gain on the cross currency swap)
4. Convert from float to fixed or vice versa in Structured Notes.

Search for Higher Yield

A US fund manager is seeking to purchase 3 year USD assets with a minimum credit rating of AA and a yield in excess of USD 6M Libor + 12bp. However, there no such asset may exist in reasonable tradable volumes at this time. Hence, the fund manager may choose to create this **USD floating rate notes synthetically**.

In order to do so, the Fund manager may create a synthetic USD floating rate notes,



Hence, the Fund Manager would purchase a GBP FRN from an issuer and create a cross currency swap with a swap bank, paying a GBP FRN with the specifications as he purchased, or even a lower spread. As a result, he would receive a floating USD 6M Libor with a spread of more than 12bp as desired.

Note that the US fund manager bears the full credit risk of the underlying bond and should the bond default (GBP FRN), the fund manager is still obliged to make all remaining payments under the swap or reverse the swap at the current book value at that time

Hence the cash flows are as follows.

Initial cashflows

Investor buys Bond	-GBP 10 million
Currency Swap	+GBP 10 million
	-USD 20 million

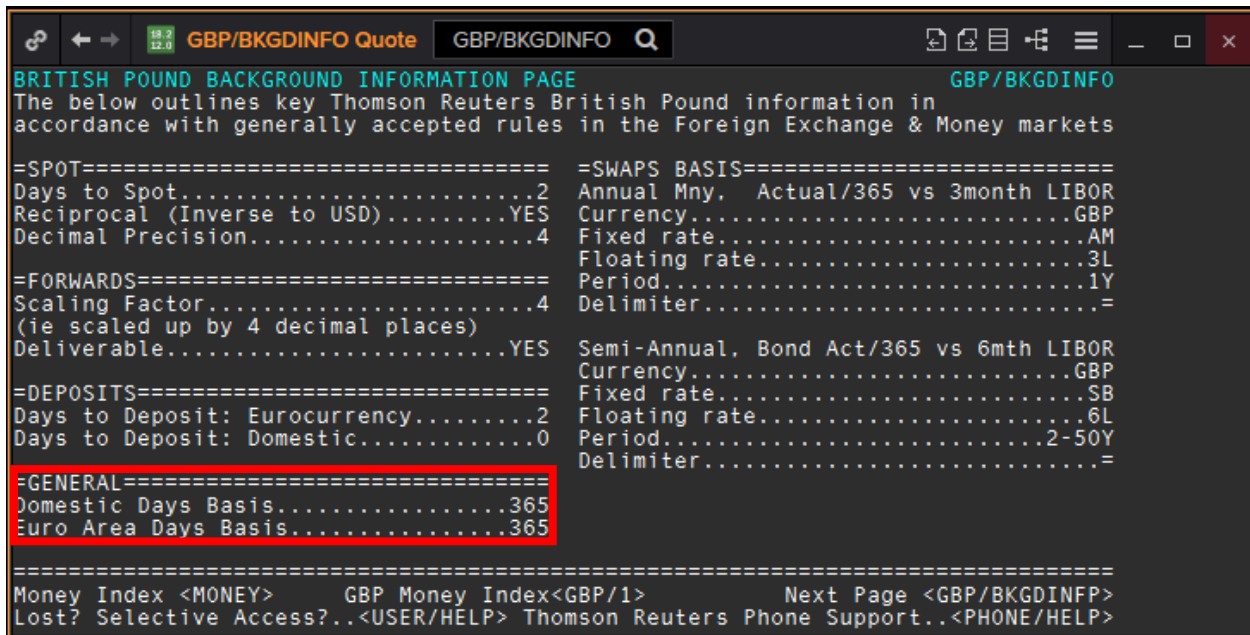
At Maturity cashflows

(irrespective of the prevailing exchange rate)

Bond Redeems to Investor	+GBP 10 million
Currency Swap	-GBP 10 million
	+USD 20 million

Before we present the actual figures, one thing to take note of is the **Day Count Basis** (per year) for **Onshore** and **Offshore**.

In order to do so, we would go to the background information page again. “<CUR>/BKGDINFO”, E.g. GBP/BKGDINFO

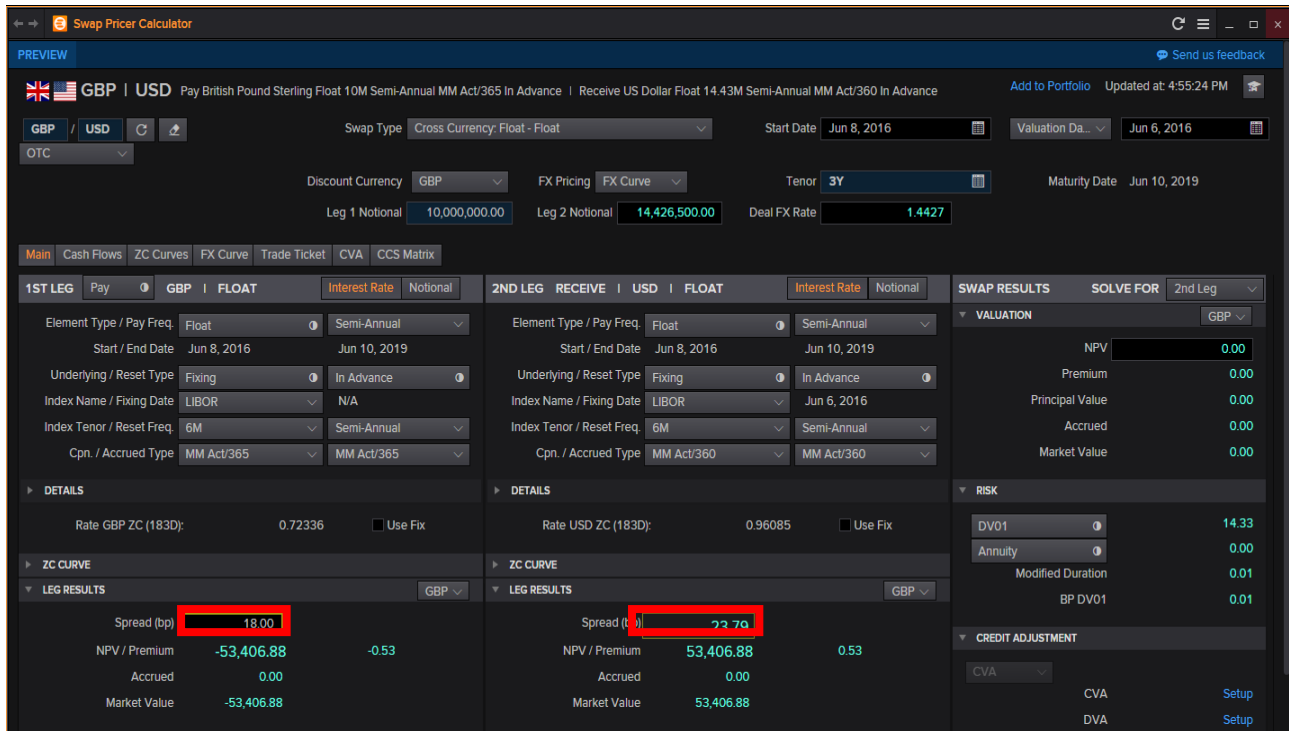


Domestic Day Basis: Onshore Bank’s computation (e.g. Citibank in USA)

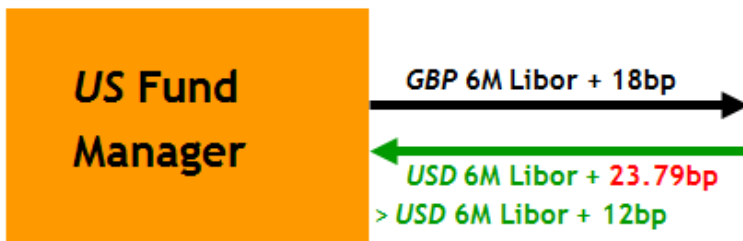
Euro Area Days Basis: Offshore Bank’s computation (e.g. Citibank in Singapore)

In order to calculate the USD floating rate he would receive, he would make use of the **SWPR** application.

1. Change the Swap type to Cross Currency > Float-Float
2. Select the two currencies, the first being listed is the currency which the corporate will pay.
3. Select the tenor
4. Change the Swap Results, “Solve for” to 2nd Leg
5. Key in the spread the company has to pay



Thus, graphically, the exchange will occur as follows, for the cross currency basis swap arm of the agreement.



Hence, for 3 years, the corporate will

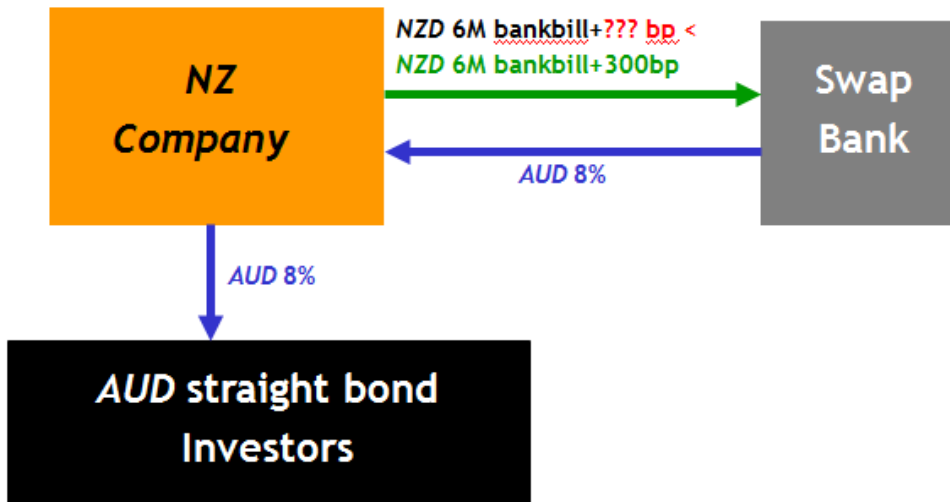
1. Pay GBP 6 months LIBOR + 18bp and
2. Receive USD 6 months Libor + 23.79bp

As this payment received is better than expected, the fund manager will use the swap transaction.

Search for Lower Cost of Capital

A New Zealand company is looking to raise NZD 100 million by issuing 9 year bonds. In the New Zealand domestic market, it would issue at a yield of **NZD 6M bank bill + 300 bp**. Alternatively, it can issue in Australia where there is a shortage of quality bonds, at a yield of 8%.

In order to do so, the NZ Company may create a synthetic NZD Debt or Loan,



Hence, the NZ Company would issue in Australia at a yield of 8%, and at the same time, obtain a cross currency swap which enables them to receive 8% AUD while paying in NZD as shown above.

Thus, the cashflows are as follows,

Initial cashflows

Company issues Bond	+AUD 80.2 million
Currency Swap	-AUD 80.2 million
	+NZD 100 million

At Maturity cashflows (irrespective of the prevailing exchange rate)

Bond Redeems to Investor	-AUD 80.2 million
Currency Swap	+AUD 80.2 million
	-NZD 100 million

In order to calculate the NZD floating rate that he would have to pay, he would utilize the **SWPR** application as follows,

1. Change the Swap type to **User Defined**
2. Select the two currencies, the first being listed is the currency which the corporate will pay.
3. Select the tenor
4. Change the Swap Results, “Solve for” to **1st Leg**
5. Key in the fixed rate that the company will receive

The screenshot displays the Swap Pricer Calculator interface. The swap is configured as follows:

- Swap Type:** User Defined
- Currencies:** NZD / AUD
- Start Date:** Jun 8, 2016
- Valuation Date:** Jun 6, 2016
- Discount Currency:** NZD
- FX Pricing:** FX Curve
- Tenor:** 3Y
- Maturity Date:** Jun 11, 2019
- Leg 1 Notional:** 10,000,000.00
- Leg 2 Notional:** 9,443,500.00
- Deal FX Rate:** 0.9444

The 1st Leg (Pay) is NZD | FLOAT, Interest Rate, Notional. The 2nd Leg (RECEIVE) is AUD | FIXED, Interest Rate, Notional. The SWAP RESULTS section shows the following values:

Item	Value
NPV	0.00
Premium	0.00
Par Rate (%)	0.0000
Principal Value	0.00
Accrued	0.00
Market Value	42,540.56

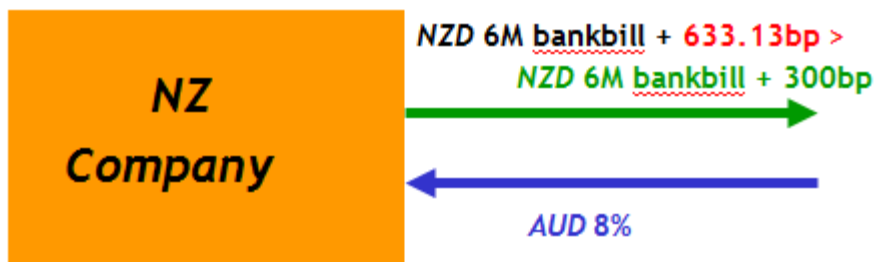
The 1st Leg Results (Spread) are:

Item	Value
Spread (bp)	633.13
NPV / Premium	-1,830,103.84
Accrued	0.00
Market Value	-1,830,103.84

The 2nd Leg Results (Fixed Rate) are:

Item	Value
Fixed Rate (%)	8.0000
NPV / Premium	1,830,103.84
Accrued	0.00
Market Value	1,830,103.84

As a result, the spread calculated is 630.80bp and the transaction can be displayed graphically below,



Hence, for 3 years, the corporate will

1. Pay NZD 6 months bank bill + 633.13bp
2. Receive AUD 8% semi-annually.

As this is worse, the corporate will not partake in the AUD arrangement.

Create Synthetic Foreign Currency Liabilities to reduce volatility of balance sheet

A US Company uses USD as its base currency but has Assets denominated in INR. The Board of Directors are concerned that any fluctuations in the spot FX rate will lead to an increase in volatility of earnings.

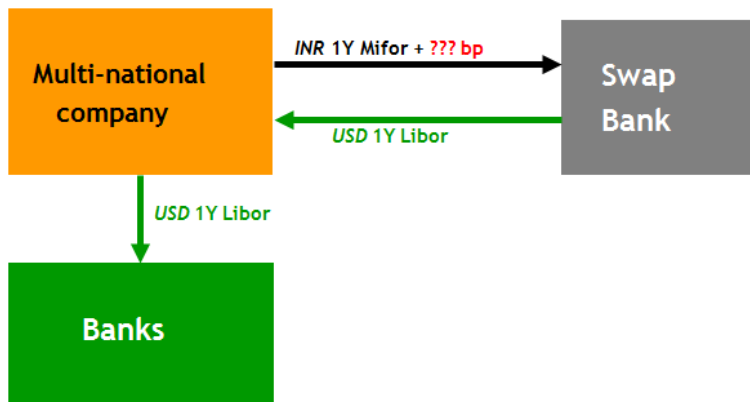
In total, there are INR 40 billion Assets with no corresponding INR liabilities to offset these assets. The majority of company liabilities are denominated in USD.

The currency exchange rate is currently 1 USD = 60 INR

Balance Sheet before Cross Currency Swap

Asset	Liabilities
Market Value = INR 40 bn	Present Value in USD
	Equity

As a result, the company has considered raising INR debt in the India market and repaying USD debt as a way to hedge this exposure and hence would need to pay INR 1Y MIFOR + ??bp



Assuming that there is no new requirement to generate cash and so the company elects not to exchange principal at the start of the deal, so there are no initial cashflows.

In effect, the company has transferred some of its USD liabilities into INR liabilities to offset the INR assets it owns and thereby reducing its currency exposure.

Balance Sheet after Cross Currency Swap

Asset	Liabilities
Market Value = INR 40 bn	Present Value in INR
	Equity

Hence, any currency loss on the assets will now be offset by a corresponding Currency gain on the CCS, effectively hedging against any FX exposure.

In order to calculate the spread that the company has to pay, they would use the **SWPR** application as follows,

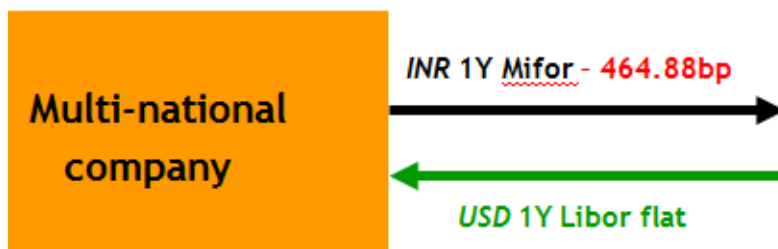
1. Change the Swap type to **User Defined**
2. Select the two currencies, the first being listed is the currency which the corporate will pay.
3. Select the tenor
4. Change the Swap Results, “Solve for” to **1st Leg**
5. Key in the spread for the USD arm as being 0.00 (flat rate)

The screenshot displays the Swap Pricer Calculator interface. The swap is configured as follows:

- Swap Type:** User Defined
- Currencies:** INR / USD
- Start Date:** Jun 8, 2016
- Valuation Date:** Jun 6, 2016
- Discount Currency:** INR
- FX Pricing:** FX Curve
- Tenor:** 10Y
- Maturity Date:** Jun 8, 2026
- Leg 1 Notional:** 40,000,000.00
- Leg 2 Notional:** 597,420.00
- Deal FX Rate:** 1.4936

The **1ST LEG** (Pay) is INR | FLOAT, Interest Rate, Notional. The **2ND LEG** (RECEIVE) is USD | FLOAT, Interest Rate, Notional. The **SWAP RESULTS** section shows the spread for the 1st leg as **-464.88** (highlighted in red) and the spread for the 2nd leg as **0.00** (highlighted in red).

Hence, the spread calculated is -464.88bp and can be displayed graphically as shown below.



Therefore, for 10 years, the company will

1. Pay *INR* 1 year MIFOR - 464.88bp and
2. Receive *USD* 1 year LIBOR flat.

Convert from float to fixed or vice versa in Structured Notes

For this final case study in the FX and Money Market segment, let us analyse a real life scenario:

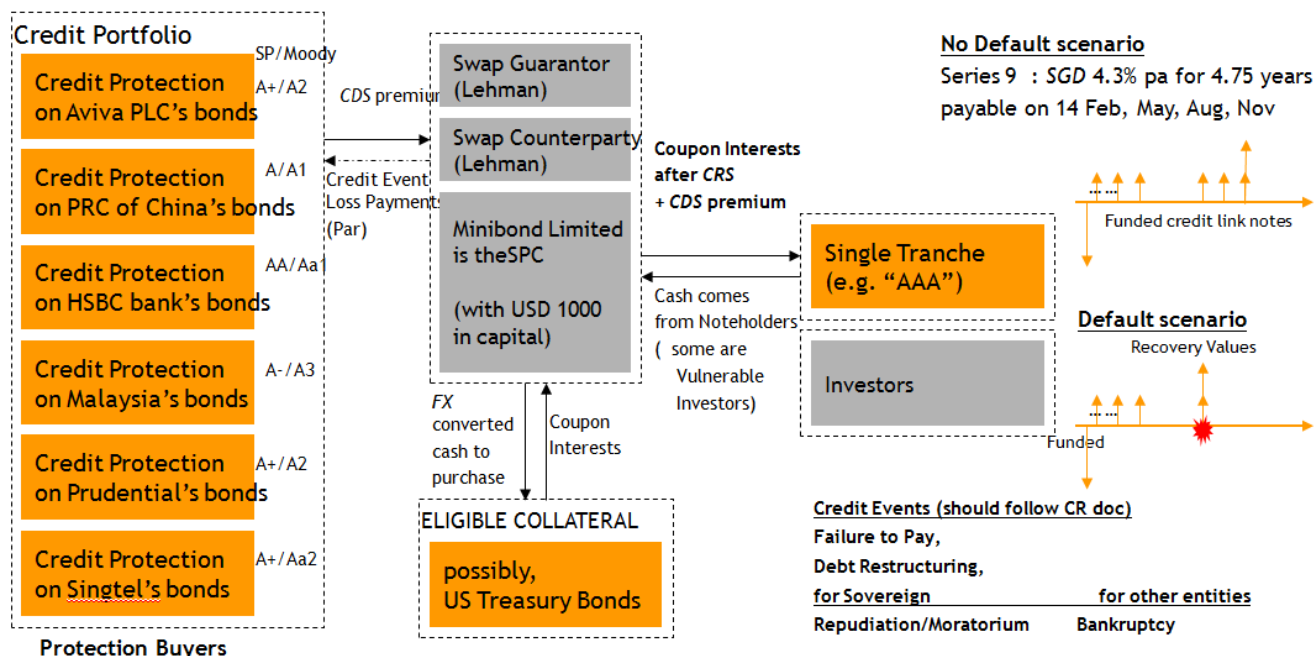
Reverse Engineering on Lehman Brother’s Minibond Series 9

Minibonds were a series of high risk structured product which paid the investor a regular stream of interest until maturity, at which point the investor was entitled to a redemption amount as stipulated in the contract. What ensued after the Lehman Brother’s collapse was the default and early redemption of these minibonds which caused over 10,000 investors in Singapore to lose their investments, amounting to over S\$500 million.

Lehman Brother’s Minibond Series 9 was a 4.75 year structured notes that pays quarterly coupons annualised at 4.3% in SGD.

We will look at a possible reconstruction of Lehman Brother’s Minibond Series 9.

The Credit Portfolio of the Minibond Series contains mainly six 5 Year Credit Default Swaps.

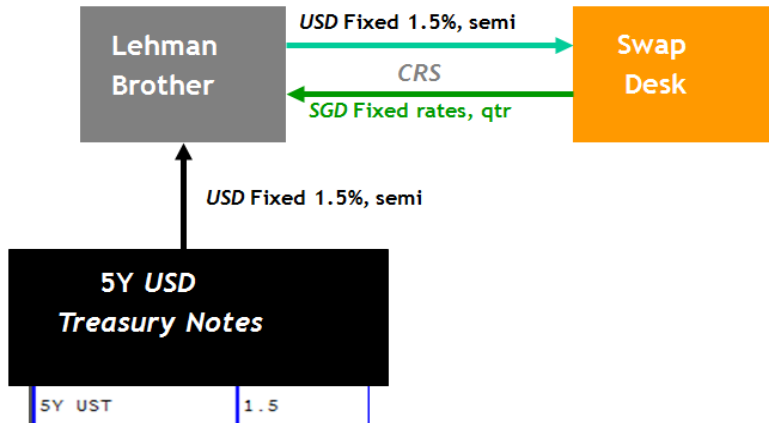


Unbeknownst to most buyers, the minibonds held a high amount of investment risk and risk factors as they could potentially lose all or a substantial part of their investment in the Notes.

For Minibond series 10, Interest Rate Swap could be utilized to convert from fixed to floating and vice versa. While for Minibond series 9, Cross Currency Swap may be utilized to convert multi-period cashflow, from one currency to another.

There were 2 Cross Currencies involved in Series 9. The first being, For 4Y9M years, Lehman Brother’s will

1. Pay USD Fixed Rates same as the 5Y USD Government Treasury Notes
2. Receive SGD fixed rates



Hence, on SWPR, the following computation could be performed.

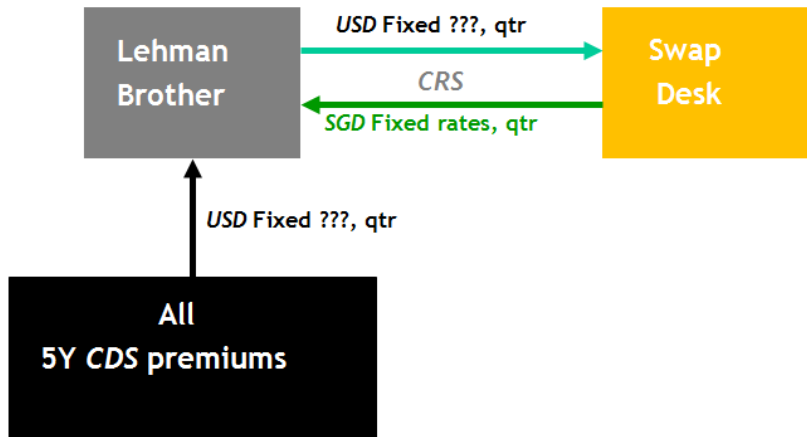
1. Change the Swap type to **User Defined**
2. Select the two currencies, the first being listed is the currency which the Lehman Brother would pay.
3. Select the tenor
4. Change the Swap Results, “Solve for” to **2nd Leg**
5. Key in the spread for the USD arm as being 1.5000% (5Y rate of USD Treasury Notes)

1ST LEG	2ND LEG	SWAP RESULTS
Pay USD FIXED Element Type / Pay Freq: Fixed Semi-Annual Start / End Date: Jun 9, 2016 Mar 9, 2021 Cpn. / Accrued Type: MM Act/360 MM Act/360 Fixed Rate (%): 1.5000 0.00 (bps) NPV / Premium: -72,484.56 -0.72 Market Value: 0.00 Market Value: -72,484.56	RECEIVE SGD FIXED Element Type / Pay Freq: Fixed Quarterly Start / End Date: Jun 9, 2016 Mar 9, 2021 Cpn. / Accrued Type: Bond Act/365 Bond Act/365 Fixed Rate (%): 1.9865 0.00 (bps) NPV / Premium: 72,484.56 0.72 Accrued: 0.00 Market Value: 72,484.56	VALUATION NPV: 0.00 Premium: 0.00 Principal Value: 0.00 Accrued: 0.00 Market Value: 0.00 RISK DV01: -54.65 Annuity: -112.52 Modified Duration: -0.05 BP DV01: -1.25

Hence, the fixed rate that they will receive is 1.9865%.

The second being, for 4Y9M years, Lehman Brother’s would

1. Pay USD Fixed Rates = All 5Y CDS premium collected
2. Receive SGD fixed rates = 4.3% - 1.9865% (which is the SGD fixed rate calculated from the first CRS)
= 2.3135%



Hence, on SWPR, the following computation could be performed.

1. Change the Swap type to **User Defined**
2. Select the two currencies, the first being listed is the currency which the Lehman Brother would pay.
3. Select the tenor
4. Change the Swap Results, “Solve for” to **1st Leg**
5. Key in the spread for the SGD arm as being 2.3135% (Rate calculated in first CCS)

The screenshot shows the "Swap Pricer Calculator" interface. The swap is configured as follows:

- Swap Type:** User Defined
- Currencies:** USD / SGD
- Start Date:** Jun 9, 2016
- Valuation Date:** Jun 7, 2016
- Discount Currency:** USD
- FX Pricing:** FX Curve
- Tenor:** 4Y9M
- Maturity Date:** Mar 9, 2021
- Leg 1 Notional:** 10,000,000.00
- Leg 2 Notional:** 13,573,500.00
- Deal FX Rate:** 1.3574

The interface is split into two legs. The 1st Leg (Pay) is USD Fixed with a Fixed Rate of 1.8100%. The 2nd Leg (Receive) is SGD Fixed with a Fixed Rate of 2.3135%. The "Solve for" dropdown is set to "1st Leg".

Category	1st Leg (USD)	2nd Leg (SGD)
Fixed Rate (%)	1.8100	2.3135
NPV / Premium	-1.44	1.44
Accrued	0.00	0.00
Market Value	-144,340.00	144,340.00

Hence, here the fixed USD rate Lehman Brother received from all CDS were 1.81%.

Part 8: Bonds

Eikon shortcuts: Fixed Income

APPS & TOOLS FOR INDIVIDUAL BONDS

Note: In order to see the tools select the bond by hitting the down arrow and then hit the <space> bar. e.g. "US10YT=RR Q"

DESC	Basics
Q	Quote
CHT	Chart
NEWS	Issuer News
ALQB	All Quotes
HOLD	Holdings
CALC	Bond Calculator
QH	History
DS	Debt Structure
NOTE	Notes
OV	Overview
SCHD	Payments
RES	Research
VALS	Valuations

MARKETS

HOME	Home page
CNV	Convertibles Guide
CORP	Corporate Bond Guide
EE	Economic Events Monitor
CMO	ABS and CMOs Guide
CRDE	Credit Derivatives Guide
CREDIT	CreditViews
GOV	Government Bond Guide
IFR	IFR Markets Guide
IRD	Interest Rate Derivatives Guide
LOANS	Loans Guide
MBS	Mortgage Backed Securities Guide
MBSDB	MBS Dashboard
MUNI	Municipal Bonds Guide
BGC	BGC Market data Broker Guide
GFI	GFI Broker Guide
ICAP	ICAP Guide
MAX	MarketAxess Guide
TRAD	Tradition Broker Guide
TW	Tradeweb Guide

REAL TIME MONITORING

ALLQ	All Quotes
Q	Quote
QL	Quote List
QLI	Quote Line
MON	Monitor
TAS	Time & Sales
TICK	Ticker
OPW	Option Watch

CALCULATORS & CHARTS	
ALLQ	All Quotes
ASWP	Asset Swap Calculator
AVRG	Average Calculator
BNDC	Bond calculator
BDFU	Bond Futures
BDHG	Bond Hedge
BDRE	Bond Repo
BDRN	Bond Return
BDST	Bond Strategy
CAPF	Cap and Floor
CDSV	Credit Default Swap
CONV	Convertible
CORR	Correlation Matrix
FRN	FRN
FWDC	Forward Curve
FRAA	FRA Arbitrage
MBSD	MBS Dollar Roll
OASC	Option Adjusted Spread Calculator
REGR	Regression Analysis
RVBC	Relative Value Basis Chart
STIR	STIR Futures
SWCM	Swap Curve Monitor
SWPN	Swaption
SWPR	Swap Pricer
TEDC	TED Spread
ZCBR	ZC Builer
HRA	Historical Return Analysis
MACROX	Macro Explorer

CHARTING	
CHT	Chart
CBOOK	Datastream Chartbook
CDSC	Credit Default Swap chart
CURV	Curve chart
ECOC	Economic Indicator Chart
REBC	Rebasing Chart
RVBC	Relative Value chart
TEAC	Technical Analysis Chart
VOLC	Volatility Chart

SEARCHES	
MBSSRCH	Agency Pools and TBAs
BNDFOSRCH	Bond and STIR Futures and Options
BNDREPOSCH	Bond Repos
CMOSRCH	CMOs/ABS
CDSWSRCH	Credit Default Swap Indices
CDSSRCH	Credit Default Swaps
CURVESRCH	Curves
GOVSRCH	Government and Corporate Bonds
LOANSSRCH	Loans
IRDOTCSRCH	OTC Interest Rate Derivatives
MUNISRCH	US Municipals
ECONSRCH	Economic Indicators
FUTSRCH	Futures Search
OPTSRCH	Options Search

NEWS	
NEWS	News Monitor
TOPNEWS	Top News
IFR	IFR Markets
BRV	Reuters BreakingViews

PORTFOLIO MANAGEMENT	
PORT	Portfolios and Lists
DASH	Portfolio Dashboard
CPA	China Portfolio Analytics
BMON	Bond Monitor
CDSMON	CDS Monitor
SWPO	Swap Portfolio

HELP	
FAQ	Frequently Asked Questions
HELP	Online Help



1. Overview of Bonds

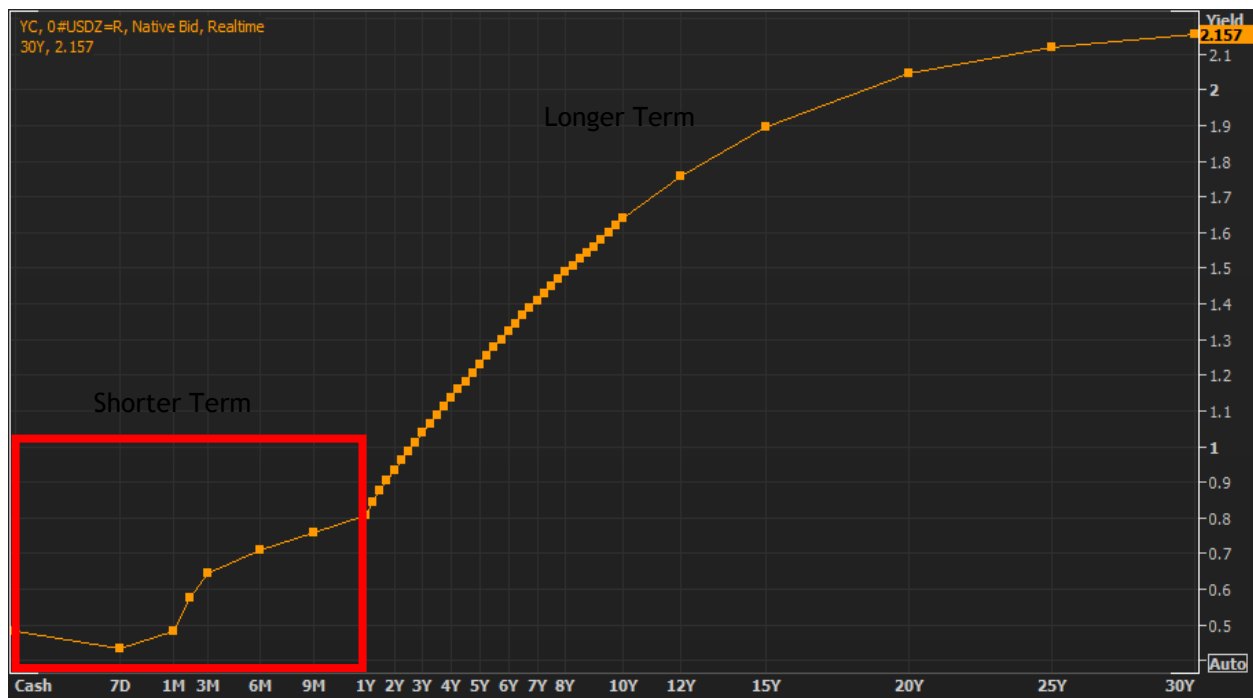
What is a Yield Curve?

A yield curve is a term structure of interest rates. Hence, it is a graphic line chart that shows interest rates at a specific point for all securities having equal risk but *different maturity dates*.

One example of a yield curve is the zero-coupon curve covered previously. A *zero-coupon bond* which term structure is that of a zero-coupon curve, is issued at a discount and redeemed at par.

An example of a yield curve is as follows. In order to generate the following curve, these steps could be taken.

- Press **F4** in the Eikon Toolbar to open the **Quote** Application.
- Type in **<USDZ=R>** and press **F3**. (Thomson Reuters USD Zero Coupon Curve)
- Press **F10** to acquire the chart as follows below.



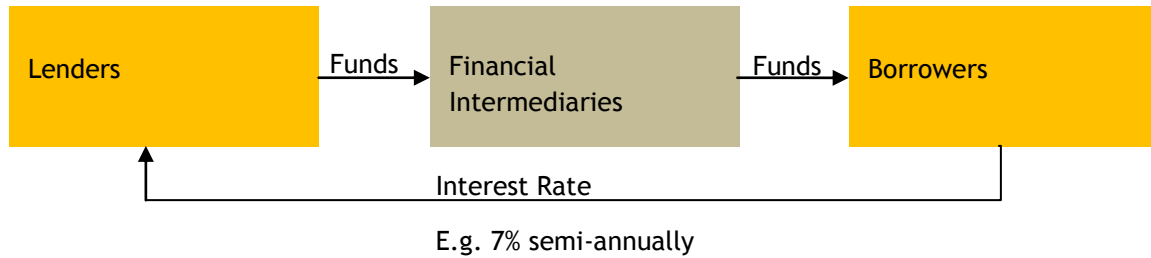
The money market is the market for the purchase (lending) and sale (borrowing) of short-term financial assets, each with time periods spanning less than 1 year.

On the other hand, the capital market is the market for the purchase and sale of medium-term and long-term financial assets, with each over a year.

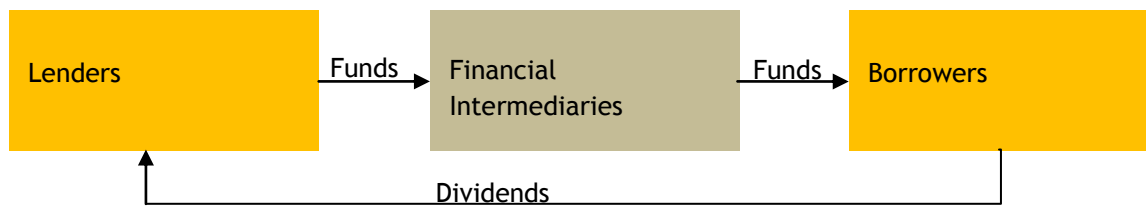
Difference between Bonds and Equities

Bonds and Equities are key instruments in the capital markets, however, the way that they are structured are vastly different. This can be observed through the graphical depiction below,

Bonds



Equities



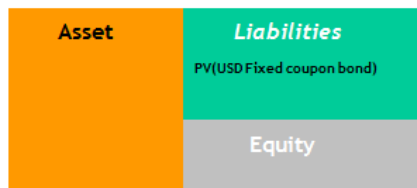
Whether a share is undervalued or overvalued can often be worked out by just looking at the share price, as the share price is an indicator of the value assigned by the stock market to the company and what accountants would say is behind its underlying value (profits, cashflows and assets).

However, in the case of a bond, the valuation criteria are a little different since bond prices often indicate the likely return you will earn and measuring this against the risk you will run into while holding it.

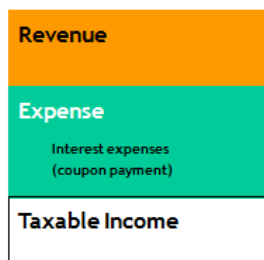
There is also a different in the balance sheet and income statement of companies who choose to issue bonds as compared to companies who choose to issue shares.

Bonds (Debt instrument)

Balance Sheet

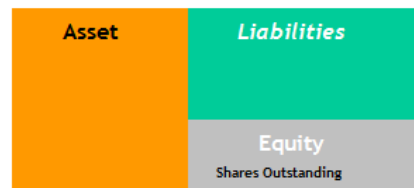


Income Statement

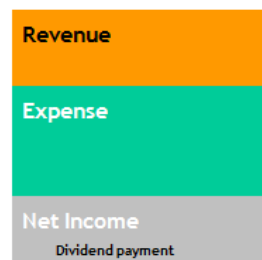


Equity (Shares)

Balance Sheet



Income Statement



Companies that issue bonds will have the present value of the bond issuance (e.g. USD Fixed coupon bond) in their liability account. Bond issuers are also obliged to pay interest, as compared to dividends which they can choose not to pay.

The interest expense paid out by the company would be within their income statement with the deductible expenses section, which is before the taxable income line. Hence, the interest that they pay out to their bond holders would decrease their taxable income, making it more profitable for the company to issue.

On the other hand, companies that issue shares will not have the present value of the shares in their liability account as it is almost impossible for the company to present value the value of their shares since it is tied to the implied value of the company.

The dividend payments issued out to their shareholders are therefore not deducted from their taxable income and hence does not decrease the overall amount of tax the company has to pay. Hence, companies will often evaluate the effectiveness of issuing a bond or equity prior to any issuance.

Features of a Bond

A bond typically has the following features.

1. Interest

In any bond contract, the amount of coupon paid out per period (annually, semi-annually, quarterly, monthly, or even bi-monthly) would all be stipulated. The date of the first coupon payment will also be included within the specifications of the contract.

2. Maturity

The maturity date of the bond instrument would also be stated. This would allow the total time period for the company and its bond holders to present value the bond effectively. One exception would be a perpetual bond which is viewed as having no maturity date.

3. Ownership

The ownership of the bond would pass over to the bond holder after the purchase of the bond.

4. Securitization

The bond may contain some sort of securitization which allows the bond holders some sort of security should the firm default on their payment. Thus, this acts as a safety-net of sorts to protect bond holders from potential default.

2. Economics and Bond Markets

Money Market and Bond Yield Poll

The following chart could be obtained

1. In the Eikon Toolbar, type <MBYP> for Money Markets and Bond Yield Polls
2. Choose the country you wish to search at the poll type
3. If any specific contributor is favoured, a line representing their forecast could be added by clicking the box next to their name.



From this, the different expectations of rates and term structures could be observed for different countries, according to the probability of occurrence and the minimum and maximum values are also predicted.

Bond Monitor <BMON>

One useful application on Eikon is the Bond Monitor application. Using this application, users can monitor a series of bonds, such as the different benchmark, treasury, issuer bonds etc on one page.

Bond Monitor | Predefined Lists | **MONETARY AUTHORITY OF SINGAPORE 0.000% 5 Aug 2016** | Refresh | Columns

SG70F600002 SGD MOYTA | 11:02:42 AM (7/8/2016)

List Name: | Save | New | Valuation Dates: 7/8/2016 | Source: Thomson Reuters Composite

(42) List loaded: | Send Email | Import from Excel | Export to Excel | Calculation Parameters

Delete Selected Rows | Bond Rating Overview | Bond Rating | Issuer Rating Overview | Issuer Rating | Manage all bonds as Fixed Rate

Bond ID	Bond Type	Ticker	Issuer	Cpn (%)	Maturity	Ccy	Face Amount	Accrued	Price	Contributor
SGML16118N=	FRB	MOYTA	MONETARY AUTHORITY OF SINGAPORE	0.000	8/5/2016	SGD	1,000,000.00	0.00	99.95950000	HSBC MARKETS Other
SGML16122X=	FRB	MOYTA	MONETARY AUTHORITY OF SINGAPORE	0.000	9/2/2016	SGD	1,000,000.00	0.00	99.91100000	HSBC MARKETS Other
SGML16126A=	FRB	MOYTA	MONETARY AUTHORITY OF SINGAPORE	0.000	9/30/2016	SGD	1,000,000.00	0.00	99.85550000	HSBC MARKETS Other
SGML16113E=	FRB	MOYTA	MONETARY AUTHORITY OF SINGAPORE	0.000	12/20/2016	SGD	1,000,000.00	0.00	99.68450000	HSBC MARKETS Other
SGBY16100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	0.000	5/1/2017	SGD	1,000,000.00	0.00	99.32900000	HSBC MARKETS Other
SGNS13100T=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	0.500	4/1/2018	SGD	1,000,000.00	1,379.78	99.28000000	MALAYAN BANK Other
SGNC11100X=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.250	6/1/2021	SGD	1,000,000.00	2,459.02	104.28000000	MALAYAN BANK Other
SGNC16100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.125	6/1/2026	SGD	1,000,000.00	2,322.40	103.82000000	MALAYAN BANK Other
SGNZ10100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.875	9/1/2030	SGD	1,000,000.00	10,312.50	111.05000000	MALAYAN BANK Other
SGNZ13100V=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.375	9/1/2033	SGD	1,000,000.00	12,105.98	119.20000000	MALAYAN BANK Other
SGNA16100H=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.750	3/1/2046	SGD	1,000,000.00	9,864.13	112.95000000	DEUTSCHE Other
SGNY01100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.750	9/1/2016	SGD	1,000,000.00	13,451.09	100.45000000	DEUTSCHE Other
SGN710100Z=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.375	4/1/2017	SGD	1,000,000.00	6,553.96	101.20000000	DEUTSCHE Other
SGNZ15100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	1.375	10/1/2017	SGD	1,000,000.00	3,794.40	100.70000000	DEUTSCHE Other
SGNS13100T=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	0.500	4/1/2018	SGD	1,000,000.00	1,379.78	99.28000000	MALAYAN BANK Other
SGNY03100A=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	4.000	9/1/2018	SGD	1,000,000.00	14,347.83	106.50000000	DEUTSCHE Other
SGND09100W=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.500	6/1/2019	SGD	1,000,000.00	2,732.24	104.08000000	MALAYAN BANK Other
SGNS14100H=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	1.625	10/1/2019	SGD	1,000,000.00	4,484.29	101.66000000	DEUTSCHE Other
SGNS15100S=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.000	7/1/2020	SGD	1,000,000.00	543.48	103.15000000	MALAYAN BANK Other
SGNY05100N=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.250	9/1/2020	SGD	1,000,000.00	11,657.61	108.16000000	MALAYAN BANK Other
SGNC11100X=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.250	6/1/2021	SGD	1,000,000.00	2,459.02	104.28000000	MALAYAN BANK Other
SGNY07100X=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.125	9/1/2022	SGD	1,000,000.00	11,209.24	109.85000000	MALAYAN BANK Other
SGNC13100H=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.750	7/1/2023	SGD	1,000,000.00	747.28	107.95000000	MALAYAN BANK Other
SGNY09100H=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.000	9/1/2024	SGD	1,000,000.00	10,760.87	110.56000000	DEUTSCHE Other
SGNC15100Z=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.375	6/1/2025	SGD	1,000,000.00	2,595.63	106.07000000	MALAYAN BANK Other
SGNC16100F=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	2.125	6/1/2026	SGD	1,000,000.00	2,322.40	103.82000000	MALAYAN BANK Other
SGNZ07100S=	FRB	SINGAP	SINGAPORE, REPUBLIC OF (GOVERNMENT)	3.500	3/1/2027	SGD	1,000,000.00	12,554.35	116.75000000	MALAYAN BANK Other

Predefined Lists: AMERS, APAC, EMEA ex EMU, EMU

Message Log

Users can also import and export their table from Excel as well as to specify the calculation parameters and whether they would like to manage all the bonds as fixed rate bonds.

In order to utilise this page, users can do the following,

1. In the Eikon Toolbar, search <BMON> in order to open the application
2. Select the bonds that you wish to search for in the left most column.

Using Bond Monitor, you can display the latest ratings from Fitch, S&P, Moody's, and up to three other agencies. Add ratings and related information your list by choosing a new field such as Rating #1 (see Choosing your data) then choosing an agency in the sidebar.

You can apply a rating template by choosing it from the Columns menu or by clicking one of the template names above your bond list. When you apply a rating template, the sidebar opens automatically to let you choose one or more agencies.

Rates View <RV>

Rates Views give users a quick and easy access to a whole range of key screens for them to monitor rates activity; identify trade opportunities and its optimal allocation, track the global market from a single page and to monitor Tradeweb prices and gauge market direction and latest movements.

The screenshot displays the 'Rates' view in a financial application. At the top, there are navigation tabs for 'Rates', 'Spread Matrix', 'Country Spreads', 'Butterflies', 'Spreads', 'Money Mkts', 'Carry / RollDn', 'Inflation', 'Tradeweb', and 'Rates Views'. Below these are filters for 'Country' (United States), 'Change since' (10 ago), 'Treasury Source' (TWEB), 'Swap Source' (TR Comp), 'Bond Future' (Near Contract), and 'Other Info' (CDS). The main area contains a large table of bond data with columns for various metrics like BID, ASK, dPX, Yield, dYld, ASwp, dAswp, SwpS, dSwps, MidSwp, dSwp, Fut, Price, dPX, Yield, dYld, CTD, Yield, dYld, DivDate, InvPx, and InvSpd. Below the table, there are sections for 'Tsy Crv', 'CurrCpn', and 'Daily US7Y=RR' (a line chart showing yield from April 2016 to July 2016). At the bottom, there is a 'News' section with a search bar and a list of news items dated Thursday, July 07, 2016.

In addition to providing data, Rates Views also contain several inbuilt tools to aid users' decision making. They can:

- Chart historical time series and technical analyses for any data field in the page
- Access related news headlines
- Create custom lists of instruments or strategies
- Create and initiate multi-security trades
- Integrate data into their workplace.

International Financing Review (IFR)

<IFR>

The International Financing Review <IFR> enables users to access a 24-7 unique news, commentaries and analyses coverage of developments in:

- Credit
- Rates
- Foreign Exchange

In the Eikon Toolbar, search <IFR> in order to open the application. From here, users are able to set alerts for different events, by selecting “My Alerts” at the top of the page.

The screenshot displays the IFR Markets application interface. At the top, there is a navigation bar with 'My IFR | IFRMarkets' and a search bar. Below this, a menu includes 'My IFR', 'Rates', 'Forex', 'Credit', 'Search', 'Guide', and 'Help'. The main content area is divided into two columns. The left column, titled 'MY IFR', contains a 'GLOBAL SQUAWK BOX' with several news headlines from Japan and Canada, and a 'MORNING MEETING' section for the US. The right column, titled 'GLOBAL ECONOMIC CALENDAR', contains a table of economic releases from various countries.

Date	GMT	Country	Release	Unit	Period	Actual
07 Jul	02:00	PH	Forex Reserves USD*	bln \$	Jun	83.97
07 Jul	04:00	TH	Consumer Confidence Idx*		Jun	71.60
07 Jul	04:30	NL	CPI YY NSA	%	Jun	0.00
07 Jul	05:00	JP	Leading Indicator*		May	0.00
07 Jul	05:00	JP	Coincident Indicator MM*		May	-1.50
07 Jul	05:00	EE	Consumer Price Index MM*	%	Jun	0.30
07 Jul	05:00	EE	Consumer Price Index YY*	%	Jun	-0.40
07 Jul	06:00	DE	Industrial Output MM	%	May	-1.30
07 Jul	06:45	FR	Exports, EUR Approx Time	bln EU	May	37.70
07 Jul	06:45	FR	Imports, EUR Approx Time	bln EU	May	40.50
07 Jul	06:45	FR	Current Account	bln EU	May	-0.30
07 Jul	06:45	FR	Trade Balance, EUR, SA	bln EU	May	-2.80
07 Jul	07:00	AT	Wholesale Prices NSA MM*	%	Jun	0.60
07 Jul	07:00	CZ	Frade Bal NRA	bln CZ	May	18.20
07 Jul	07:00	AT	Wholesale Prices NSA YY*	%	Jun	-3.40
07 Jul	07:00	DK	Industrial Production MM*	%	May	1.00
07 Jul	07:00	HU	Industrial Output YY	%	May	9.20
07 Jul	07:15	CH	CPI YY	%	Jun	-0.40
07 Jul	07:15	CH	CPI MM	%	Jun	0.10
07 Jul	08:00	NO	Manufacturing Output MM*	%	May	0.20
07 Jul	08:30	GB	Industrial Output YY	%	May	1.40
07 Jul	08:30	GB	Industrial Output MM	%	May	-0.50
07 Jul	08:30	GB	Manufacturing Output MM	%	May	-0.50
07 Jul	08:30	GB	Manufacturing Output YY	%	May	1.70

Using the IFR Markets page, users can view the different news headlines for global markets as well as the economic calendars for different countries and releases.

Note that for Alerts Morning Digests includes content submitted between 6pm to 6am. The Evening Digests include content submitted between 6am to 6pm. All times are dictated by time zone preferences as noted in Eikon.

<IFRI>

Another International Financing Review page that may be useful is the <IFRI> page which is essentially a News page which provides an overview with different headline news for different markets as well different asset classes.

In the Eikon Toolbar, search <IFRI> to open the application.

The screenshot displays the Thomson Reuters Eikon IFRI Overview page. At the top, there is a navigation bar with tabs for HOME, ASSET CLASSES, COUNTRIES, NEWS AND RESEARCH, MY EIKON, REUTERS INSIDER, TRADING, and FINANCIAL INSTITUTIONS. Below this, the main content area is titled 'IFRI OVERVIEW' and is organized into several columns and sections:

- LATEST NEWS FROM L...:** A vertical list of news items including 'MANDATE: ICBC Asia names banks for US\$ AT1 bond', 'JPN GOVTS: JGB futures hit new record high of 153.74', 'UPDATE: Xiangyu books US\$500m for US\$300m 3yr at 5.10%', 'JPN GOVTS: 10-yr yield hits fresh record low of -0.29%', 'JPN GOVTS: BoJ buys JGBs in 1yr to 5yr zone and S/L zone', 'UPDATE: Swiber redeems S\$75m 7% bond', and 'UPDATE: HT Global US\$300m 5NC2 at 7.125% draws US\$1.9bn book'.
- IFRI PEOPLE & MARKETS:** News items such as 'Alexandria Real Estate gets its prize ARE.N', 'JP Morgan tops H1 fee income as US banks dominate at home BARCL DBKGn.DE MS.N', 'Abertis buyers push ahead ABE.MC', 'US high-grade bounces back ORCL.N TAP.N', 'Lloyds stuns US market with US\$1bn post-Brexit vote bond LLOY.L', and 'Asian ECM shrugs off Brexit woes 005380.KS'.
- IFRI BONDS:** This section mirrors the 'LATEST NEWS FROM L...' section, showing the same headlines.
- IFRI EMERGING MARKETS:** News items including 'MANDATE: ICBC Asia names banks for US\$ AT1 bond', 'UPDATE: Xiangyu books US\$500m for US\$300m 3yr at 5.10%', and 'UPDATE: Swiber redeems S\$75m 7% bond'.
- IFRI EQUITIES:** News items such as 'IFRI European ECM Briefing - July 7 2016', 'Alexandria Real Estate gets its prize ARE.N', and 'IFRI Asia ECM Briefing - July 7 2016'.
- IFRI LOANS:** News items including 'EMEA loan volume hits 12-year low BMWG.DE', 'China: Sino Horizon nets US\$111m 2923.TW', and 'Lending surges but uncertainty ahead'.
- ABOUT IFR:** A section with a large 'IFRI' logo and text describing Thomson Reuters' International Financing Review as a leading source of fixed income, capital markets, and investment banking news and commentary. It also mentions that IFR's team of market specialists report on capital raising across asset classes, from rumour through to market reception – in real-time, online, on mobile, in print – and now on Thomson Reuters Eikon.
- IFRI WEBLINKS:** A list of links including 'IFRI Awards', 'IFRI Conferences', 'IFRI on Thomson Reuters Eikon – Quick Guide', and 'IFRI Briefings on Thomson Reuters Eikon – Quick Guide'.
- LATEST IFR SPECIAL R...:** A section for special reports, currently empty.

3. How to Get Indicative Data about Bonds

Bond Price

1. In the Eikon Toolbar, navigate to the HOME page
2. Under Asset Classes > Fixed Income to arrive at the Fixed Income Overview Page.
3. In the left selection pane, choose <Bonds> for the overview pages on Bonds



On this page, the different benchmark for bonds can be observed, allowing us to estimate a potential yield of a similar curve.

We can also garner the following data about a government bond

- Description
- Chart
- Notes etc
- ISIN code: Universal code for the bond.

CDS Price - CreditViews <CREDIT>

For CDS Data, one can refer to the CreditViews page for additional data.

1. In the Eikon Toolbar, navigate to the HOME page
2. Under Asset Classes > Fixed Income to arrive at the Fixed Income Overview Page.
3. Under Quicklinks, select Credit Views

The screenshot displays the Thomson Reuters CreditViews web application. The interface includes a navigation menu at the top with options like Home, Indices, Intraday CDS, Trade CDS, Credit Analysis, RED Chg, and Links. A search bar is located at the top right. The main content area is divided into several sections:

- MULTI-ENTITY SELECTION:** Includes dropdown menus for TR Sector/SubSector, Country, A-Z, Asset Class, and Type, along with a Search button.
- TODAY'S RATINGS MOVERS:** A table listing recent upgrades and downgrades for various companies.
- MARKET OVERVIEW:** Updated as of 7-JUN-2016 09:51 GMT, featuring several sub-tables:
 - ITRAXX:** Lists indices like Europe, HiVol, Japan, and Xover with their EOD values and changes.
 - CDX:** Lists indices like HiVol, Inv Gr, HY, EM, and LCDX with their EOD values and changes.
 - SOVEREIGNS:** Lists yields for EU 10y, JP 10y, UK 10y, and US 10y.
 - EQUITY INDICES:** Lists last values and changes for CAC, DAX, Dow, FTSE, Hang S, Nasdaq, Nikkei, S&P, and VIXX.
 - SWAPS SPREAD:** Lists last values and changes for EU 10y, JP 10y, UK 10y, and US 10y.
 - CURRENCIES:** Lists bid values and changes for CHF, EUR, GBP, and JPY.
 - COMMODITIES:** Lists bid values and changes for CRUDE and GOLD.
- LATEST CORPORATE ACTIONS:** A table showing recent corporate actions for entities like Apple Inc., Goldman Sachs Group, Inc., and HON HAI PRECISION INDUSTR.

On this page, one can monitor and research on the different CDS issued by different companies as well as monitor a list of new issues. This would enable the user to have a better understanding about the overall credit of the bond market.

4. Bond Search

There is a certain market convention adopted when searching for a bond. Usually, we should search:

TICKER COUPON MATURITY

For example, below is an example of a bond page obtained by searching <SONY 1.410 2022>

SONYC 1.410 18-MAR-2022 JP / JPY
 SONY CORP ISIN JP343500BC36

Close Bid: **104.867** Close Ask: **105.067** Close Bid Yield: **0.54** Close Ask Yield: **0.506** JP00286758= 06-Jun-2016 08:00 TR PRICING SERVICE

Overview All Quotes News **Description** Valuations Schedules Chart Notes Issuer Calculators Related Instruments Research 360 Menu

BASICS

[Configure](#) [Set as Default](#) [Reset](#)

PRINCIPAL / COUPON INFORMATION	
Maturity Date	18-Mar-2022 @ 100
Principal / Coupon Currency	JPY / JPY
Amount Outstanding	10,000,000,000 JPY
Coupon Type	Fixed:Plain Vanilla Fixed Coupon
Coupon Frequency	Semiannually
Current Coupon / Next Pay Date	1.41000 / 20-Sep-2016
Dated / First / Final Coupon	13-Mar-2012 / 20-Sep-2012 / 20-Sep-2021
Irregular Coupon	Both
Inflation Index Linked	No
Principal Index Linked	No
Floating Rate Note	No

SECURITY IDENTIFIERS				
Type	Value			
ISIN	JP343500BC36			
CINS	J7620VAB2			
SEDOL				
Exchange Name	Sedol	Effective Date	End Date	Status
XXXX - NO MARKET (E.G. UNLISTED)	B7LM7J1	08-Mar-2012	--	Yes
SICC				00286758
CFI				DBFXXB

ISSUANCE DETAILS	
Domicile of Issuer	Japan (JP)
Issuer Country of Incorporation	Japan (JP)
Market of Issue	Japan
Country of Risk	Japan (JP)
Issue Date / Price / Yield	13-Mar-2012 / 100 / 1.41
Issue Spread	43 (JGB 10Y 321)

BOND INFORMATION	
Prospectus Available	Yes (07-Mar-2012)
Latest Prospectus	14-Mar-2012
Debt Type Description	Bond
Asset Status Description	Issued
Industry of Issuer	Electronics/Electric - Electronics/Electric
Sector (Thomson Reuters)	Manufacturing
Offering Type	Underwritten

Alternatively, you could search for the ISIN code of the bond if you know the exact figures.

5. Fixed Income New Issues Monitor <FINIM>

One page that many users will refer to is the Fixed Income New Issues Monitor. On this page, different new issues generated from the IFR Market News will be consolidated.

New issues at the rumour phrase will be consolidated and news will be reported through the road show till the time of pricing.

In the Eikon Toolbar, search <FINIM>

Updated	Issuer Name	ISIN / Cusip	Term to Ma...	CPN	Deal Status
08-Jul-2016 11:06	LANDMARK FUNDING 2016 LTD	-	3Y	-	PRICE GUIDAN
08-Jul-2016 10:09	INDUSTRIAL AND COMMERCIAL BAN...	-	-	-	MANDATE
08-Jul-2016 06:57	TRANSOCEAN INC	893830BE8	7Y	9%	PRICED
08-Jul-2016 05:26	BAHIA SUL HOLDINGS GMBH	05674XAA9	10Y	5.75%	PRICED
08-Jul-2016 05:18	SUMITOMO MITSUI FINANCIAL GROU...	86562MAE0	5Y	2.058%	PRICED
08-Jul-2016 05:18	SUMITOMO MITSUI FINANCIAL GROU...	86562MAF7	10Y	2.632%	PRICED
08-Jul-2016 04:53	PETROBRAS GLOBAL FINANCE BV	-	5Y	8.375%	PRICED
08-Jul-2016 04:53	PETROBRAS GLOBAL FINANCE BV	71647NAQ2	10Y	8.75%	PRICED
08-Jul-2016 04:20	CARE CAPITAL PROPERTIES INC	14162VAA4	10Y	5.125%	PRICED
08-Jul-2016 04:07	TRANSOCEAN INC	893830BE8	7Y	-	LAUNCHED
08-Jul-2016 03:40	AMERICAN HONDA FINANCE CORP	02665WBE0	3Y	1.2%	PRICED
08-Jul-2016 03:40	AMERICAN HONDA FINANCE CORP	US02665WBF7...	5Y	1.65%	PRICED
08-Jul-2016 03:28	TRANSELEC SA	US89366LAE48	13Y	3.875%	PRICED
08-Jul-2016 03:26	INDUSTRIAL AND COMMERCIAL BAN...	-	3Y	1.875%	PRICED
08-Jul-2016 03:20	RAYMOND JAMES FINANCIAL INC	754730AE9	10Y	3.625%	PRICED
08-Jul-2016 03:20	RAYMOND JAMES FINANCIAL INC	754730AF6	30Y	4.95%	PRICED
08-Jul-2016 03:14	SUNOCO LOGISTICS PARTNERS OPE...	86765BAT6	10Y	3.9%	PRICED
08-Jul-2016 03:04	WALT DISNEY CO	25468PDN3	30Y	3%	PRICED
08-Jul-2016 03:04	WALT DISNEY CO	25468PDM5	10Y	1.85%	PRICED
08-Jul-2016 03:04	WALT DISNEY CO	25468PDL7	3Y	0.875%	PRICED
08-Jul-2016 02:58	BACARDI LTD	067316AD1	10Y	2.75%	PRICED
08-Jul-2016 02:46	HKT CAPITAL NO. 4	-	10Y	3%	PRICED
08-Jul-2016 02:33	FEDERAL REALTY INVESTMENT TRUST	313747AX5	30Y	3.625%	PRICED
08-Jul-2016 02:32	XIANGYU INVESTMENT (BV) CO LTD	XS1434120165	3Y	4.75%	PRICED
08-Jul-2016 02:22	HT GLOBAL IT SOLUTIONS HOLDING...	-	5Y	7%	PRICED
08-Jul-2016 02:18	EVGRN 2016-2	-	-	-	PRICED
08-Jul-2016 01:44	PETROBRAS GLOBAL FINANCE BV	-	5Y	8.375%	LAUNCHED
08-Jul-2016 01:44	PETROBRAS GLOBAL FINANCE BV	71647NAQ2	10Y	8.75%	LAUNCHED
08-Jul-2016 01:27	SUMITOMO MITSUI FINANCIAL GROU...	86562MAE0	5Y	-	LAUNCHED
08-Jul-2016 01:27	SUMITOMO MITSUI FINANCIAL GROU...	86562MAG5	5Y	-	PRICED
08-Jul-2016 01:27	SUMITOMO MITSUI FINANCIAL GROU...	86562MAG5	5Y	-	LAUNCHED
08-Jul-2016 01:27	SUMITOMO MITSUI FINANCIAL GROU...	86562MAF7	10Y	2.632%	LAUNCHED
08-Jul-2016 01:16	SUMITOMO MITSUI FINANCIAL GROU...	-	3Y	-	LAUNCHED
08-Jul-2016 00:56	SUMITOMO MITSUI FINANCIAL GROU...	15UAD6	10Y	3.5%	PRICED
08-Jul-2016 00:53	SUMITOMO MITSUI FINANCIAL GROU...	-	5Y	-	PRICE GUIDAN

In the page, you are able to adjust the following information about the issues.

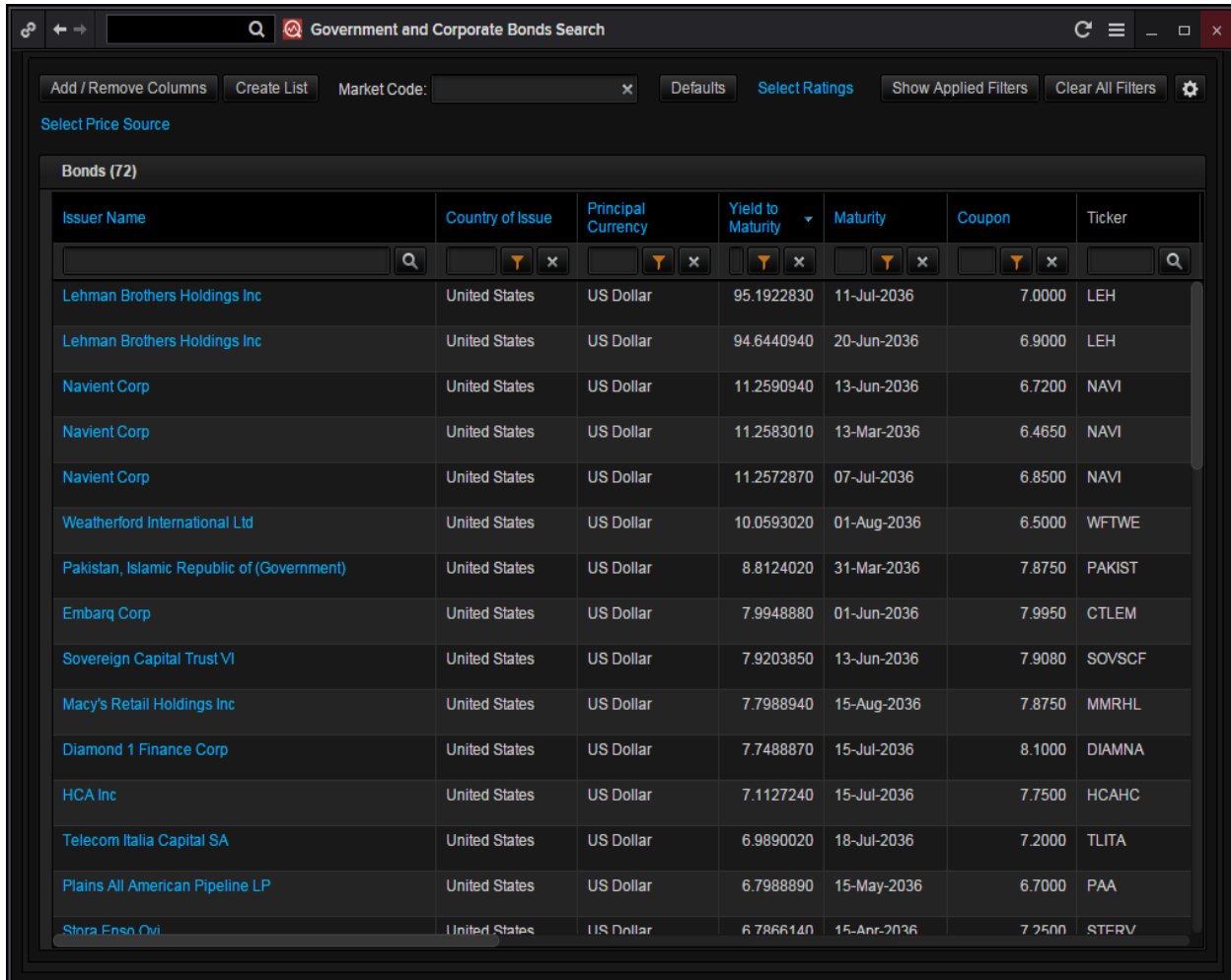
1. Deal Status
2. Characteristic
3. Currency of Issue
4. Domicile of Issuer
5. Issuer Name
6. Sector or Subsector
7. Whether it has been updated in the past x days (e.g. 30 days)

Also, users who are looking at all new issues (not limited to the IFR page) can select “All New Issues” for all different types of issues available in the system.

6. Bond Screener <GOVSRCH>

Thomson Reuters has a Bond Screener Application which can be used to screen Government and Corporate Bond issues.

In the Eikon Toolbar, search <GOVSRCH> or Government and Corporate Bonds in order to obtain the following screen,



The screenshot shows the Thomson Reuters Bond Screener application interface. The window title is "Government and Corporate Bonds Search". The interface includes a search bar, a "Market Code" field, and several action buttons: "Add / Remove Columns", "Create List", "Defaults", "Select Ratings", "Show Applied Filters", and "Clear All Filters". Below these is a "Select Price Source" section. The main area displays a table of 72 bonds. The table has the following columns: Issuer Name, Country of Issue, Principal Currency, Yield to Maturity, Maturity, Coupon, and Ticker. The table is sorted by Yield to Maturity in descending order. The first few rows are highlighted in blue, indicating they are clickable links to more information about the bonds.

Issuer Name	Country of Issue	Principal Currency	Yield to Maturity	Maturity	Coupon	Ticker
Lehman Brothers Holdings Inc	United States	US Dollar	95.1922830	11-Jul-2036	7.0000	LEH
Lehman Brothers Holdings Inc	United States	US Dollar	94.6440940	20-Jun-2036	6.9000	LEH
Navient Corp	United States	US Dollar	11.2590940	13-Jun-2036	6.7200	NAVI
Navient Corp	United States	US Dollar	11.2583010	13-Mar-2036	6.4650	NAVI
Navient Corp	United States	US Dollar	11.2572870	07-Jul-2036	6.8500	NAVI
Weatherford International Ltd	United States	US Dollar	10.0593020	01-Aug-2036	6.5000	WFTWE
Pakistan, Islamic Republic of (Government)	United States	US Dollar	8.8124020	31-Mar-2036	7.8750	PAKIST
Embarq Corp	United States	US Dollar	7.9948880	01-Jun-2036	7.9950	CTLEM
Sovereign Capital Trust VI	United States	US Dollar	7.9203850	13-Jun-2036	7.9080	SOVSCF
Macy's Retail Holdings Inc	United States	US Dollar	7.7988940	15-Aug-2036	7.8750	MMRHL
Diamond 1 Finance Corp	United States	US Dollar	7.7488870	15-Jul-2036	8.1000	DIAMNA
HCA Inc	United States	US Dollar	7.1127240	15-Jul-2036	7.7500	HCAHC
Telecom Italia Capital SA	United States	US Dollar	6.9890020	18-Jul-2036	7.2000	TLITA
Plains All American Pipeline LP	United States	US Dollar	6.7988890	15-May-2036	6.7000	PAA
Stora Enso Oyj	United States	US Dollar	6.7866140	15-Apr-2036	7.2500	STERV

Pressing the **Add / Remove Columns** button would allow users to specify the different type of criteria they would like to use when screening the bonds.

Next, using the **Filter** button, users can adjust the filters

Also, clicking on the titles of each column would sort the list according to the highest to lowest value, or the lowest to highest value, whichever is preferred.

Double-clicking on the names of the issuers in blue would reveal more information about the individual bonds, by linking the user to the description page of the bond.

7. Bond Valuation

Pricing of a Bond

The price of a newly issued Bond can be calculated by discounting its future cashflows to the present using the appropriate interest rates. Such cashflows include the coupon payments attached to the bond issue (if any) and the final principal repayment.

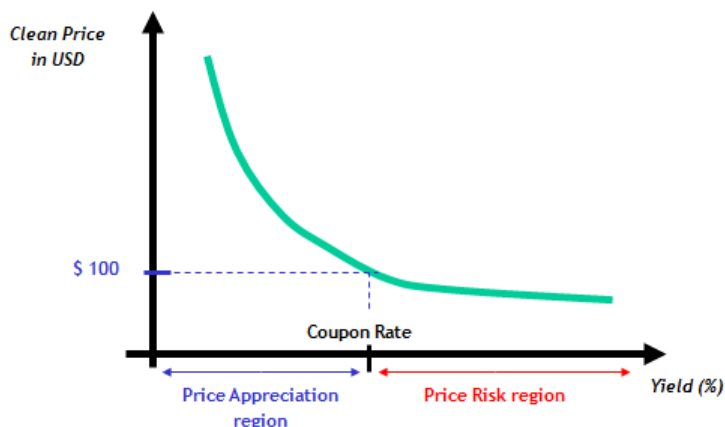
The discount factor could be calculated from a zero-coupon curve. An example is presented below.

$$\$101.3017 = \frac{\$5}{(1 + 4.2729\%)^1} + \frac{\$5}{(1 + 4.4497\%)^2} + \frac{\$(5 + 100)}{(1 + 4.5332\%)^3}$$

The **Yield to Maturity** of the bond is a cash-weighted average of the different discount factors. When the clean price of a bond decreases, there is a parallel shift of the zero curves upwards, where holders will have to enjoy higher yield to maturities to compensate them for the potential loss in price of the bond.

Price Risk

One should understand the concept of **price risk** when considering bonds. Assuming an investor purchases a bond at par (\$100). When the YTM increases, which is higher than the coupon rate, the bond will be selling at a discount (less than \$100), the investor will experience an unrealised capital loss.

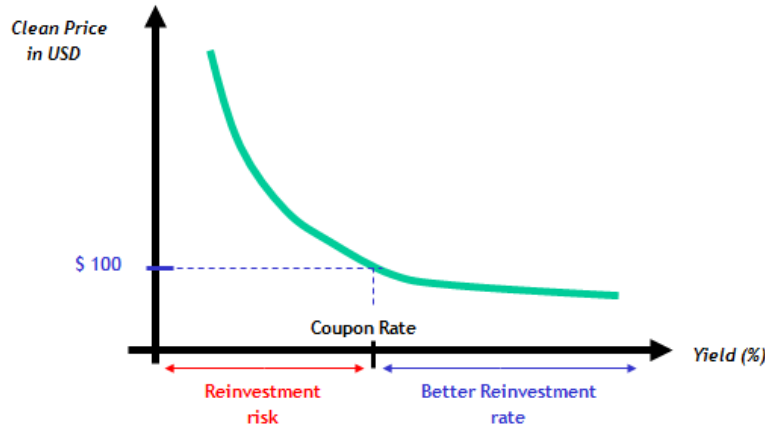


Hence, when the YTM is higher than the coupon, it is in a price risk region and when the YTM is lower than the coupon, the bond is in the price appreciation region.

Reinvestment Risk

Reinvestment Risk is the risk that the proceeds from the payment of principal and coupons have to be reinvested at a lower rate than the original investment. Assume an investor purchases a bond at par (\$100) or $YTM = Coupon Rate$.

When the YTM decreases lower than the coupon rate, the investor cannot reinvest the coupon dollars received at the Coupon Rate. This is hence a reinvestment risk.



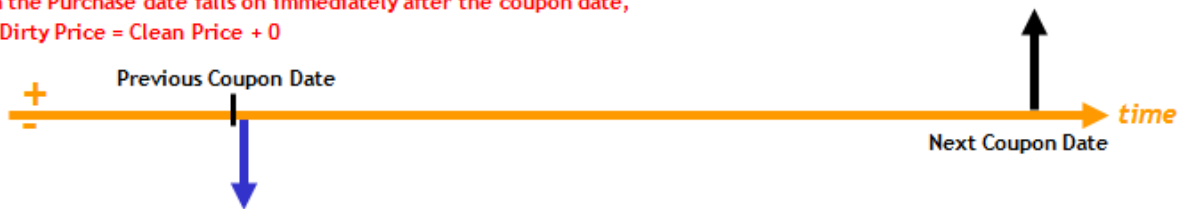
Hence the point in the centre represents the yield at which there is no reinvestment and price risk.

Dirty Price and Clean Price

$$\text{Dirty Price} = \text{Clean Price} + \text{Accrued Interest}$$

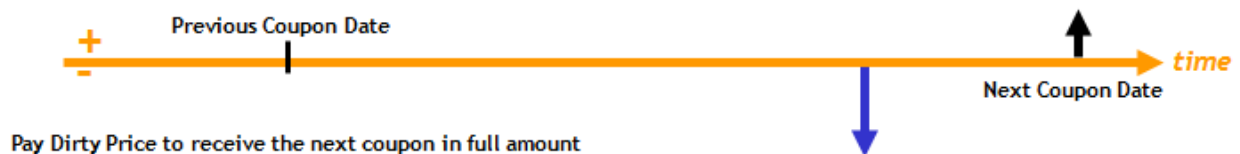
Case 1

When the Purchase date falls on immediately after the coupon date,
 $\text{Dirty Price} = \text{Clean Price} + 0$



Case 2

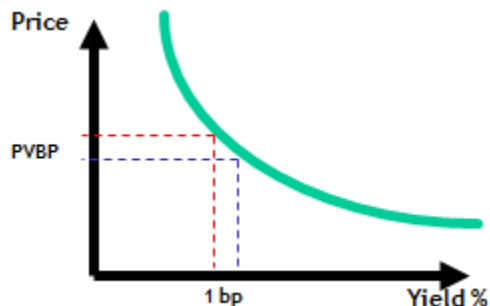
When the Purchase date is between two coupon dates,
 $\text{Dirty Price} = \text{Clean Price} + \text{Accrued Interests} = 103.46 + 1.559$



In Case 2, the holder is required to pay the dirty price which includes the accrued interest amount in order to compensate the previous holder for the forgone interest at the next coupon date.

Sensitivity Analysis: Present Value of 1 Basis Point

The present value of 1 basis points (PVBP) measures the actual change in price for 1 basis point (bp) change in yield. This change PVBP is often multiplied by the notional amount in order to find the notional change in price for a 1bp shift in yield. This is also known as the dollar value of an 01. (DV01)



Sensitivity Analysis: Duration

Duration, Macaulay's Duration in years, is the weighted average life, or average maturity of a bond. This could be viewed as the weighted average number of years an investor must maintain a position in the bond until the present value of the bond's cash flows is equal to the bond price paid.



Some investors have suggested that measuring risk using duration is preferable to using historical returns to measure risk since the standard deviation approach requires numerous variances and covariances to be calculate to estimate portfolio risks. Furthermore, these estimates are based on historical data and in the rare occasion these data are present, the changing nature of bonds makes the appropriateness of these measures questionable. Hence, duration may be a better measure of risk.

Duration measures the sensitivity of bond values to the changes in interest rates. However, as an estimate that lacks convexity adjustments and plays by assumptions of parallel shifts in the yield curve it is far from a perfect measure.

Despite this, duration is a simpler measure to use when compared to standard deviation.

Sensitivity Analysis: Modified Duration

Modified Duration which is related to the price-yield slope measures the percentage change in dirty price per change in yield.

Sensitivity Analysis: Convexity

Convexity on the other hand, measures the percentage change in modified duration per change in yield. Hence, convexity measures the curvature of the price/yield curve.

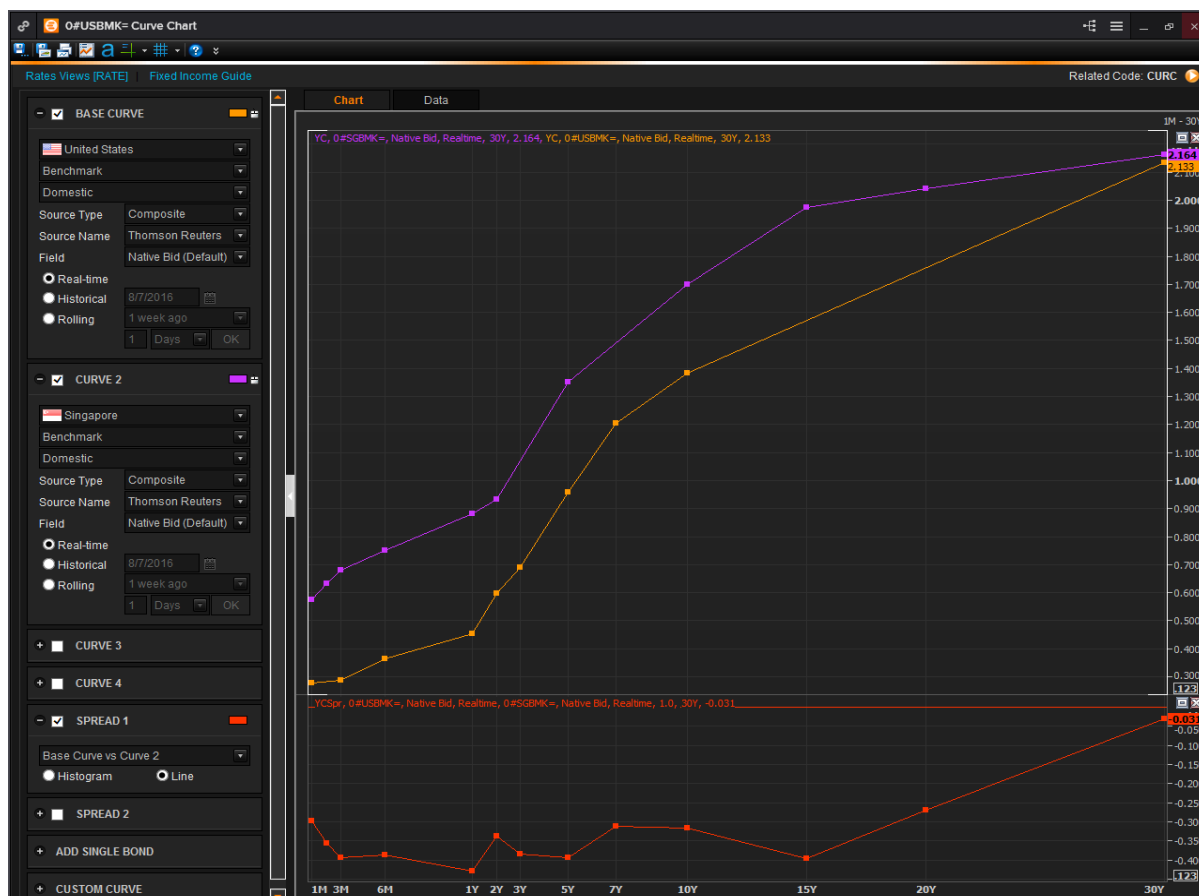
8. Charting for Bonds

Curve Chart <CURC>

Curve Chart brings together the common yield curve tasks, provides easy access to common curves and displays them from the available brokers and price contributors.

The application allows users to

1. View historical curves whenever possible
2. View and compare a large number of different yield curves from any country
3. Compare curves and their spread
4. Compare a single bond to the curves
5. Add and remove bonds



In the Eikon Toolbar, search <CURC> to open the application

1. Select the Country, Curve Type, Source Type, Source Name and Field
2. Add additional curves setting up the parameters the same way you set the parameters for the base Curve
3. Add spreads to compare the curves
4. Chart a single bond to compare it against the curves

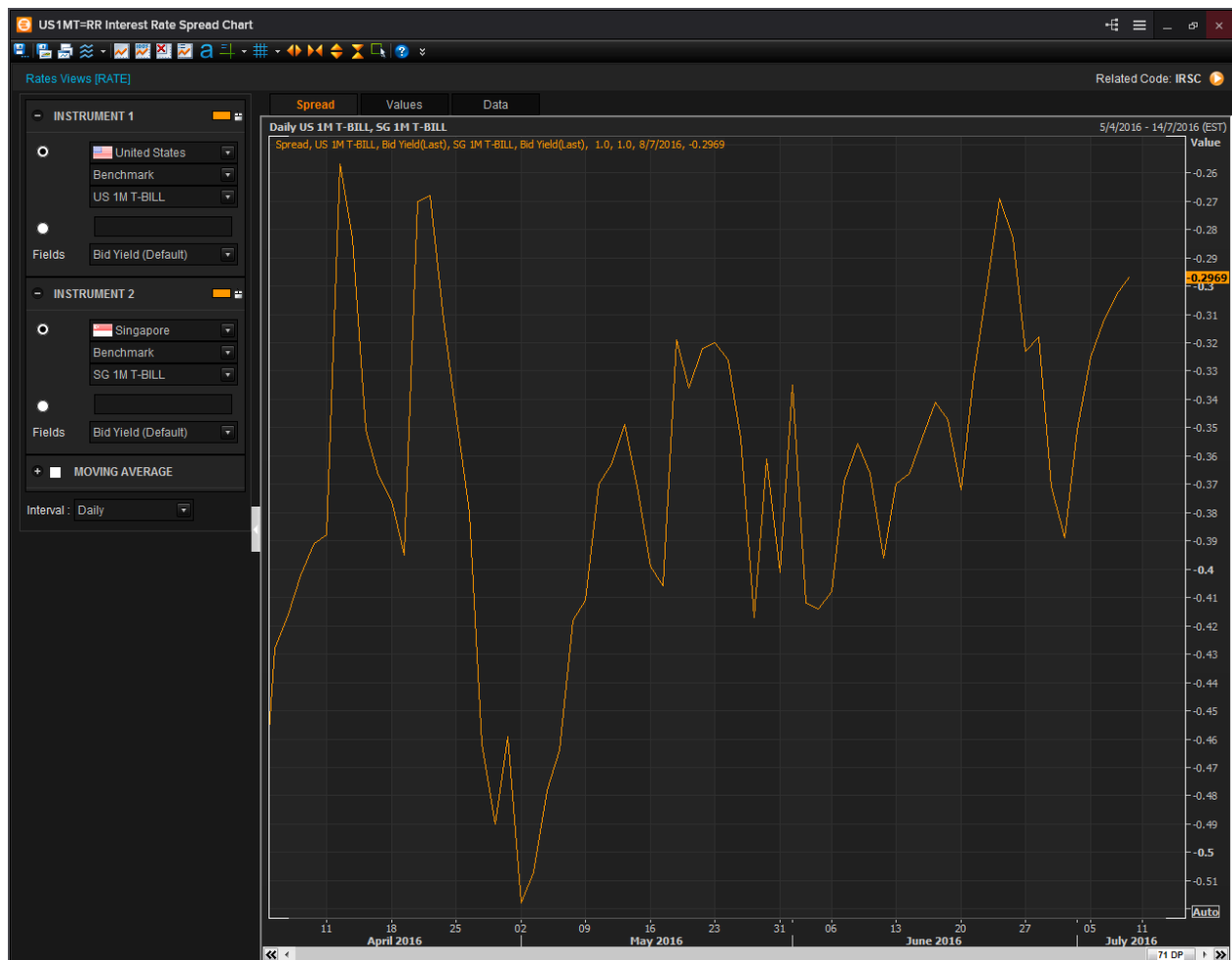
The typical shape of the yield curve is upward so the yields increase for the bonds of higher maturities. The longer the maturity the higher is the risk of investing in the bond, hence there are higher premiums associated with the bond.

Interest Rate Spread Chart <IRSC>

The Interest Rate Spread Chart <IRSC> shows the difference in yields between two instruments. The application allows users to

- Browse instruments by selecting a country and a type of instrument
- View the spread between yields of two instruments
- Views the yields of individual instruments
- View tabular data and copy it to MS Excel
- View Statistics, like a moving average.

Here, traders can observe the spread between yields of different instruments and look for high and low values, basing on the assumption that there are temporary and the spread will reverse to mean over time.



In the Eikon Toolbar, search <IRSC> to open the application:

1. Select or enter the RIC for Instrument 1 and 2
2. Select Statistics and define from how many periods it should be calculated
3. Select the interval you want to see
4. Spread between yields of two instruments on a time series would be displayed in the chart

Individual yields on a time-series can be viewed as well and tabular data, can be opened by selecting the second tab. Here, you can copy the data and send it to MS Excel if needed.

9. Bond View

Bond View is able to aggregate versatile pricing and valuation data and tools in categories.

In the Eikon Toolbar, search for the bond required (E.g. SONYC 0.664)

- Overview: cross-content page with charts, news and events
- All Quotes: able to retrieve real-time market quotes for a bond
- News: related news and Top News Headlines
- Description: contains data on the principal and coupon of the issue,
- Valuations: users can see the calculated figures for yields, spreads, convexity and duration.
- History: contains the time-series valuation data on YTM, price, yield spread, YTW, modified duration and convexity
- Issuer: Provides details on the issuer's debt structure and its ratings and CDSs.
- Calculators: gives access to the set of analytical and valuation tools available for a particular instrument
- Related instruments: allows searching of similar instruments
- Holdings: details on holdings of institutional investors
- Research: allows searching for and accessing broker research reports
- 360 Menu: provides a comprehensive list of all available tools, news, market data and features

10. Fixed Rate Bonds

What is a Fixed Rate Bond?

A fixed rate bond is a bond that pays the same amount of interest for its entire term. This allows investors to know how much interest they will earn, at what frequency and for how long. As long as the issuer of the bond does not default on payment (counter-party risk), the investor can easily predict his return on investment.

One risk in investing a fixed rate bonds is interest rate risk, the risk that interest rates could rise, causing the price of the bond to fall. Conversely, if the interest rate falls, the bond would become more valuable if the investor sells it, since the market price increases when interest rates fall.

The following is a fixed rate bond paying 5.300% coupon annually due to expire on 12 Jul 2016.

PRINCIPAL / COUPON INFORMATION

Maturity Date	12-Jul-2016 @ 100
Principal / Coupon Currency	AUD / AUD
Amount Outstanding	4,070,000 AUD
Coupon Type	Fixed: Plain Vanilla Fixed Coupon
Coupon Frequency	Annually
Current Coupon / Next Pay Date	5.30000 / --
Dated / First / Final Coupon	11-Jul-2011 / 12-Jul-2012 / 12-Jul-2015
Irregular Coupon	First
Inflation Index Linked	No
Principal Index Linked	No
Floating Rate Note	No

SECURITY IDENTIFIERS

Type	Value
ISIN	XS0644135039
COMMON CODE	064413503
CFI	DTFXFB

ISSUANCE DETAILS

Domicile of Issuer: United Kingdom (GB)

PRICE INFORMATION

Bid / Ask Price	* 100.0070000 / 100.0070000
Bid / Ask Spread	0.0
Priced Using	74.0 bp yield spread off 0.00 YR / 1.90% (interpolated AUSTRALIA/AUD Native Treasury Curve) (MAT Jul-2016)
Pricing Source	Thomson Reuters End of Day Pricing (EJV)
Valuation Date	08-Jul-2016
Valuation Settle Date	11-Jul-2016
Accrued Interest (Days)	5.285 (359 Days)

* Bid Price affects P/Y Values and Options Adjusted Values calculations

PRICE YIELD VALUES

Yield	2.6402700
DV01	0.0000
Interpolated Spread	102.1
OTR Spread	102.1 (AUT12M)
Modified Duration	0.003
Mac. Duration	0.003
Convexity	0.0000
Disc Margin	--
Average Life	0.00

OPTION ADJUSTED VALUES

Yield	2.6402700
Spread	88.8
Effective Duration	0.003
Effective Convexity	0.0000
Price (+25 bp)	100.0065810
Price (-25 bp)	100.0060040
Option Cost	0.0000
Option Value	0.0000
DV01	0.0000
Zero Volatility	88.8
Spread Duration	0.003
Spread Convexity	0.0000

HISTORIC VALUATION

Change Information	Previous Day	End of Month
Price	100.0070000	100.0620000
Price Change	0.0000000	-0.0550000
OAS	88.8	78.6
OAS Change	0.05	10.28
YTW	2.6753340	2.4129490
YTW Change	-0.0350640	0.2273210

Return Information

	Previous Day	End of Month
Price Return	0.000	-0.052
Coupon Return	0.000	0.098
Reinvestment Return	0.000	0.000
Principal Return	0.000	0.000
Total Return	0.000	0.046

The table here under valuations would present the accrued interest for the bond as well as different sensitivities of interest.

Comparison between 2 Fixed Rate Bonds

Absolute Comparison:

The **Yield to Maturity** could be utilised to compare two fixed rate bonds.

Assuming the two bonds have the same coupon rate, the differentiating factor in bond selection would be the Yield to Maturity, which is dependent on the price of the bond and the future cashflows.

Hence, a bond with the same coupon rate but offering a higher yield to maturity would imply that the price currently being quoted in the market or the final principal payment is higher the other bond.

Therefore, a higher yield to maturity bond would be a better investment than another bond with the same coupon rate but lower yield to maturity, everything else kept constant.

The screenshot displays the Fixed Rate Bond Calculator (FRB) interface. The bond details are as follows:

- Bond:** HSBC BANK PLC FIXED 5.300% JUL 12, 2016 AUD FI+ (FDT Jun 14, 2016) MTN ISIN: XS0644135039
- Trade Date:** Jun 15, 2016
- Settlement Date:** Jun 17, 2016 (2 WD (Default))
- Clean Price (%):** 100.19750000 (Mid)
- Dirty Price (%):** 105.12944444
- Accrued:** 4.931944444 (30E/360)
- Yield to Maturity (YTM):** 2.336168 (Yield 1), 2.401563 (Yield 2)
- Redemption Date:** Jul 12, 2016 - Maturity - YTM
- Redemption Price:** 100.0000
- Frequency:** Annual
- Next Ex-Dividend:** Jul 12, 2016
- Rate (%):** 5.300

The **Cash Flows** tab is selected, showing the following table:

Date	Annual Rate (%)	Income (%)	Paid Coupon
Jul 12, 2012	5.3000	5.3147	5.3147
Jul 12, 2013	5.3000	5.3000	5.3000
Jul 14, 2014	5.3000	5.3000	5.3000
Jul 13, 2015	5.3000	5.3000	5.3000
Jul 12, 2016	5.3000	105.3000	

As there are different ways to calculate the yield to maturity, depending on the days required (360, 365 or actual) as well as different market conventions, one can make use of the Bond Calculator application <BNDC> in order to find the different yields to maturity.

1. In the Eikon Toolbar, search for <BNDC>
2. In the In-app search bar, search for the bond needed through the ticker coupon maturity convention or the ISIN Code of the bond
3. In the Yield tab, you could search for the different yield types. The native option would display the most common convention for the specific bond
4. The Cashflow tab would display the cashflow payments for the entire life of the bond.

Relative Comparison

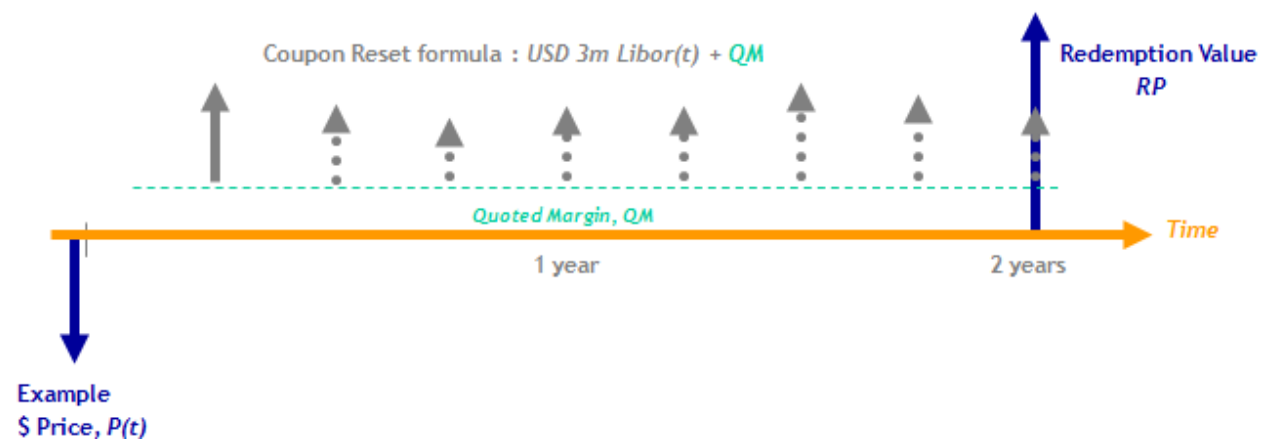
Alternatively, you could compare these yields relative to the benchmark, through the use of a Z-spread and the zero volatility spread (relative to the zero coupon curve).

11. Floating Rate Bonds

What is a Floating Rate Bond?

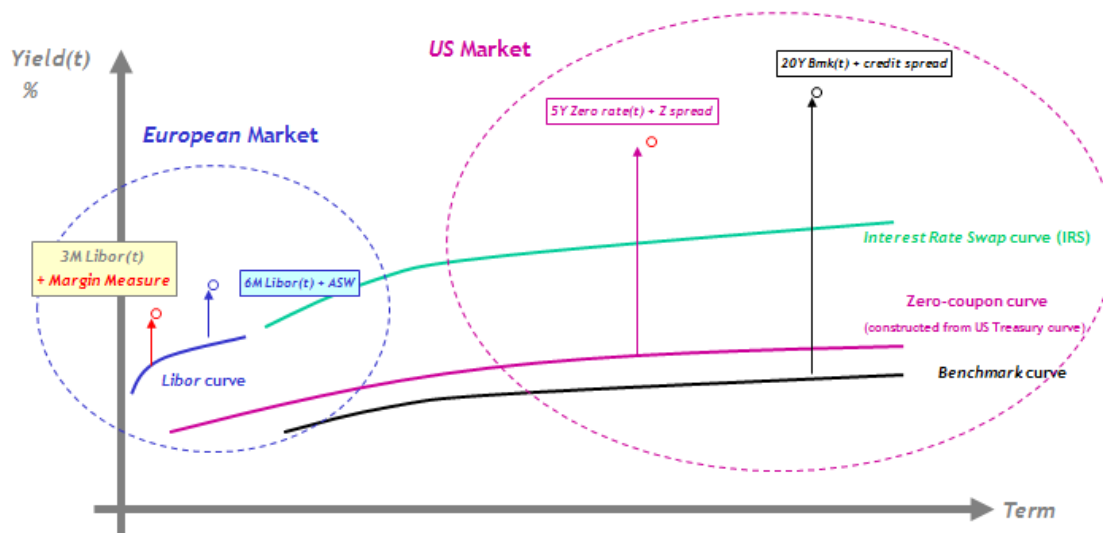
A floating rate bond, or floating rate note (FRNs) are bonds that have a variable coupon, equal to a money market reference index rate, such as *LIBOR* or *T Bills* or the *Federal Funds Rate*, plus a spread which is known as the *Quoted Margin, QM*.

Governments may issue *FRNs* for funding purposes or to establish benchmark rates.



There are two margin measures commonly used for the Euro-FRN market - the **Simple Margin** and **Discounted Margin**. These margin measures estimates the average spread over the reference index rate that the investor can expect to earn over the life of the security. Also, in Europe, investors tend to view FRNs as close substitutes for other money market instruments.

In the USD FRN market, the Yield to maturity spread (YTM Spread) is commonly used, based on bond yield calculation. Here, investors tend to treat FRNs as an alternative to conventional bond market instruments.



Note that a strong demand for an asset swap (to surrender fixed for float) may indicate a strong demand for FRNs.

Comparison between 2 Floating Rate Bonds

Simple Margin

The basic simple margin is the average cash return per year of the FRN compared with its index rate. When a FRN is selling at premium or discount to Par, a potential buyer of a FRN will consider the premium or discount as an additional source of dollar return. Note that the formula is as follows.

$$SM = [(Redemption\ Price - Clean\ Price) / Time\ to\ Maturity\ in\ years + Quoted\ Margin] / Clean\ Price$$

Note that Clean price is normalised in the unit of 1 instead of 100 or 1000.

Drawbacks of the Simple Margin

1. The SM Formula does not take into consideration the current yield effect on the price of the FRN since coupon payments received on the FRN are given the same weight if the price is above or below Par
2. The discount/premium of the bond is amortised to Par in a straight line over the life of the FRN, rather than discount at a constantly compounded rate.

Hence, we need another Margin measure: the Discounted Margin

Discounted Margin

In the discounted margin, all future cash flows are discounted back to a present value at the appropriate rate. Using this method, we have to 'fix' all the future LIBORs on the note and this is to set all future LIBORs at the current market rate for an interest rate swap.

The discount margin gives a more accurate valuation of the note's effective yield spread over the index, but unless the yield curve is very steep the pricing differences between the two methods of . Whichever method you use:

If the note trades at par: Discount margin = LIBOR spread
 If the note trades at a discount to par: Discount margin > LIBOR spread
 If the note trades at a premium to par: Discount margin < LIBOR spread¹

Yield to Maturity Spread

The last type of margin is the yield to maturity spread commonly used in the US. The yield to maturity spread of an FRN is the difference between the yield to maturity of the FRN and the yield to maturity of the index rate.

$$YTM_{spread} = YTM_{FRN} - YTM_{index}$$

When the bond yield spread changes, it could be in tandem, or separately from one another. When spreads widen, it implies that the yield difference between the two bonds is increasing, and that one sector could be performing better than another. When compared to the historical trend, the yield spreads between different maturities of Treasuries could imply how different investors view the past and current economic conditions.

¹ http://94.101.144.194/MagellanDemoStatic/tp/c10002/cc_0_82_0_0_2_10002_u11820_33_2.htm

12. Callable Bonds

What is a Callable Bond?

Many bonds have embedded option features such as callable and puttable bonds.

A callable bond is a bond that can be redeemed by the issuer prior to its maturity. For example, interest rates might have fallen since the issue of the bond, hence the company may look to refinance this liability at a lower rate of interest. Hence they may call these bond issues and reissue them at lower coupons.

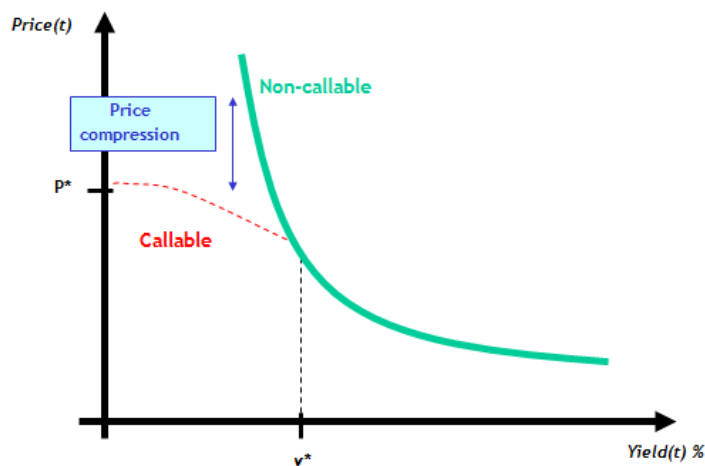
Thus, when these yields fall and the issuer calls back the bond, the investor faces reinvestment risk and this risk is compensated by higher potential yield.

Features of a Callable Bond

Yield-to-call: This calculates the yield of the bond assuming its expected cashflows are coupon payments to the first call date plus the call price.

Yield-to-worst: This calculates the yield-to-call for all call dates and from here, picks the lowest YTC value.

Both features work under the assumption that the cashflows will be reinvested and that the issue will be called on the call date.



Price compression shows that for callable bonds, when the yields decline, there is limited price appreciation. Also, callable bonds experience **negative convexity**, where when yields fall, the duration of the bond increases in magnitude.

Components of a Callable Bond

$$\text{Callable Bond Price} = \text{Straight Bond Price} - \text{Call option premium on Bond}$$

Here, there is a higher yield experienced due to the option premium received. As yield decline, the value of call option increases, leading to price compression.

The straight bond price represents the price of a non-callable bond and the call option premium is the premium of the call option calculated using the interest rate option model.

Comparison between 2 Callable Bonds

Absolute Comparison

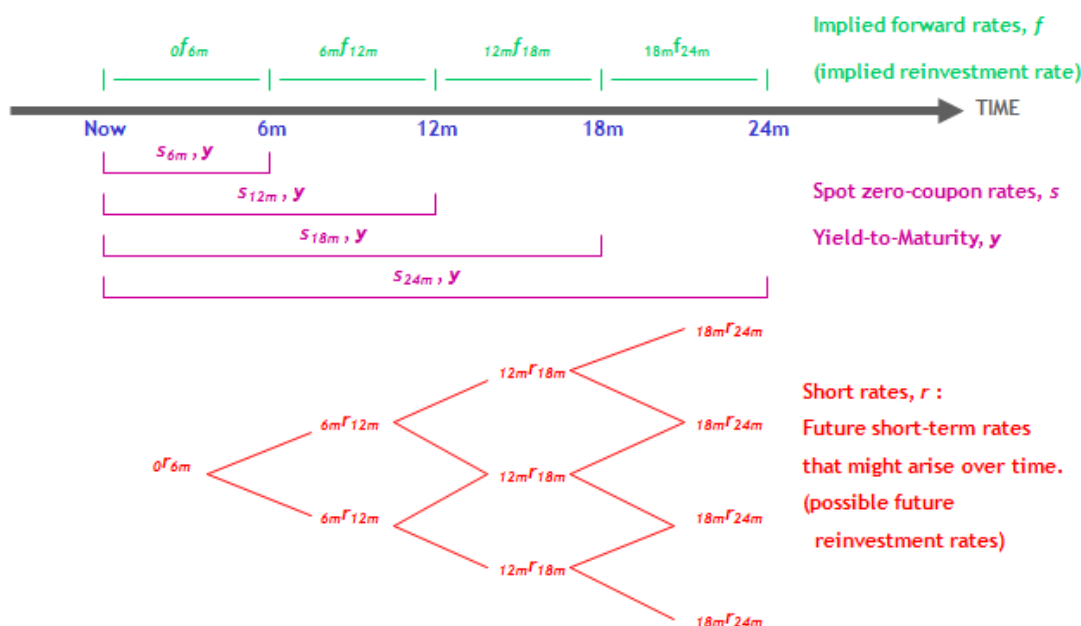
In order to conduct an absolute (figure) comparison for option-embedded bonds, we could use the Yield-to-Worst for callable bonds and Yield-to-Best for Puttable bonds.

Alternatively, option-adjusted yield from synthetic option-free bond price implied by both callable bond price and known bond option premiums could be utilised.

Relative Comparison

Option-adjusted spreads is the measurement of the spread of a fixed-income security rate and the risk-free rate of return, usually the treasury rate.

OAS are the spread over the short rates, future short-term rates that might arise over time, for which the Net Present Value of the cash flows is equal to the bond price. OAS takes account of yield volatility as volatility affects cashflows of bonds with embedded options.



The volatility term structure affects how wide r varies

The OAS is calculated using the binomial interest rate tree. The theoretical value is equal to the market price (spot) when the constant spread is added to all the *short rates*, r in the tree. This constant spread is the option adjusted spread, OAS.

A higher OAS spread is likely to imply a higher risk which would translate to a higher return for the holder.

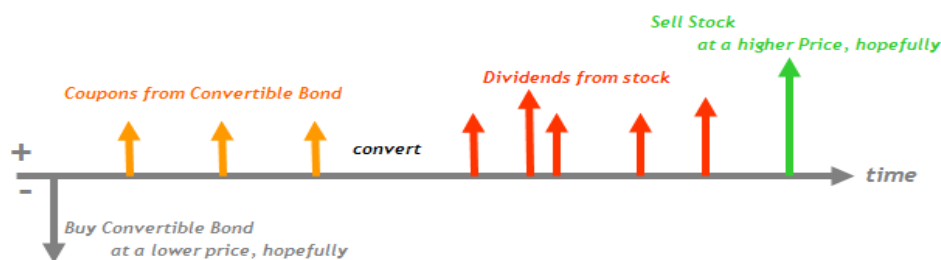
Note the difference between the two spreads:

1. Z Spread: spread over the zero-coupon curve for a corporate bond with no options to achieve NPV = Non Callable Bond
2. Option Adjusted Spread: spread over all possible paths of reinvestment rates for a corporate bond embedded with options to achieve NPV = Callable Bond.

13. Convertible Bonds

What is a Convertible Bond?

Convertible bond holders can exchange the security for common stock at the holder's option in accordance with terms set forth in the bond indenture. These common stocks do not have to be the stock of the issuer and may be denominated in a different currency. Convertible bond issues hence offer bond holders with the opportunity for capital gain opportunities should the share price of the converted equity increase in later on.



Why issue convertible bonds?

Users may choose to issue convertibles since these bonds often have lower interest costs and less restrictive covenants. Through these instruments, companies can sell common stock at a better price. When the equity market is down, there could be little demand in equity, making it difficult to raise capital via equity issuance and thus issuing convertible bonds could be beneficial to the company instead.

Why invest in convertible bonds?

On the other hand, investors may choose to purchase convertible bonds because they can buy convertible bonds when the equity market is down. When the equity market is up, they can then sell the bond (at a high conversion value) or convert to equity and hold. However, if the equity market is consistently down, they can hold the convertible bond and enjoy coupon interests instead.

Terminology

- 1. Conversion Ratio = Par of security / Conversion Price**
This directly specifies the number of shares that can be obtained by surrendering convertibles.
- 2. Market Conversion Price = Market price of convertible / Conversion Ratio**
This shows the cost per share if obtained through the convertibles.
- 3. Parity Value = Conversion Ratio * Share Price**
This is the minimum potential value of a convertible as equity.
- 4. Parity or Parity Ratio = Parity Value / Par of security**
Intrinsic value of the option of conversion. When this value is > 100%, then the option of conversion is in the money.
- 5. Market Conversion Premium = (Market price of convertible - Conversion value) / Conversion value**
This is the difference between the market price of convertible & its parity value.
- 6. Breakeven = Market Conversion Premium / (Coupon rate - Dividend Yield)**
- 7. Bond Floor** is the value at which a non-convertible with the same credit quality would be traded at.
This acts as a "lower bound" as share price falls.

Comparison between 2 Convertible Bonds

Comparing between different convertible bonds is slightly more complicated than others as one should evaluate them both as bonds and as derivatives of common stock. Both components add value to convertible bonds.

1. Convertible Value

The price that the user pays for a convertible bond divided by the conversion ratio is the “conversion price” of the underlying shares. For example, a bond selling for \$1060 that converts into 10 shares of the common stock. This gives it a conversion price of \$106 per share. If the shares are currently trading at \$90 each, the conversion value of the bond is \$900.

Hence, 2 different bonds can be compared using their convertible value as to see which one has a higher value compared to its price.

2. Conversion Premium (gives an idea of moneyness in optionality)

The price of a convertible bond is higher than that of its non-convertible twin -- a “straight” bond -- because the option to convert provides value to the bondholder. Users can calculate the value of a straight bond using a financial calculator and entering the bond's principal, interest payments and interest rate. For example, the straight version of the \$1,060 convertible bond might sell for \$800. The conversion premium is the difference between the current bond price and the greater of the conversion value or straight bond value. In the example, the \$900 conversion value exceeds the straight bond value of \$800. Therefore, the conversion premium is \$1,060 minus \$900, or \$160.

3. Bond Analysis via “Overpaying ratio”

If users put the conversion premium on a percentage basis, they can analyze the bond by comparing its premium percentage with those of similar bonds.

Do this by dividing the premium by the conversion value. In the example, this is \$160 divided by \$900, or about 18 percent. This is the percentage users “overpay” to obtain the conversion option.

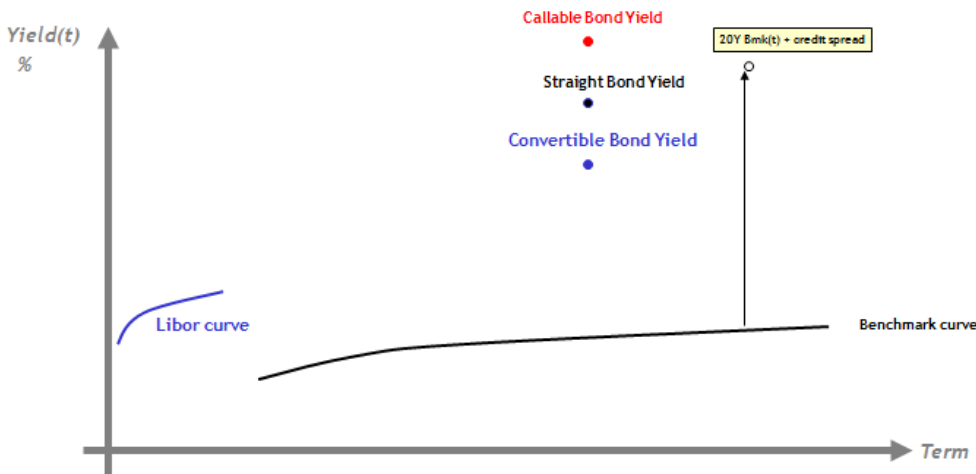
4. Bond Analysis via “Break-even price” analysis

Another way of interpreting the conversion premium percentage is the amount the stock price has to rise before reaching the break-even point between the bond value and the conversion value. In this example, the break-even price, or “parity,” is \$106 per share.

As the stock price rises above parity -- creating a negative premium -- it pulls the convertible bond price higher.

Users would therefore make the same profit by selling the bond as users would by converting it and immediately selling the underlying shares.

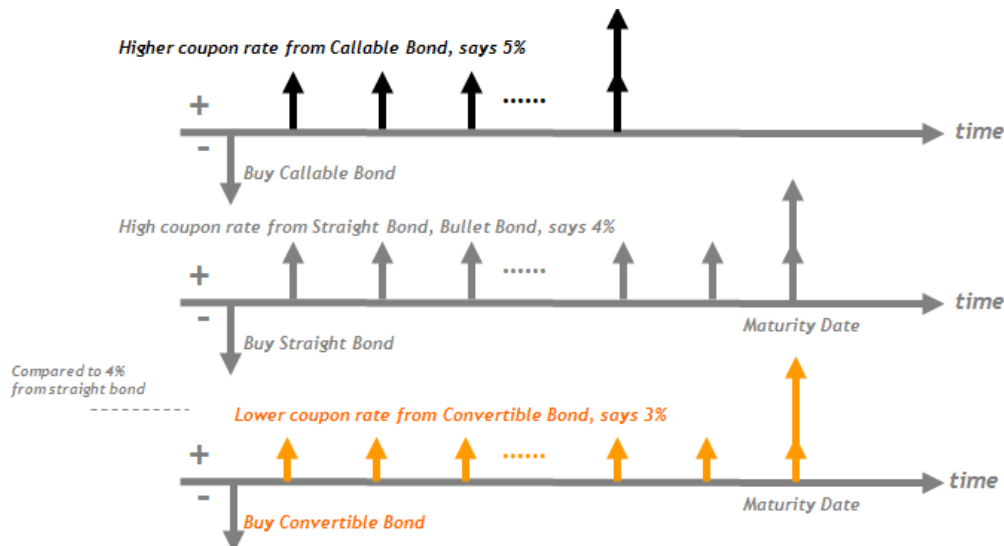
14. Comparison between Different Bond Types



One can conduct a simple comparison between a fixed rate bond, callable bond and convertible bond of same tenor and issuer.

If the price of a fixed rate bond is P,

1. Price of callable bond = P - Premium of option on its fixed rate bond,
Thus the yield of callable bond > yield of its fixed rate bond
2. Price of convertible bond = P + Premium of option on its equity,
Thus yield of convertible bond < yield of its fixed rate bond



Due to the additional value offered, coupons on the Convertible Bond issues are usually less than those on Straight, Bullet Bonds.

Thus, whether users select a fixed, floating, convertible or callable bond would ultimately depend on their specific financing needs. However, callable bonds typically have the highest rate, followed by fixed and convertible with the lowest.

15. Fixed Income Portfolio Analytics <FIPA>

An application which would prove useful for users wanting to analyse the specifics of their portfolio would be the Fixed Income Portfolio Analytics Application <FIPA>.

On this page, users can check of their reference data, monitor different bond portfolios as well as conduct different types of analyses such as Profit & Loss analysis, Cash Flow Analyses, Scenario Analyses etc.

We have presented two examples below of the profit & loss and the scenario analyses.

1. In the Eikon Toolbar, enter <FIPA>
2. Select a pre-determined portfolio or manually enter the data
Reference Data > Portfolios > New > New Portfolio
3. From the left side bar, select the type of feature you would like to search.

E.g. Profit and Loss

On this page, select the portfolio from the drop down list and select the timeframe needed. Finally press enter for the page below to appear.

The screenshot displays the FIPA application window. The main area shows a 'PROFIT & LOSS' analysis for the 'Dim Sum Bond' portfolio. The analysis is for the period from 1/1/2016 to 7/12/2016. The table below summarizes the data shown in the screenshot.

	Gain from FairPrice Change	InterestGain	Occupied Capital	Cost of Carry	Accrued(%)	PVBP(BP)	Convexity	Pric
- Dim Sum Bond	44,160.00	62,664.67	4,015,597.11	0.00	0.1050	4.5200	35.1088	99.10
- NULL	44,160.00	62,664.67	4,015,597.11	0.00	0.1050	4.5200	35.1088	99.10
- CNGV 2.560 06/29/17	9,710.00	13,606.58	1,001,971.23	0.00	0.0912	0.9395	1.3595	99.35
- CNGV 2.650 06/29/19	16,760.00	14,084.93	991,773.42	0.00	0.0944	2.7886	9.5185	98.71
- CNGV 3.100 06/29/22	8,810.00	16,476.72	1,004,524.38	0.00	0.1104	5.3102	33.2997	98.40
- CNGV 3.480 06/29/27	8,880.00	18,496.44	1,017,328.08	0.00	0.1239	9.0415	95.7331	99.90
Grand Total	44,160.00	62,664.67	4,015,597.11	0.00	0.1050	4.5200	35.1088	99.10

Secondly, you could conduct scenario analysis on this page.

After entering the FIPA application page, do the following.

1. In the left column, select “Scenario Analysis”
2. Select the portfolio necessary and select the different scenario/scenario sets (e.g. 10BP UP_ UP 10B)
3. After choosing the different scenarios, select the weight you would like to issue to each scenario
4. Press “Calculate” and the calculator would select the total return for each scenario and show you a detailed breakdown below.
5. The Total Return, Horizon Yield, PVBP, DV01, Macaulay Duration and Modified Duration etc will be provided.

Expected Return Analysis

Scenario Name	Weight	Probability	Total Return	Horizon Yield(%)	Horizon PVBP	DV01	Horizon Macaulay	Horizon Mod
No Shift_No Shift	1	33%	38,133.43	3.5224	4.26	1,702.29	4.351	
10BP UP_UP10BP	2	67%	21,173.43	3.6220	4.22	1,689.43	4.339	

Expected Return Details

	Currency	Position	Initial Position	Principal Amount	Initial Principal Amount	Clean MarketValue	Initial Clean M
- NULL		4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	3,945,640.00	
- CNGV 1.000 12/01/13 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- CNGV 0.600 08/18/14 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- CNGV 1.850 06/29/15 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- CNGV 2.560 06/29/17	Chinese Yuan	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	995,260.00	
- CNGV 2.650 06/29/19	Chinese Yuan	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	983,750.00	
- CNGV 3.100 06/29/22	Chinese Yuan	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	980,370.00	
- CNGV 3.480 06/29/27	Chinese Yuan	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	986,260.00	
- PDACL 5.800 10/28/14 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- BJLAN 4.750 02/21/14 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- CENTL 2.700 04/28/14 MTN MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
- SASAC 3.750 11/01/15 MATd	Chinese Yuan	0.00	0.00	0.00	0.00	NaN	
Grand Total		4,000,000.00	4,000,000.00	4,000,000.00	4,000,000.00	3,945,640.00	

16. Yield Map <YMAP>

For users who wish to have a more visual representation of the page could utilise the Yield Map application <YMAP> in order to plot the different yields of bonds and swaps in order to view them visually on one page.


We will walk through the functionalities of the application.

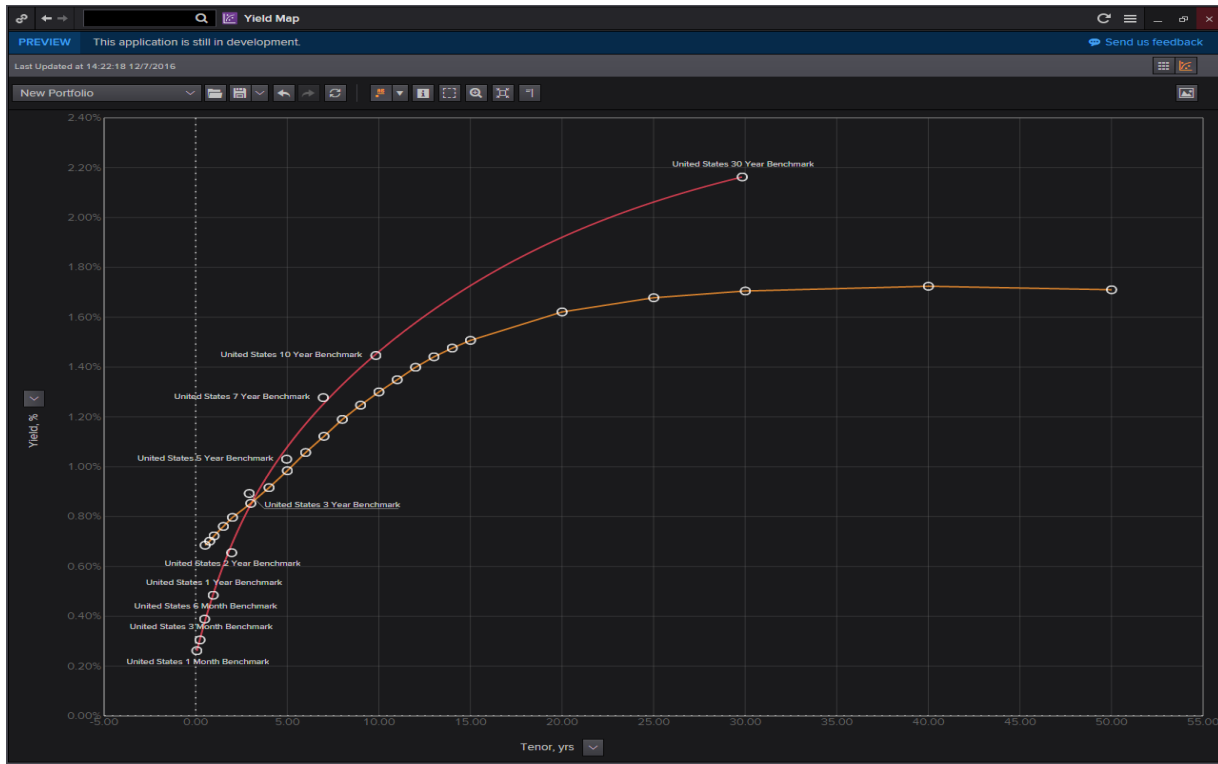
1. In the Eikon Toolbar, search <YMAP> in order to open the application.
2. Select Add New Portfolio > Create Empty Table if no Portfolio is available. Alternatively, you could import or drag and drop the lists if any.
3. If you selected Create Empty Table, you could search for Chain Code of the Bond or select individual instruments (e.g. 0#USBMK=)

The screenshot displays the Yield Map application interface. At the top, there is a search bar with 'Yield Map' entered. Below the search bar, a 'New Portfolio' dropdown menu is visible. The main area contains a table of financial instruments, categorized into 'Bonds' and 'Swaps'. The table has the following columns: RIC, Name, Coupon, Maturity, Curr..., Price / Upfr..., Price Type, Yield, % / C..., Yield Type, Compounding Type, Duration, and Duration Ty... (likely Type). The 'Bonds' section includes various US Treasury instruments with different maturities and coupons. The 'Swaps' section includes USD IRS instruments with various maturities and coupons. Each row in the table has a checkbox on the left and a 'Macaulay' button on the right.

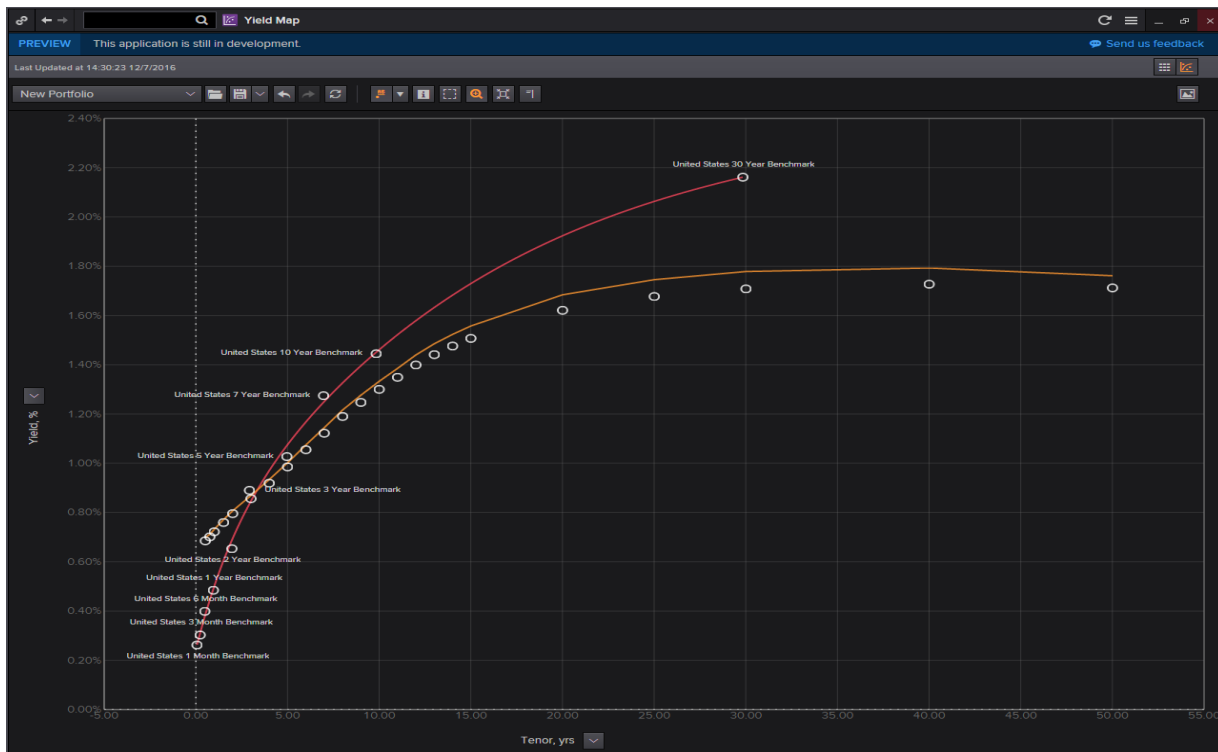
RIC	Name	Coupon	Maturity	Curr...	Price / Upfr...	Price Type	Yield, % / C...	Yield Type	Compounding Type	Duration	Duration Ty...
0#USBMK=	US - BENC...										
US1MT=	US Treasury	0	4/8/2016	USD	99.98	Mid	0.26	Automa...	Native	0.06	Macaulay
US3MT=	US Treasury	0	6/10/2016	USD	99.93	Mid	0.31	Automa...	Native	0.23	Macaulay
US6MT=	US Treasury	0	5/1/2017	USD	99.81	Mid	0.39	Automa...	Native	0.48	Macaulay
US1YT=	US Treasury	0	22/6/2017	USD	99.54	Mid	0.48	Automa...	Native	0.94	Macaulay
US2YT=	US Treasury	0.625	30/6/2018	USD	99.94	Mid	0.66	Automa...	Native	1.96	Macaulay
US3YT=	US Treasury	0.875	15/6/2019	USD	99.95	Mid	0.89	Automa...	Native	2.89	Macaulay
US5YT=	US Treasury	1.125	30/6/2021	USD	100.46	Mid	1.03	Automa...	Native	4.84	Macaulay
US7YT=	US Treasury	1.375	30/6/2023	USD	100.65	Mid	1.28	Automa...	Native	6.66	Macaulay
US10YT=	US Treasury	1.625	15/5/2026	USD	101.63	Mid	1.45	Automa...	Native	9.12	Macaulay
US30YT=	US Treasury	2.5	15/5/2046	USD	107.39	Mid	2.16	Automa...	Native	21.47	Macaulay
USDIRS	USD IRS FO...										
USDAM...	USD 6M AM...		17/1/2017	USD	-0.00	Bid	0.69			0.49	Macaulay
USDAM...	USD 9M AM...		18/4/2017	USD	-0.00	Bid	0.70			0.74	Macaulay
USDAM...	USD 1Y AM...		14/7/2017	USD	0.00	Bid	0.72			0.98	Macaulay
USDAM...	USD 18M A...		16/1/2018	USD	0.00	Bid	0.76			1.49	Macaulay
USDAM...	USD 2Y AM...		16/7/2018	USD	0.00	Bid	0.80			1.98	Macaulay
USDAM...	USD 3Y AM...		15/7/2019	USD	0.00	Bid	0.85			2.96	Macaulay
USDAM...	USD 4Y AM...		14/7/2020	USD	0.00	Bid	0.92			3.93	Macaulay
USDAM...	USD 5Y AM...		14/7/2021	USD	0.00	Bid	0.98			4.89	Macaulay
USDAM...	USD 6Y AM...		14/7/2022	USD	0.00	Bid	1.06			5.83	Macaulay
USDAM...	USD 7Y AM...		14/7/2023	USD	0.00	Bid	1.12			6.75	Macaulay
USDAM...	USD 8Y AM...		15/7/2024	USD	0.00	Bid	1.19			7.66	Macaulay

4. Right-click on any of the data items and select "Add to Curve" and choose a curve and colour.

- Select the  button for the curve to appear as follows. This chart would show you the two yields stacked side by side by the absolute figures for the yield.

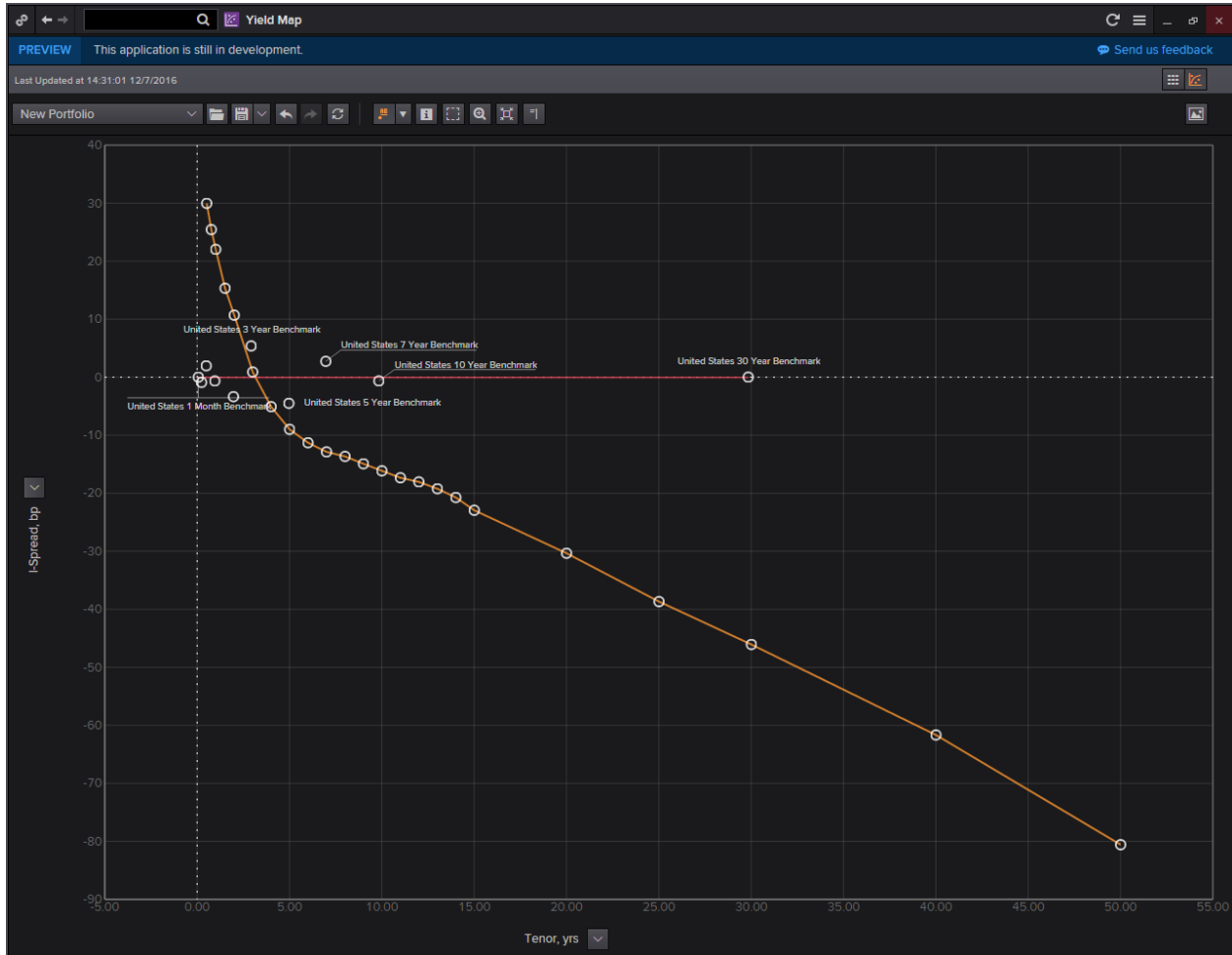


- Right click on the curve and select **Bootstrap** in order to plot a zero curve out of the swap or bond



7. Alternatively, you could force a yield curve to zero in order to view how the other instrument performed relative to it.

Here, click on the arrow on the vertical axis and select I-spread. Following this, select the yield curve you would like to force to zero (e.g. the bond yield curve). The resultant chart as shown below would show how the second curve performed relative to the first with positive figures showing that the yield for the second curve was higher than the first and vice versa.



Part 9: Commodities and Energy

COMMONLY USED CODES: COMMODITIES AND CURRENCIES

GLOBAL	
Euro Bond	FGBLc1
JGB	FYBc1
Long Gilt	FLGc1
3-Month EURIBOR	FEIc1

FINANCIALS – CURRENCIES	
Euro	UROc1
Japanese Yen	JYc1
Canadian Dollar	CDc1
Swiss Franc	SFc1

FINANCIALS – INTEREST RATES	
Eurodollar	ECc1
US Long Bond	USc1
US Long Bond – Electronic Trading	ZBc1
2-Year T-Note – Electronic Trading	ZTc1
5-Year T-Note – Electronic Trading	ZFc1
10-Year T-Note – Electronic Trading	ZNc1
Federal Funds	FFc1

COMPOSITE TREASURY BONDS		
On the Run	Eikon	Eikon NAS
1 Month T-Bill	US1MT=RR	US1MT=RRPS
3 Month T-Bill	US3MT=RR	US3MT=RRPS
6 Month T-Bill	US6MT=RR	US6MT=RRPS
1 Year Note	US1YT=RR	US1YT=RRPS
2 Year Note	US2YT=RR	US2YT=RRPS
3 Year Note	US3YT=RR	US3YT=RRPS
5 Year Note	US5YT=RR	US5YT=RRPS
10 Year Note	US10YT=RR	US10YT=RRPS
30 Year Note	US30YT=RR	US30YT=RRPS

VEHICLE RETRIEVAL – RULES OF THUMB	
Vehicle	Format
Class Stock	Lower case (ab)
Preferred Stock	_p
Rights	_r
warrants	_t
When Issued	_w
Units	_u
Exchange Specific	.X (exch code)

CROSS CURRENCY	
Australia Dollar – US Dollar	AUD=
Canadian Dollar – US Dollar	CAD=
Euro – Japanese Yen	EURJPY=
Euro – US Dollar	EUR=
US Dollar – Swiss Franc	CHF=
US Dollar – GB Pound Sterling	GBP=
GB Pound – Euro	GBPEURO=

ENERGY	
Crude Oil, Light	CLc1
Gasoline	RBc1
Heating Oil	HOc1
Natural Gas	NGc1

METALS	
Gold	GCc1
Platinum	PLc1
Silver	SLc1
Copper	HGc1

COMMODITIES – FOOD, MEATS & MISCELLANEOUS	
Coffee C	KCc1
Cocoa	CCc1
Sugar (World)	SBc1
Orange Juice	OJc1
Cotton	CTc1
Lumber	LBc1
Live Cattle	LCc1
Live Hogs	LHc1

COMMODITIES – GRAINS & OILSEEDS	
Corn	Cc1
Wheat	Wc1
Soybean	Sc1
Soybean Oil	BOc1
Soybean Meal	SMc1

1. Overview

Commodities are often categorized as raw or partly-refined materials, traded for processing into final goods. A very small percentage of commodities trading require physical delivery as most organizations use the exchange for hedging purposes.

There are 4 main commodities markets, namely:

1. Energy
2. Metals
3. Agriculture
4. Shipping

Commodities are either traded on an exchange or OTC, as cash or forwards and futures.

How to View Futures on Eikon

Eikon allows users to view future chain contracts as well as individual futures contracts.

1. In order to view a **future chain contract**, one can do either of the following.

A: In the Eikon Search Bar, type **<0#XXX:>** (XXX represents the code for the chain contracts)

B: In the Quote App (F4), type **<0#XXX:>** or type **XXX:** and press F3.

A would give you the detailed view and specifications of the contract chain, while B would provide you the prices of the chain contracts.

2. In order to view **individual contracts**, one can do A or B, replacing the search with **<XXXC1>** for the nearest live contract.

A good thing to note about futures on Eikon:

Types of Instrument	Example Code	RIC Logic
Futures Chains	0#XXX: E.g. 0#LCO:	The chain RIC shows all the live futures contracts. (0#): Indicates that it is a chain (LCO): Root Code (:): Indicates a futures chain
Individual Futures Contract	E.g. LCOZ5	The individual contract consists of the root code, the month and year of expiry. (LCO): Root Code (Z): December (5): Year 2015
Continuation RIC	E.g. LCOC1	This will show the contract closes to expiry. Once this contract expires, it will automatically roll over to display the next live contract
Expired Futures	LCOZ1^3	(LCO): Root Code (Z): December (3): Year in the decade, 2013 (^): indicates an expired future (1): Decade. For example, here it is 10.

Spread Trading

Commodities, especially energy products, may sometimes be trade on spreads. Common spread contracts show the following,

- The difference between 2 related products
- The difference between two different delivery months of the same futures chain.

Type of Instrument	Example Code	RIC Logic
Spread Chain	0#LCO-:	(-): Indicates calendar spread contracts. Hence, the spread between different delivery months
Individual Spread Contracts	LCOV5-V6	The spread between the September 2015 and the December 2016 contracts
Crack Spread	0#1HO-CL	The difference between two different types of energy products. In this case, the crack spread between heating oil and crude oil trading on NYMEX

Crack spreads can be defined as the differential between the price of crude oil and petroleum products. Hence it involves buying crude oil, and simultaneously selling products, or vice versa. This could allow refineries to lock-in a crude oil price and heating oil and unleaded gasoline prices simultaneously in order to establish a fixed refining margin. Thus, it is a hedging tool.

Options on Futures

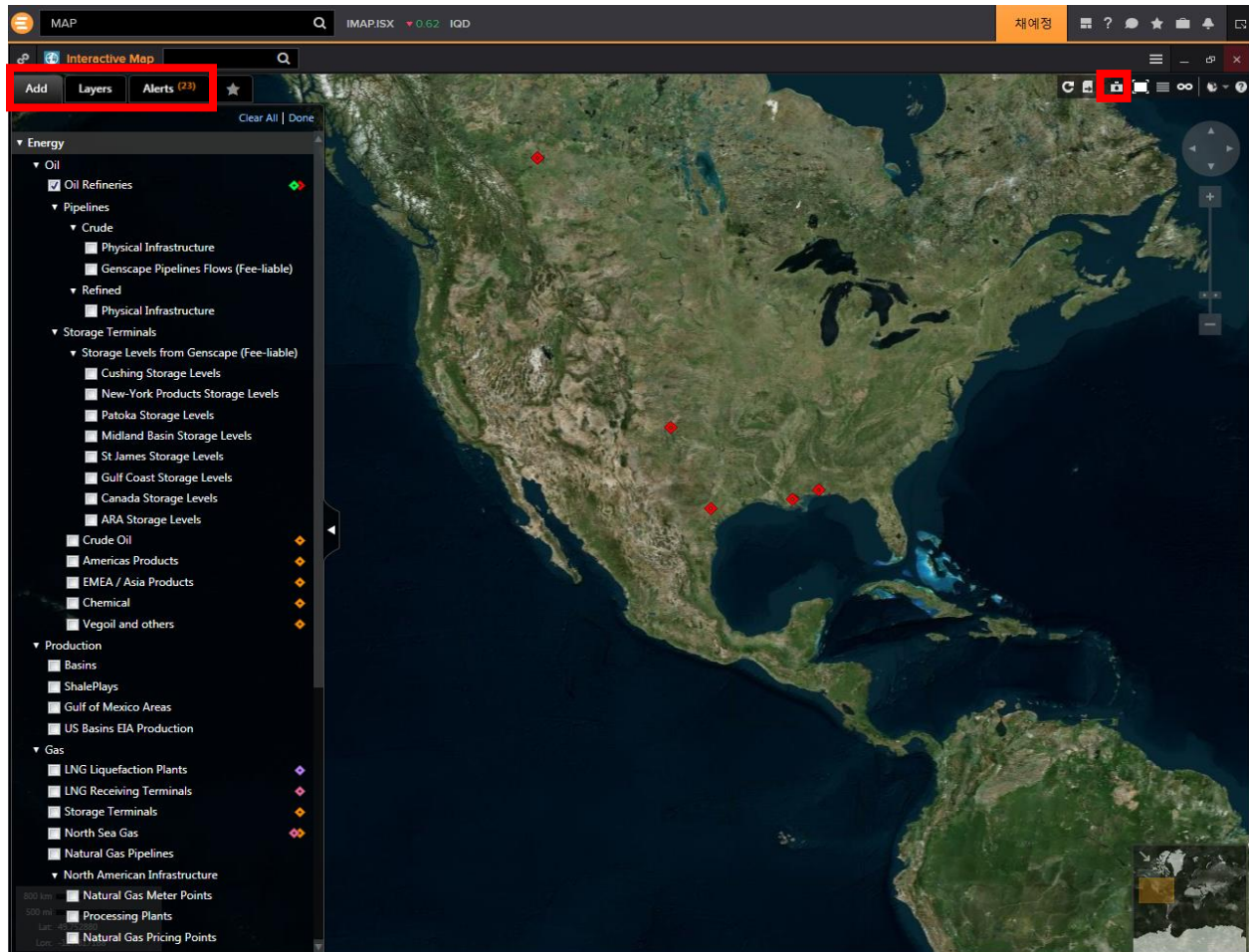
Type of Instrument	Example Code	RIC Logic
Options Chains	0#LCO+: 0#LCO++	(+): Options on futures chains all end with + ++: At the money options

OTC Instruments

Type of Instrument	Example Code	RIC Logic
OTC Commodities	0#FO-E	This is used to separate information regarding type, term, delivery method and quality. The example shows all fuel oil in Europe FO: Fuel Oil E: Europe
OTC Commodities	FO35-C-NWE	FO35: Fuel Oil with API 3.5% C: Cif (Cost Insurance and Freight). The price includes delivery as compared to FOB (Free on Board) NWE: Location North Western Europe

2. Interactive Map <MAP>

The Interactive Map function on Eikon is a good visual display of all the key factors that affect the supply chain and prices of commodities trading. On the Interactive Map Application, one can view the refineries or different production facilities, and filter out those which are closed or under construction. As shown in the screen shot below, these are the oil refineries currently which are under maintenance.



1. In the Eikon Toolbar, search **MAP** to open the Interactive Map Application.
2. In the **Add** tab, choose the data sets you which to search on
3. Filter each data set in the **Layer** tab.
4. Set alerts for any notifications that you wish to be notified about.
5. Take a screenshot and save an image of the current view with the button in the upper right corner.

For information about Vessels, there are often two fields of concern

1. AIS Draft (m): This shows the current depth of the vessel
2. Max Draft (M): Maximum depth the vessel can travel at

These two figures would reflect the weight of cargo on board. (<70%: usually empty and >97%: full)

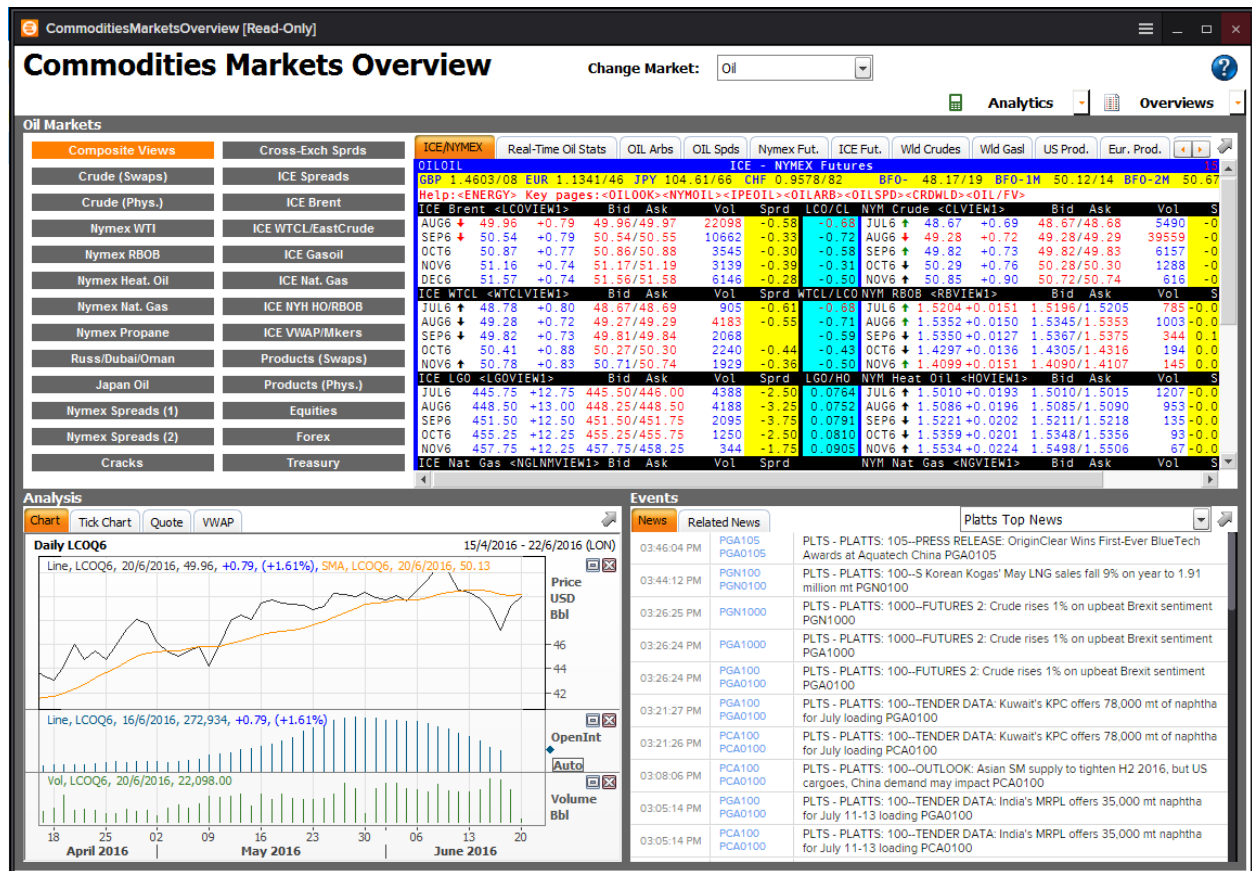
3. Commodities Market Overview Application <COMO>

Another useful app for Commodities traders would be the COMO application.

On this application, users can get a quick overview about all essential information about a certain commodity.

There are three main markets covered, agriculture, oil and metals.

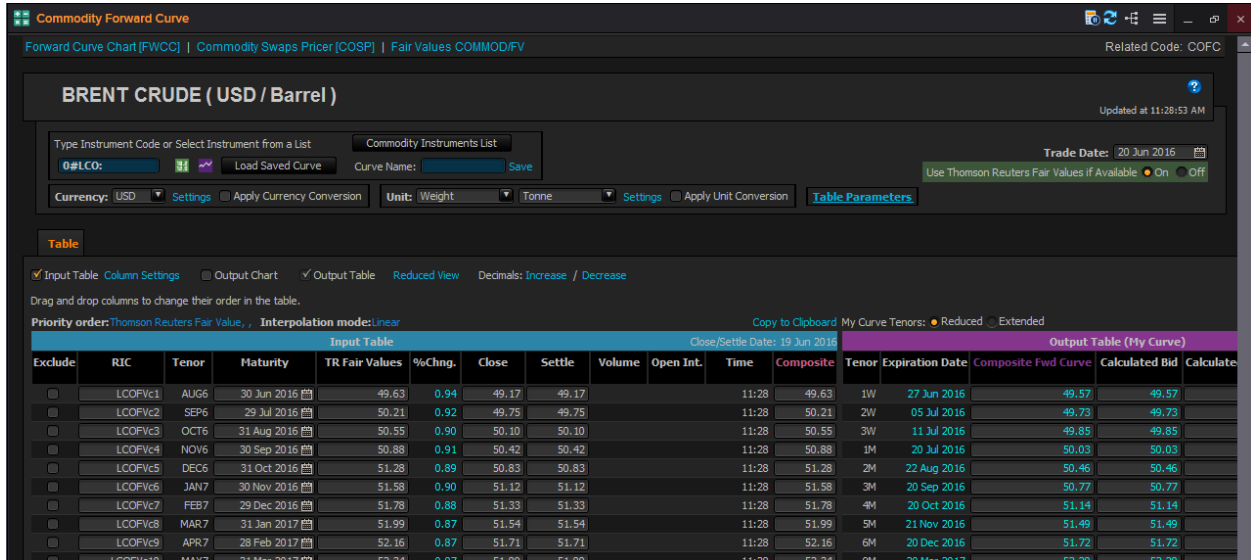
Through the various tabs, users can obtain a composite view of the market, as well as look into different Quote pages for spreads, swaps and basic treasury information.



4. Charting for Commodities

Commodity Forward Curve Application <COFC>

Using Eikon, one can plot the forward curve of different chain contracts using the <COFC> application.

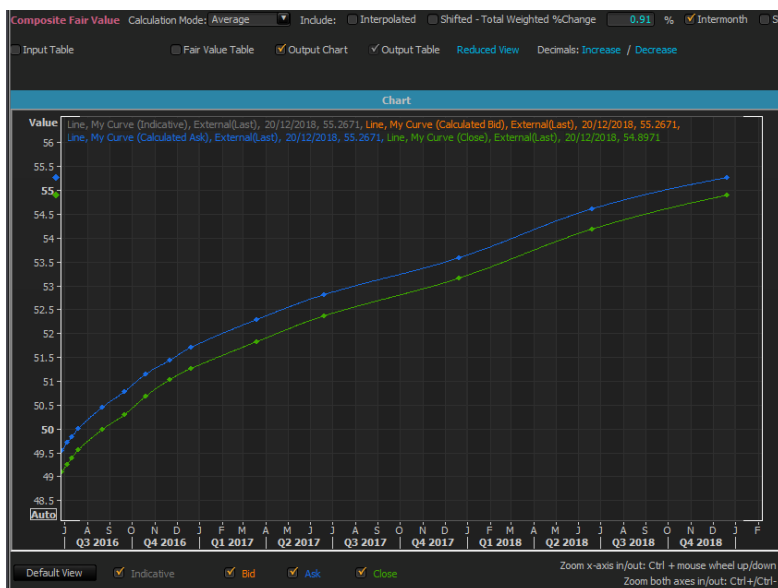


In order to generate the following chart, one should type <COFC> in the Eikon Toolbar.

In the app, the following could be customized.

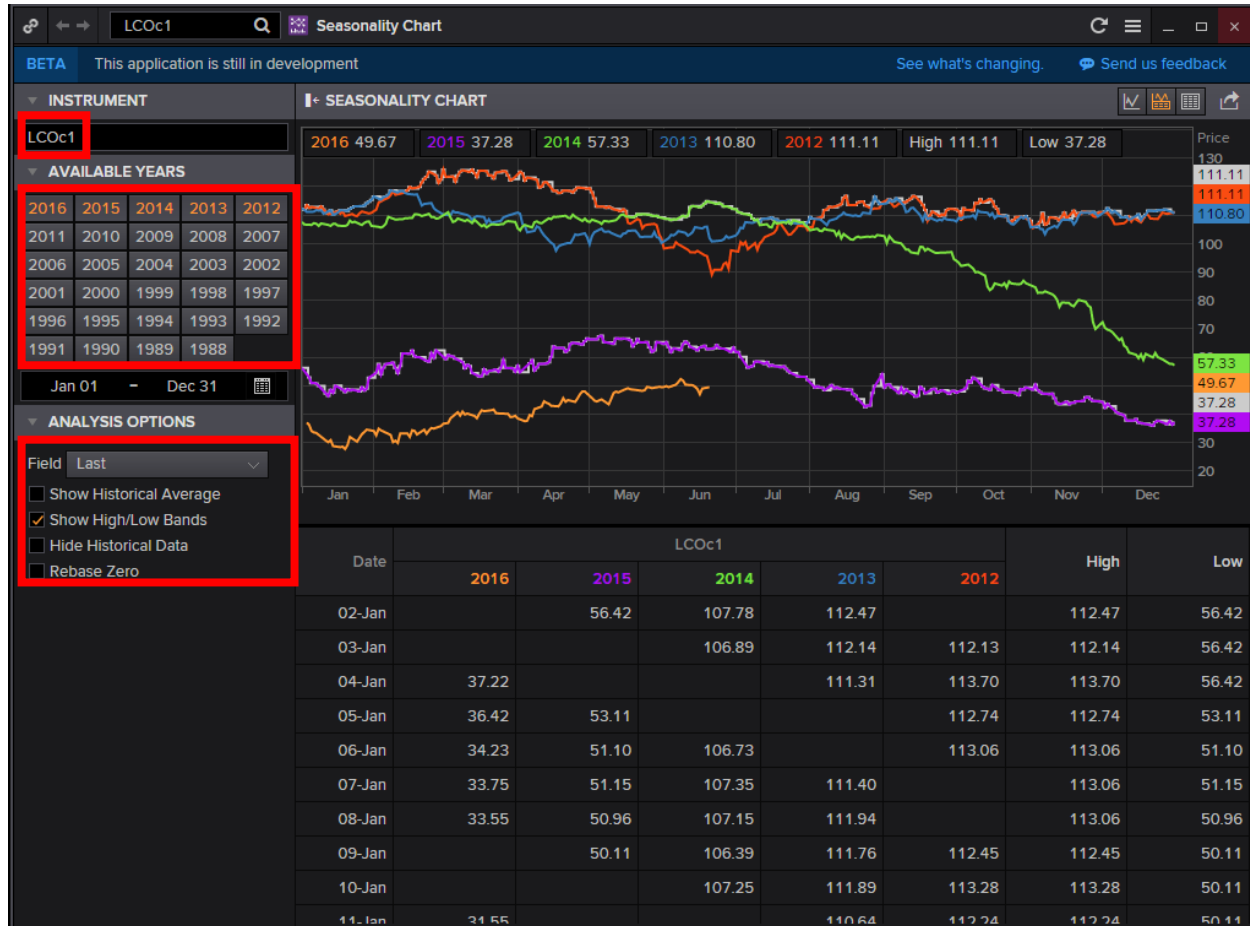
1. Instrument Chain Code
2. Currency
3. Units
4. Whether to use Thomson Reuters Fair Values

Check the “Output Chart” box and the following forward curve will be generated.



Seasonal Analysis Chart <SEAC>

Using the seasonal analysis chart <SEAC> application, one can plot the different prices of the contract on each day across different years. (E.g. the price of the contract every year on 14 January). This allows analysts and traders to observe the trend of prices within the year as well as comparing it to past trends.



1. In the Eikon Toolbar, search <SEAC> to open the application
2. Select the contract (continuation code) you would like to view, e.g. LCOc1
3. Select the number of years to include
4. If you require the historical average, high low bands etc, select the options in “Analysis Options”

This shows for example 5 successive years of the front month contract for Brent Crude Oil. Here, you can analyze the performance and trend for prices each year.

Term Structure

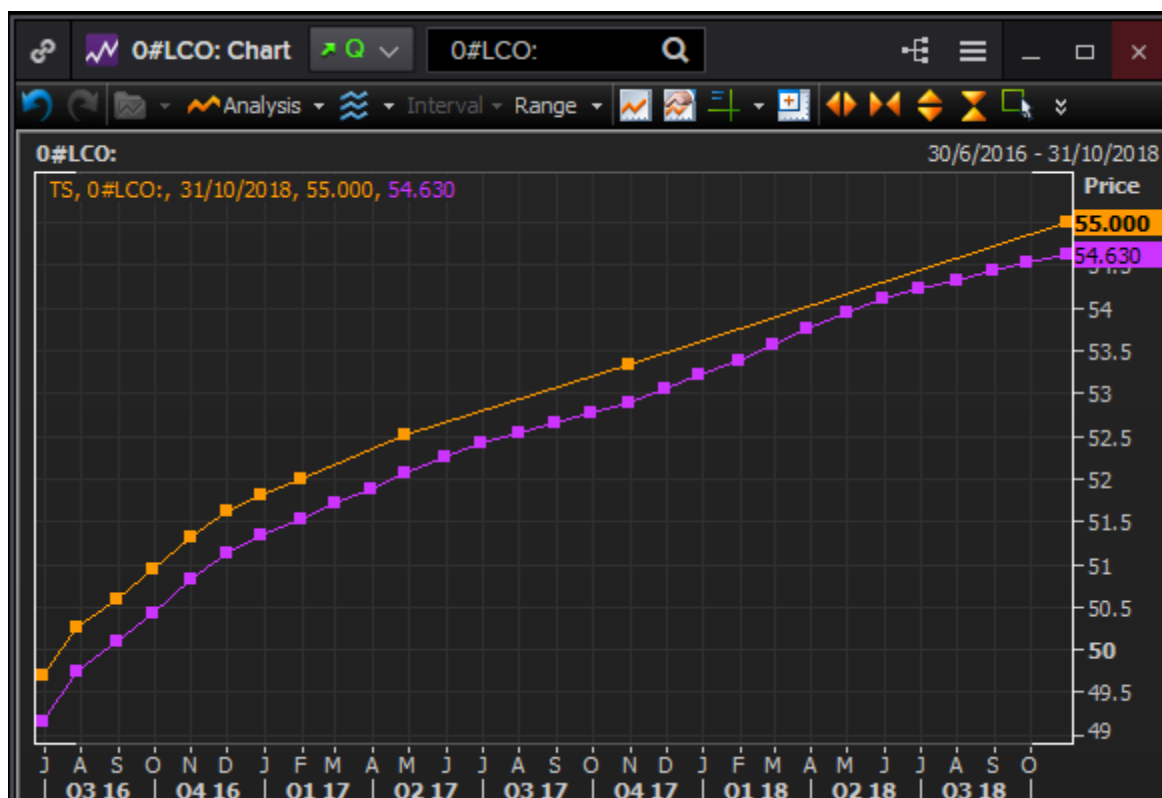
Using the term structure of a contract would allow you to see whether the market is in Backwardation or Contango. The terms are defined below.

Contango: Market situation where the nearby price is lower than a further forward price. (Denoted by “c-“ in the quote)

Backwardation: Market situation where a nearby price is higher than a further forward price. (Denoted by “b+” in the quote)

Term structure is usually used to monitor commodity markets where holding costs such as insurance and storage costs may cause distant futures prices to be at a premium to nearby futures prices.

1. Press F10 to open the chart app.
2. Type: 0#LCO: or 0#XXX: to pull up the default chart which is the term structure.



Hence, here we observe that the prices are in Contango, where the nearby contracts have lower prices than further futures. Hence the cash price is at a discount to the futures prices, or the nearby futures are at a discount to the distant futures. The last price and the previous close lines are sloping up.

One may observe that the term structure is similar to a yield curve but whilst the yield curve shows the yields of a single instrument over time, the term structure shows the different prices of chain contracts over time.

Commodity Spread Chart <SPDC>

The Commodity Spread Chart <SPDC> could be utilized to show a simple spread between any two, three or four commodities instruments and calculates the difference in the yield of those instruments. Traders can utilize the futures spread in an arbitrage technique where they buy one commodity and sell another contract of the same commodity to capitalize on price differences.

On this note, let us first define the 3 most common types of spreads in commodities.

1. Crack spread: As defined previously, the crack spread is the price differential between crude oil and one of its by-products, primarily gasoline, gas oil and heating oil.
2. Crush spread: Differential between soybean futures and soybean meal and oil futures - represents the premium inherent for processing soybeans
3. Spark spread: differential between natural gas and a unit of electricity, for gas-fired power stations.

Other spreads available in the SPDC app include

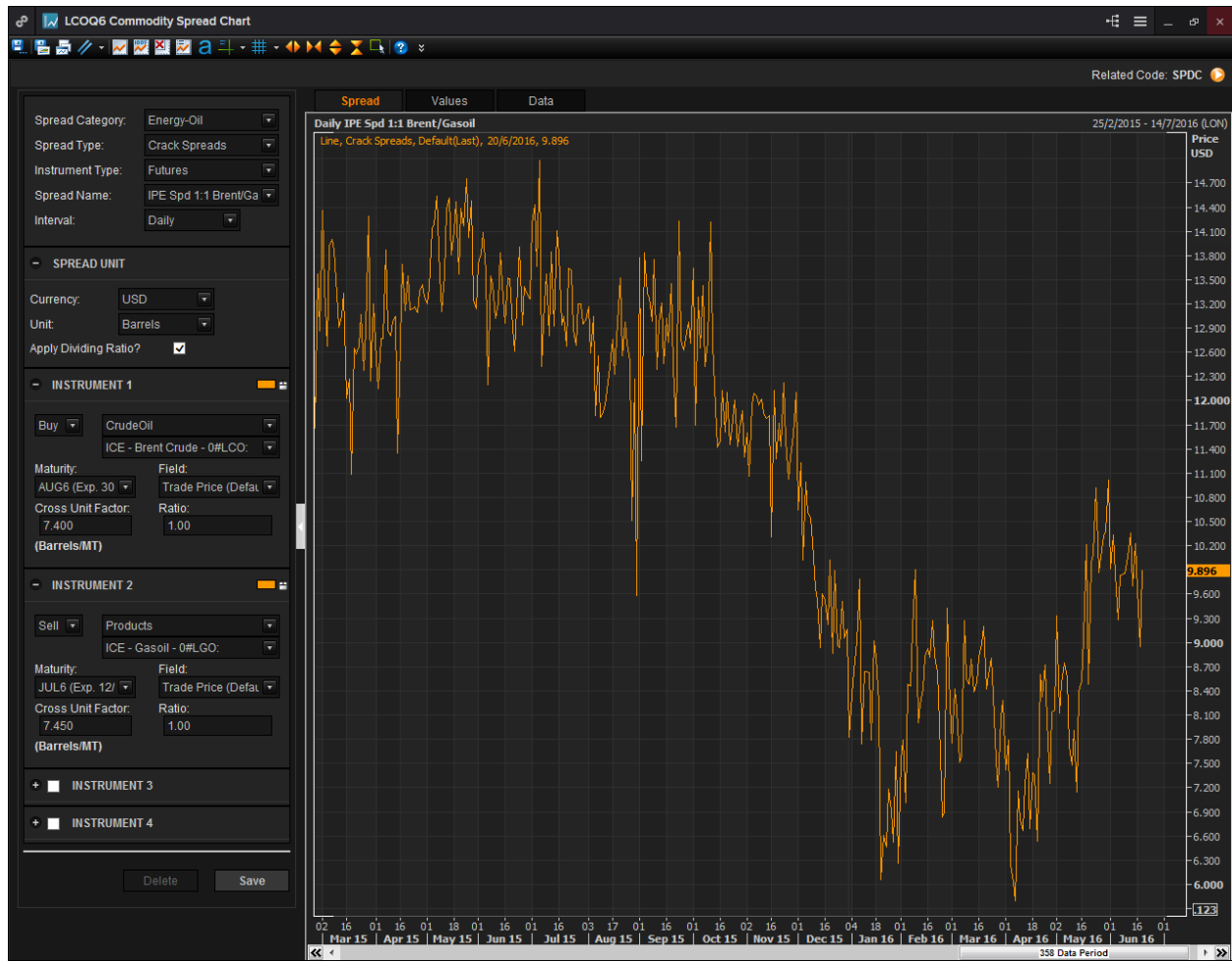
4. Crude spreads; the differential between different crude oils (WTI v Brent etc)
5. Different Agriculture Softs spreads (Coffee, Cocoa and Sugar).

Alternatively, the user can define any spread he wishes with the SPDC app.

In order to utilize the application in Eikon, the following steps could be performed.

1. In the Eikon toolbar, search <SPDC>
2. Under Spread Category, choose the type of commodity required (E.g. Energy, Agriculture etc).
3. Under Spread Type, choose one of the 5 types as explained above or a user-defined spread
4. Choose the instrument type (Futures or Calendar Strips)
5. Select the interval of time and the currency and unit
6. Set the two contracts, whether to buy or sell crude and to buy or sell gasoline, gas oil and heating oil.

Refer to the next page for the screenshot of the application



One may realize that the interface of the SPDC application largely resembles that of the F10 Chart interface.

On this application, you are also able do different types of technical analysis, such as plotting trend lines, or Fibonacci retracements and projections.

Part 9A: Energy Market

Eikon shortcuts: Energy

REAL TIME MONITORING	
ALT	Alert Manager
COPM	Commodities Prices Monitor
MON	Monitor
OPW	Option Watch
Q	Quote
QL	Quote List
QLI	Quote Line
TICK	Ticker

NEWS	
NEWS	News Monitor
TOPNEWS	Top News

CHARTING	
CHT	Chart App
SPDC	Commodity Spread Chart
FWDC	Forward Curve
VOLC	Volatility Chart
TEAC	Technical Analysis Chart
REBC	Rebasing Chart

ANALYTICS & CALCS	
AVRG	Average Calculator
CALC	Eikon Calculators
CFTC	Commodity Futures Trading Commission
COCM	Commodity Curve Monitor
COFC	Commodity Forward Curve
COOA	Commodity Options Analyzer
COSP	Commodity Swaps Pricer
CSPD	Cross-Commodity Spreads
ESPD	Energy Spreads
HURRICANE	Hurricane Tracker
MAP	Interactive Map
MAPTRK	Interactive Map Asset Tracker
OSPD	Oil Spreads
OSWO	Oil Swaps Overview
TANK	US Weekly Oil Stocks Estimates (API, EIA)
UKGSS	UK Gas Supply and Status
UKPSS	UK Power Supply and Status
VOLS	Volatility Surface Calculator

MARKETS – OIL	
BRENT	Brent Crudes Guide
CRUDE	Crude Guide
CRUDEDUB	Dubai Crudes Guide
CRUDEUS	US Light Sweet Crudes Guide
DIESEL	Diesel Guide
EWFO	Platts eWindow Market Data – Asia Financial – Fuel Oil – Daily Report
EWFP	Platts eWindow Market Data – Asia Physical Products – Fuel Oil – Daily Report
EWIN	Platts eWindow Market Data
FUELOIL	Fuel Oil Guide
GASHEAT	Gas Oil / Heating Oil Guide
GASOLINE	Gasoline Guide
JETFUEL	Jet Fuel Guide
LIQPETRO	Liquified Petroleum Gas Guide
NAPHTHA	Naphtha Guide
OILOUT	Fundamentals Database and Refinery Outages
OSWO	Swaps Overview
PETRO	Petrochemicals Guide
REFINED	Refined Products Guide

Chapter 9: Commodities and Energy

MARKETS – POWER	
IIRPWR	IIR Power Outages
POINTCARBON	PointCarbon
POWAUS	Power – Australia
POWBEL	Power – Belgium
POWBRA	Power – Brazil
POWCAISO	Power – CAISO (California ISO)
POWCAN	Power – Canada
POWCEEUR	Power – Central and Eastern Europe
POWCHE	Power – Switzerland
POWCZE	Power – Czech Republic
POWEBL	Energy Bank Link (EBL)
POWERCOT	Power – ERCOT
POWESP	Power – Spain
POWEUR	Power – Continental Europe
POWFRA	Power – France
POWGER	Power – Germany
POWITA	Power – Italy
POWNLD	Power – Netherlands
POWNOR	Power – Norway
POWNORDIC	Power – Nordic
POWPNW	Power – PNW (Northwest)
POWRENEW	Power – Renewables
POWSWE	Power – Sweden
POWTUR	Power – Turkey
POWUK	Power – United Kingdom
POWUSA	Power – United States

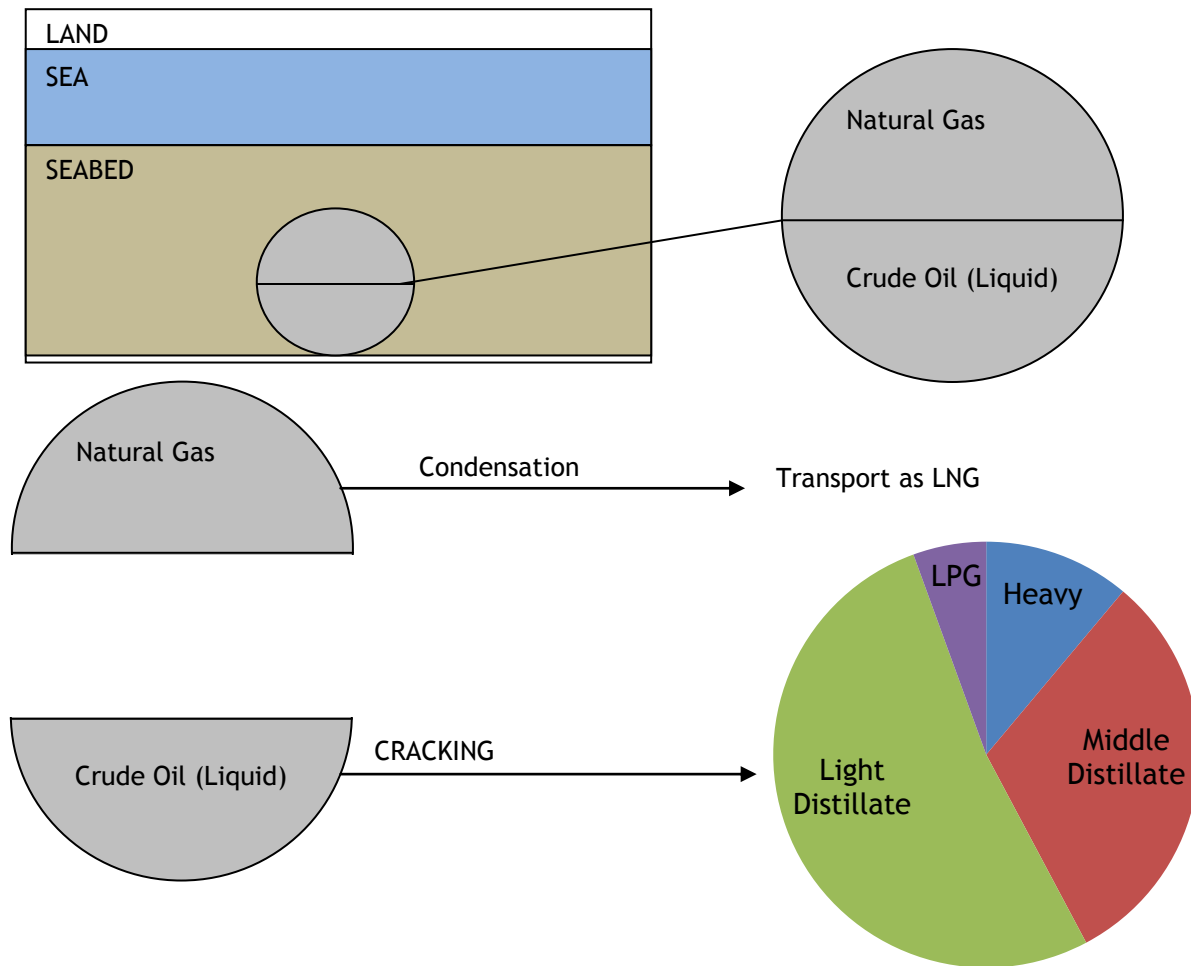
MARKETS – GAS	
GASEUR	Gas – Continental Europe
GASUK	Gas – United Kingdom
GASUS	Gas – USA

MARKETS – COAL	
COALAU	Coal – Australia Guide
COALCHN	Coal – China
COALEUR	Coal – Europe Guide
COALZAF	Coal – South Africa Guide
COALUS	Coal – United States Guide

MARKETS – CARBON	
CARBAMER	Carbon – Americas Guide
CARBAPAC	Carbon – Asia-Pacific Guide
CDMJI	Carbon – CDM/JI Guide
CARBCM	Carbon – Crediting Mechanisms Guide
CARBEUR	Carbon – Europe Guide
CARBGCP	Carbon – Global Climate Policy Guide
CARBNEWC	Carbon – New Credits Guide
CARBNAOFF	Carbon – North America Offsets Guide

SEARCH TOOLS	
ANSWERS	Eikon Answers
ENESRCH	Energy – Advanced Search
OILREF	Oil Refineries Advanced Search
PHYSICALSRCH	Commodities Physical Assets – Advanced Search
WEATHERSRC	Weather – Advanced Search

1. Overview



Raw Materials

From within the seabed, oil rigs will drill for oil, and will obtain two different types of raw materials.

1. Natural Gas
2. Liquid Crude Oil

The natural gas would be condensed under high pressure and will be transported as LNG (Liquefied natural gas).

Crude oil will then undergo a distillation process known as cracking in order to produce other products. However, at this point it would be good to differentiate the three different types of crude oil.

Crude Oil

A: Brent (ICE)

Brent is the world's benchmark for about 2/3 of the oil traded around the world. Crude here is light and sweet, ideal for diesel fuel, gasoline and other products. Supply is also water-borne and easy to transport. The continuation code for Brent is **<O#LCO:>**

B: WTI (NYMEX)

However, WTI (West Texas Intermediate) is a type of sweet crude which is traded on NYMEX and is the US Benchmark. Oil here is extracted from wells in US and sent via pipeline to Cushing, Oklahoma. The continuation code for WTI is **<O#CL:>**

C: Dubai/Oman

The last type of Crude Oil is Dubai/Oman which is middle-eastern crude, a good reference for oil at a slightly lower grade than WTI or Brent. Oil here is heavier and has higher sulphur content. Thus, it is categorized as sour crude. Dubai/Oman is the main reference for Persian Gulf Oil delivered to the Asian market. The continuation code for Dubai/Oman is **<O#1OQ:>**.

Distillates

After cracking the crude oil, the following products would be obtained, and could be categorized into the following categories.

1. Heavy Distillates

Heavy distillates, together with crude oil are categorized as “dirty” crude and are transported using specific vessel which cannot be utilized with “clean” crudes such as other distillates.

An example of a heavy distillate is fuel oil, used for ships and tankers. Fuel oil is heavily traded in Singapore, being a port city.

After distillation, fuel oil becomes less profitable compared to other distillates.

2. Middle Distillates

Middle distillates include products such as jet fuel and kerosene. Gas oil used in power plants is also another example of a heavy distillate. Gas oil has a continuation code of **<O#LGO:>**.

3. Light Distillates

Light distillates include gasoline and NaphtGa. NaphtGa can undergo further cracking to produce petrochemical products. Gasoline has a continuation code of **<O#RB:>**.

4. Liquefied Petroleum Gas (LPG)

The last product of cracking is Liquefied Petroleum Gas (LPG), the commonly used gas product for cooking and vehicle fuel.

2. Energy Homepage

Overview

The screenshot displays the Thomson Reuters Energy homepage with the following sections:

- ENERGY OIL** navigation tabs: Overview, Pricing, Analysis, Supply / Demand, Production, Storage, Flows, Refining, Tools.
- CRUDE** sidebar menu: Global Market, Americas, Asia, Europe, Middle East & Africa, REFINED PRODUCTS, Summary, Light Distillates, Liquefied Petroleum Gas, Gasoline, Naphtha, Middle Distillates, Diesel, Gas Oil / Heating Oil, Jet Fuel, Heavy Distillates, Fuel Oil, Petrochemicals.
- ENERGY TOP NEWS**:
 - SAUDI ARABIA'S CRUDE OIL EXPORTS FALL IN APRIL DESPITE HIGH OUTPUT (DUBAI, June 20 (Reuters))
 - Marathon Oil deal latest big Oklahoma bet by U.S. drillers (NEW YORK/BENGALURU, June 20 (Reuters))
 - Exxon Torrance crane collapse shakes refinery operations, sale -sources (HOUSTON, June 20 (Reuters))
 - COLUMN-Oil prices under pressure as hedge funds adjust positions (LONDON, June 21 (Reuters))
 - Oil prices fall for first time in three days (TOKYO, June 21 (Reuters))
- CRUDE OIL LATEST NEWS**:
 - NHC STORM ADVISORY: Danielle moving inland over eastern Mexico (21-Jun-2016 10:32:29 RTRS)
 - *TOP NEWS* Energy (21-Jun-2016 10:15:39 RTRS)
 - TECHNICALS-Brent oil may retrace to \$49.90 before rising (21-Jun-2016 09:02:48 RTRS)
 - TECHNICALS-U.S. oil may test \$50.16 after a moderate pullback (21-Jun-2016 09:27:56 RTRS)
 - *TOP NEWS* Commodities (21-Jun-2016 09:00:35 RTRS)
- WORLD OIL MARKET OVERVIEW**:
 - Oil prices fall for first time in three days (21-Jun-2016 08:59:07 RTRS)
 - UPDATE 8-Oil up 3 pct as Brexit chances dim; gasoline surges too (21-Jun-2016 04:34:32 RTRS)
 - U.S. CRUDE OIL FUTURES SETTLE AT \$49.37/BBL, UP \$1.39, 2.90 PCT Clc1 LCOc1 (21-Jun-2016 02:30:42 RTRS)
- MOST READ OIL NEWS IN THE LAST 24 ...** (Last updated 10:46)
- UPDATE 8-Oil up 3 pct as Brexit chances dim;**

- OIL IN CONTEXT** table:

Name	Latest	%
ICE Brent Crude	50.36	-0.57 %
NYMEX Light Sweet	49.15	-0.45 %
DME Oman Crude	47.15	
TR/CC CRB Index	194.4062	1.0558 %
US 10Y T-bonds	99*21½	0.08 %
DJ Ind. Av.	17,804.87	0.73 %
Euro / Dollar	1.1336	0.23 %
- ASSET PERFORMANCE** chart showing performance for LCOc1 (35.09%), DJI (2.18%), EUR (4.37%), and Value % USD. Includes a line chart for 2014-2016.
- OIL WATCH** table:

Name	Latest	Net	%
ICE WTI/Brent spread	-0.59	+0.10	14.49 %
ICE GO	450.50	0	0 %
ICE GO Crack	10.3951	+0.24	2.36 %
NYM. HO No 2	1.5194	-0.0080	-0.52 %
NYM. HO No 2 Crack	14.7800		
ICE HO/GO Spread	0.09		
NYM. RBOB G.	1.5732	-0.0095	-0.60 %
NYM. RBOB G. Crack	17.1000		
- THOMSON REUTERS BE THE FIRST TO KNOW!** Register for our email alerts and be the first to know when the latest Research & Forecasts energy analysis is published in Eikon. REGISTER NOW
- THOMSON REUTERS OIL RESEARCH & FORECASTS** Please use the Flows tab to access all Trade Flows pages.
- THOMSON REUTERS OIL RESEARCH & ...** Click on the top right icon to access past editions
- US CLEAN PRODUCTS AND CRUDE SWAPS - JUN 20, 2016** (21-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Marks as of 130p Houston. Fuel oil: US hilo up across the board. Clean: GC gas weighed down amid bearish (-)
- US FUEL OIL SWAPS - JUN 20, 2016** (21-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Marks as of 130p and 4p Houston.
- DAILY US OIL SWAPS REPORT - JUN 20, 2016** (20-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Clean: GC gas weighed down amid bearish gasoline stocks pull; Fuel oil: Some GC time spreads tighten on crude move (-)
- EMEA OIL SWAPS FORWARD CURVES - 20 JUNE 2016** (20-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Oil up as Brexit chances begin to dim
- ASIA OIL SWAPS FORWARD CURVES** (20-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Prices up on weaker US dollar and easing Brexit concerns
- THOMSON REUTERS OIL RESEARCH & ...** Click on the top right icon to access past editions
- US WEEKLY CRUDE IMPORT MARKET REPORT - 20 JUNE 2016** (20-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) The Thomson Reuters Oil Research team forecast the weekly Energy Information Administration's (EIA) PADD III import figure for the week (-)
- EUROPE WEEKLY OIL FLOWS - JUN 13-19** (20-Jun-2016 (Thomson Reuters Oil Research & Forecasts)) Thomson Reuters Oil Research & Forecasts analysis of vessel flows revealed NWE crude imports fell by almost 13 million bbls (-)

The energy homepage contains a quick overview of all necessary information that a typical user would require. By default, the page is set to open at Crude Oil, Global Market page.

Key information on this page include top news of the Energy market, as well as key oil prices and spreads as well as latest news about crude and the world oil market.

From this page, users can navigate to other pages within Eikon such as different types of energy products as well as to view information about the pricing, supply and demand of oil as well as production, storage and flows.

We will now look at the flows portion in detail.

Oilflow

To arrive at this page, go to Home > Asset Classes > Commodities > Energy > Oil > Flows

The screenshot displays the 'World Flows Explorer' interface. The sidebar on the left lists various energy categories under 'ENERGY OIL'. The main panel is titled 'WORLD FLOWS EXPLORER' and includes several filter sections: 'Product' (Unknown Oil, Crude Oil, Fuel Oil), 'Grade' (Grades), 'Volume' (From, To), 'Load (Supply)' (Country/Region, Port, Period, Date), 'Discharge (Demand)' (Country/Region, Port, Period, Date), 'Vessel' (Class, Status, Name, IMO), and 'Parties' (Issuer, Charterer, Awardee). Below these filters is a 'Display' section with options for 'Volume' or 'Count' and 'Group by' 'Departure date' or 'Arrival date'. A search bar is present above a bar chart showing oil flows in kilotonnes (kt) from October 2015 to August 2016. The chart shows a steady flow of approximately 200 kt per month, with a slight dip in July 2016. Below the chart, a search bar indicates 'Search returned more than 20,000 entries. Please refine your search.' A table below the search bar shows a list of vessels with columns for Load Port, Load Location, Discharge Port, Discharge Location, Volume (kilotonnes (kt)), Product, Grade, Departure Date, Arrival Date, Vessel, and Vessel IMO. The table is filtered to show 'Discharging in August 2016, Total: 2,300 kilotonnes (kt), count: 9'.

Load Port	Load Location	Discharge Port	Discharge Location	Volume (kilotonnes (kt))	Product	Grade	Departure Date	Arrival Date	Vessel	Vessel IMO
Discharging in August 2016, Total: 2,300 kilotonnes (kt), count: 9										
	Caribbean (Other)	Singapore	Singapore	270	Fuel Oil	Fuel Oil	30/6/2016	18/8/2016	POWER D	92411
	Caribbean (Other)	Singapore	Singapore	270	Fuel Oil	Fuel Oil	30/6/2016	18/8/2016	XIN LIAN YANG	96140
	Caribbean (Other)	Singapore	Singapore	270	Fuel Oil	Fuel Oil	29/6/2016	13/8/2016	OLYMPIC LUCK	94242
	Caribbean (Other)	Singapore	Singapore	270	Fuel Oil	Fuel Oil	25/6/2016	9/8/2016	GENER88 HERA	97231
	Hound Point	United Kingdom	China	280	Crude Oil	Forties	19/6/2016	5/8/2016	SARA	95377
	Caribbean (Other)	Singapore	Singapore	270	Fuel Oil	Fuel Oil	21/6/2016	5/8/2016	MT SOLANA	93953
	Rotterdam	Netherlands	Singapore	270	Fuel Oil	Fuel Oil	21/6/2016	5/8/2016	FRONT PAGE	92484
	Cayo Arcas	Mexico	Daesan	270	Crude Oil	Maya	12/6/2016	4/8/2016	KARAN	93842
	Mina Al Fahal	Oman	Asia	130	Crude Oil	Crude Oil	6/7/2016	1/8/2016	NORDIC 7FNITH	95884

Using the Energy Homepage > Flows, one is able to reach the above page.

In this application, users are able to choose specific oil products in different areas of the world in order to view an overview of vessels that are likely to dock at those ports or about to leave those ports. These information are collated from the vessels' crew themselves or the ports and thus the amount of information available may differ from vessel to vessel or location to location.

The Interactive Map could also be employed here in order to view the likely path travelled by the vessel where users can analyze the potential risks that the vessels may face, such as piracy and weather threats.

This would allow analysts to forecast potential delays in delivery, which may affect the supply of oil and subsequently the price of oil as well.

3. Oil Fundamental Database and Outages <OILOUT>

For users who want a historical record as well as future forecast of oil refinery outages, the Oil Fundamental Database and Outages, **OILOUT** application would be a key application to look at. Whereas Interactive Map (**MAP**) only provides a real-time view, **OILOUT** would be a good application for users to observe past trends of outages and its impact on oil production and price.

To arrive at the following page,

1. In the Eikon Toolbar, type <OILOUT>
2. Toggle with the different settings such as the data source, geographic area and the date range.



4. Oil Applications

Oil Spreads <OSPD>

The oil spread calculator enables traders to monitor various types of spreads such as those between

1. Crude Oil
2. Oil Products
3. Crack Spreads
4. Fractional Spreads: Profit margin for a gas processor (revenue from LNG minus cost of Natural Gas)

Forward Curve Chart [FWCC] | Markets Overview [COMO] | Average Calculator [AVRG] | Options Analyzer [COOA] | Fair Values OIL/FV Related Code: OSPD

Updated at 10:54:01 AM

Crude Oil Oil Products Cracks Fracs

Samples: NYMEX/ICE 1:1 WTI Spread (Fut.) Spread Formula Type: Simple Always Use Fair Values if Available: On Off Trade Date: 22 Jun 2016

Spread Formula

Contract #	Buy/Sell	Ratio	RIC	Change	Source	Name	Native CCY	Native Units	Field	Use Fair Values
Contract #1:	Sell	1.00	0#CLFV:		TRC 1:	WTI Crude (NYM)	USD	Barrel	Default	✓ Fair value curve in use.
Contract #2:	Buy	1.00	0#WTCLFV:		TRC 2:	WTI Crude (IEU)	USD	Barrel	Default	✓ Fair value curve in use.

Spread Dividing Ratio: 1.00

Parameters

Forward Spreads Table Forward Spreads Chart Historical Chart

Reduced View Box Spreads Interpolate Align by Maturity Show RIC

Number	Period	Value	Decimals: Increase / Decrease		Decimals: Increase / Decrease	
			1: WTI Crude (NYM) USD/BBL	2: WTI Crude (IEU) USD/BBL	1: WTI Crude (NYM) USD/BBL	2: WTI Crude (IEU) USD/BBL
#1	Month	0.00				
#2	Month	0.00				
#3	Month	0.00				
#4	Month	0.00				
#5	Month	-0.01				
#6	Month	0.00				
#7	Month	-0.01				
#8	Month	0.00				
#9	Month	0.00				
#10	Month	-0.01				
#11	Month	0.00				
#12	Month	0.00				
#13	Month	0.00				
#14	Month	0.00				
#15	Month	0.00				
#16	Month	0.00				
#17	Month	-0.01				
#18	Month	-0.01				

To arrive at the above page,

1. In the Eikon Toolbar, enter <OSPD>
2. Choose the type of spread you would like to monitor (from 1-4 above)
3. Choose the contracts you would like to view (e.g. NYMEX/ICE 1:1 WTI Spread (Fut.))
4. The spread formula allows you to choose a type of calculation formula (simple or complex)
5. Define the contract (which to sell and which to buy)
6. View the underlying prices, calculated spreads and intermonth spreads.
7. If the chart is needed, you could view the historical chart or the forward spreads chart.

Oil Swaps Overview <OSWO>

The Oil Swaps Overview page gives a one page overview of the different swaps available for different intracommodity and intercommodity swaps. E.g. Brent-WTI swaps and Crude-Fuel Oil swaps or calendar swaps which are swaps between the contracts expiring in July and Aug. The page is a read-only page where details on the page cannot be customized. However, by default, different swaps are provided as shown in the main page snapshot below and the specific market snapshot in the next page.

OilSwapsOverview [Read-Only]
Change Market: Main
?

Oil Swaps Overview

OILSWAP/SG		SINGAPORE SWAPS												DISTILLATE												NAPHTHA											
		CRUDE				FUEL OIL				JET FUEL				SG Gasoil				SG 10PPM GO				SG Jet Kero				LGO sw				NAPH CFR JP				FOB SG E-W			
U	USD	BRT	Fut	BRT sw	BRTsw	Dubai	F0180		F0380		FO EN		SG Gasoil		SG 10PPM GO		SG Jet Kero		LGO sw		NAPH CFR JP		FOB SG E-W														
		vs	DUBSW		SWAP	CRACK	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK	SWAP	CRACK												
		/BBL	/BBL	/BBL	/BBL	/BBL	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T	/T												
BALMO	-	50.58	3.82	46.76	-	250.01	-8.30	-12.12	245.76	4.25	19.00	58.35	11.59	59.40	1.05	58.90	0.55	12.14	-14.79	432.25	-2.55	45.60	11														
jun/jul	-	-0.64		0.14		-2.00			-1.75			0.20		0.13		0.12				0.00																	
JUL16	-	51.22	4.60	46.62	-	252.01	-7.85	-12.45	247.51	4.50	20.25	58.15	11.53	59.27	1.12	58.78	0.63	12.16	-18.14	432.25	-3.19	45.60	13														
jul/aug	-	-0.38		-0.36		-2.25			-2.00			-0.13		-0.13		-0.36				-1.25																	
AUG16	50.58	51.60	4.62	46.98	3.53	254.26	-7.86	-12.48	249.51	4.75	20.50	58.28	11.30	59.43	1.15	59.14	0.86	12.16	-20.29	433.50	-3.43	45.70	15														
aug/sep	-	-0.64	-0.33	-0.37	-0.25	-2.25			-1.75			-0.14		-0.14		-0.39				-2.00																	
SEP16	51.22	51.93	4.58	47.35	3.79	256.51	-7.89	-12.47	251.26	5.25	20.75	58.42	11.07	59.62	1.20	59.53	1.11	12.18	-23.07	435.50	-3.54	45.80	17														
sep/oct	-	-0.38	-0.42	-0.40	-0.25	-2.25			-2.00			-0.14		-0.14		-0.16				-1.50																	
OCT16	51.60	52.35	4.60	47.75	3.82	258.76	-7.94	-12.54	253.26	5.50	21.00	58.56	10.81	59.86	1.30	59.69	1.13	11.94	-25.18	437.00	-3.79	45.90	16														
oct/nov	-	-0.33	-0.32	-0.42	-0.25	-2.00			-2.00			-0.40		-0.40		-0.36				-1.50																	
NOV16	51.93	52.67	4.50	48.17	3.83	261.26	-7.98	-12.48	255.26	6.00	21.50	58.96	10.79	60.38	1.42	60.05	1.09	11.88	-24.52	438.50	-3.95	46.05	16														
nov/dec	-	-0.42	-0.22	-0.32	-0.25	-2.25			-2.25			-0.40		-0.40		-0.35				-1.75																	
DEC16	52.35	52.89	4.40	48.49	3.93	263.76	-7.91	-12.31	257.51	6.25	22.25	59.36	10.87	60.87	1.51	60.40	1.04	11.91	-24.18	440.25	-3.97	46.25	16														
dec/jan	-	-0.32	-0.19	-0.31	-0.25	-2.50			-2.50			-0.30		-0.30		-0.40				-1.50																	
JAN17	52.67	53.08	4.28	48.80	3.96	266.26	-7.84	-12.12	260.01	6.25	21.25	59.66	10.86	61.26	1.60	60.80	1.14	12.00	-24.66	441.75	-4.00	46.45	16														
jan/feb	-	-0.22	-0.17	-0.20	-1.75	-1.75			-1.75			-0.30		-0.30		-0.35				-0.25																	
FEB17	52.89	53.25	4.25	49.00	3.92	268.01	-7.77	-12.02	261.76	6.25	21.25	59.96	10.96	61.48	1.52	61.15	1.19	12.15	-24.75	442.00	-4.14	46.65	15														
feb/mar	-	-0.19	-0.16	-0.19	-1.75	-1.50			-1.50			-0.24		-0.24		-0.24				0.50																	
MAR17	53.08	53.41	4.22	49.19	3.88	269.76	-7.69	-11.91	263.26	6.50	21.50	60.20	11.01	61.64	1.44	61.39	1.19	12.20	-24.90	441.50	-4.35	46.70	15														
mar/apr	-	-0.17	-0.17	-0.21	-1.50	-1.25			-1.25			-0.24		-0.24		-0.21				0.75																	
APR17	53.25	53.58	4.18	49.40	3.81	271.26	-7.67	-11.85	264.51	6.75	21.50	60.44	11.04	61.75	1.31	61.60	1.16	12.20	-24.88	440.75	-4.61	46.75	15														
apr/may	-	-0.18	-0.18	-0.25	-1.50	-1.25			-1.25			-0.26		-0.26		-0.29				0.25																	
MAY17	53.41	53.76	4.11	49.65	3.74	272.76	-7.69	-11.80	265.76	7.00	21.75	60.70	11.05	61.91	1.21	61.89	1.19	12.24	-24.70	440.50	-4.82	46.80	15														

Reuters Energy International News Service

11:30:41 中午	RTRS - TOP NEWS' Asian Companies
11:24:48 上午	RTRS - TOP NEWS'-Front Page
11:18:30 上午	6898.HK 3883.HK RTRS - HK Exchange says 14 firms buy back shares
11:16:56 上午	9984.T 0700.HK RTRS - BREAKINGVIEWS-SoftBank's mixed signals prevent market upgrade
11:12:08 上午	LCOc1 JPY% RTRS - GLOBAL MARKETS-Asia stocks inch up, nerves fray ahead of Brexit vote
11:08:16 上午	RTRS - TOP NEWS'-Agricultural Commodities
11:06:49 上午	RTRS - GRAINS-Corn ticks up from 1-mth low, wheat firms after 2 days of falls
11:06:02 上午	RTRS - TOP NEWS' Euro Zone
11:00:12 上午	RTRS - TABLE-Weekly Japan oil statistics to June 18
	RTRS - JAPAN NAPHTHA STOCKS RISE 46,000 KL TO 1.58 MLN IN WEEK TO

Asia Oil Product Swaps Market Report

No Results Found

QUICK_TIPS.LABEL:

- QUICK_TIPS.DUPLICATED_SOURCES
- QUICK_TIPS.CHECK_CORRECT_SPELLING
- QUICK_TIPS.CHANGE_SEARCH_MODE
- QUICK_TIPS.OPEN_SEARCH_PREFERENCES
- QUICK_TIPS.SWITCH_TO_GLOBAL_PRESS
- QUICK_TIPS.OPEN_HELP

Oil Swaps Overview Change Market: A: AS Assessment at 0330 GMT S: AS Settlement at 0830 GMT
P: EU Assessment at 1130 UKT E: EU Settlement at 1630 UKT

ICE Brent / Dubai

ICE Brent Futures

ICE Brent Fut.	Brent Time Spd.	Real Time	vs. Asian Settle	Time	Latest Fixed Value	Asian Settle	European Settle	Units
AUG16		50.85	0.65	13:47 A	50.82	50.20	49.94	BBL
SEP16		51.47	0.64	13:46 A	51.43	50.83	50.59	BBL
OCT16		51.85	0.68	13:37 A	51.85	51.17	50.98	BBL
NOV16		52.17	0.67	13:42 A	52.17	51.50	51.32	BBL
DEC16		52.58	0.67	13:46 A	52.59	51.91	51.74	BBL
JAN17		52.89	0.68	13:46 A	52.84	52.21	52.05	BBL

ICE Brent Fut. ICE Brent Fut. Fwd Curve

Daily SG CAL BRT AUG16 18/12/2014 - 21/7/2016 (GMT)

Price USD Bbl: 50.85

Dubai Swaps

Dubai Swaps	Dubai Time Spd.	Real Time	vs. Asian Settle	Time	Latest Fixed Value	Asian Settle	European Settle	Units
OCT16		48.04	0.70	13:37 A	48.04	47.34	47.15	BBL
NOV16		48.39	0.71	13:43 A	48.39	47.68	47.49	BBL
DEC16		48.71	0.73	13:47 A	48.72	47.98	47.81	BBL
JAN17		49.01	0.75	13:47 A	48.96	48.26	48.09	BBL
FEB17		49.27	0.77	13:43 A	49.22	48.50	48.35	BBL
MAR17		49.51	0.78	13:43 A	49.46	48.73	48.59	BBL

Dubai Swaps Dubai Swaps Fwd Curve

Daily SG DUB SW JUL16 18/12/2014 - 21/7/2016 (GMT)

Price USD Bbl: 46.81

Exchange of Futures for Swaps

EFS	Real Time	vs. Asian Settle	Time	Latest Fixed Value	Asian Settle	European Settle	Units
AUG16	3.61	0.01	11:42 A	3.61	3.60	3.55	BBL
SEP16	3.83	-0.03	11:42 A	3.83	3.86	3.81	BBL
OCT16	3.81	-0.02	11:42 A	3.81	3.83	3.83	BBL
NOV16	3.78	-0.04	11:42 A	3.78	3.82	3.83	BBL
DEC16	3.87	-0.06	11:42 A	3.87	3.93	3.93	BBL
JAN17	3.88	-0.07	11:42 A	3.88	3.95	3.96	BBL

EFS EFS Fwd Curve

Daily SG DUB EFS AUG16 18/12/2014 - 21/7/2016 (GMT)

Price USD Bbl: 3.61

Middle East / Asian Cash Crude Market Report

21 六月 2016
06:08:17 晚上 RTRS Middle East Crude-Dubai weakens despite Shell's purchases

20 六月 2016
06:06:12 晚上 RTRS Middle East Crude-Dubai falls for 7th session; Murban's discount widens

Set Forward Curves

Yesterday
 Today
 1 Week Ago
 1 Month Ago
 User Date

On the page for specific markets, the list of contracts across time and the charts for the price of the first month contract and its forward curves can be seen.

To navigate to the Oil Swaps Overview page, one should do the following.

1. In the Eikon Toolbar, enter <OSWO>
2. In the “Change Market tab”, one can specify the type of market they are interested in.

Part 9B: Metals Market

Eikon shortcuts: Metals

REAL TIME MONITORING	
COPM	Commodities Prices Monitor
LME0	LME Overview
OPW	Option Watch
Q	Quote
QL	Quote List
QLI	Quote Line
SDB	Sidebar
TICK	Ticker

NEWS	
NEWS	News
TOPNEWS	Top News
OPECO	Organization of the Petroleum Exporting Countries
CONM	Commodities News Monitor

CHARTING	
SPDC	Commodities & Energy Spread Chart
FWDC	Forward Curve
FWCC	Forward Curve Chart
METO	Metals Outrights

ANALYTICS AND CALCS	
ASPD	Agriculture Spreads
AVRG	Average Calculator
CALC	Eikon Calculators
COCM	Commodity Curve Monitor
COSP	Commodity Swaps Pricer
CSPD	Cross-Commodity Spreads
EWIN	Platts eWindow Market Data
MAP	Interactive Map
MSPD	Metals Spreads
POWPJM	Power – PJM
TANK	US Weekly Oil Stocks Estimates (API, EIA)
VOLS	Volatility Surface Calculator
MAPTRK	Interactive Map Asset Tracker
HURRICANE	Hurricane Tracker
CFTC	Commodity Futures Trading Commission
FRGHT	Shipping

METALS	
LME0	LME Overview
ALUM	Metals – Aluminium Guide
BASEMET	Metals – Base Metals Guide
COPPER	Metals – Copper Guide
GOLD	Metals – Gold Guide
IRONSTEEL	Metals – Iron & Steel Guide
LEAD	Metals – Lead Guide
MINORMET	Metals – Minor Metals Guide
OTHERMET	Metals – Minor Metals, Ores, Scrap and Secondary Guide
NICKEL	Metals – Nickel Guide
PALLAD	Metals – Palladium Guide
PLAT	Metals – Platinum Guide
PRECMET	Metals – Precious Metals Guide
SILVER	Metals – Silver Guide
TIN	Metals – Tin Guide
URANIUM	Metals – Uranium Guide
ZINC	Metals – Zinc Guide
METO	Metals Outrights
MSPD	Metals Spreads
MET	Metals Fundamental Database
GFMSPREC	GFMS Precious Metals
GFMSBASE	GFMS Base Metals
GFMSAU	GFMS Gold
GFMSCU	GFMS Copper

METALS – APPS & TOOLS FOR INDIVIDUAL METALS (IE XAU= , XAG=)	
Note: In order to see the tools select the metal by hitting the down arrow and then hit the <space> bar. e.g. "XAU= OV" or "Gold OV"	
OV	Overview
QH	Quote History
CHTV	Chart (Commodities Chart view)
ETFH	ETF Holdings
GFMS	GFMS
VOLC	Volatility Chart

COMMODITY FUTURES – APPS & TOOLS FOR INDIVIDUAL METALS (IE XAU= , XAG=)	
OV	Overview
QH	Quote History
CHTV	Chart (Commodities Chart view)
CS	Contract Specifications

MISC – CONTEXTUAL ITEMS FOR COMMODITIES	
Q	Quote
CHT	Chart (Chart object)
NEWS	News
REBC	Rebasing Chart
TEAC	Technical Analysis Chart
HRA	Historical Return Analysis
REGR	Regression Analysis
TAS	Time & Sales component

1. Overview

There are three main types of metals:

1. Base Metals

Base metals are non ferrous metals that do not contain iron and are neither precious nor strategic. Some base metals are copper, lead, aluminium, tin, nickel and zinc.

2. Strategic and Minor metals

Strategic and minor metals are metals whose production is relatively small compared to base metals and are predominately a by-product of base metal mining.

Some minor metals include mercury, cadmium and cobalt.

3. Precious Metals

Precious metals are a class of metals considered to be rare and of high economic value. This could be driven by their rarity, uses in industrial processes and use as an investment commodity. Some precious metals are gold, silver, platinum and palladium.

The last type of metals would be **iron ore and steel**. This group of metals are limited to only iron ore from different markets and steel.

Metals Homepage

This is the Metals Overview page where all key information on the metals market can be found.

To Navigate to this page, do the following: Home>Asset Classes> Commodities> Metals

2. Metals Fundamentals Database

The Metals Fundamentals Database provides essential, up-to-date global statistics for all known aluminium, copper, zinc, lead, nickel, platinum and gold operations around the world.

To arrive at the following page, one can do the following

Home>Asset Classes> Commodities> Metals> Fundamentals Database

OR to search <Metals Fundamentals Database> in the Eikon Toolbar.

AGGREGATED DATA (TONNE 1000S)

Metal (Refined)	Capacity	Production	Capacity %
Copper	29,319	22,672	77.33
Lead	14,222	11,176	78.58
Nickel	2,765	1,942	70.24
Primary Aluminium	66,256	53,462	80.69
Zinc	16,847	13,786	81.83

LATEST NEWS

Displaying 1-10 records

Metal	Plant Type	Country	Plant Company	Plant Name	Note
MAL	SM	China	Various	Various Primary Aluminium	21-Jun-2016 COLUMN: In aluminum market it's still China versus rest of world-Andy Home
MCU	MINE	Australia	Independence Group NL	Jaguar	21-Jun-2016 Goldcorp Inc says to acquire 10.9 mln shares of Independence Gold
MCU	MINE	Argentina	Minera Alumbrera Ltd	Alumbrera	21-Jun-2016 Goldcorp Inc says to acquire 10.9 mln shares of Independence Gold
MCU	MINE	China	Various	Various Copper Mine	21-Jun-2016 Copper market in 40,000 tonnes deficit in Mar 2016 - ICSG
MCU	REF	China	Various	Various Copper Refinery	21-Jun-2016 Copper market in 40,000 tonnes deficit in Mar 2016 - ICSG
MCU	MINE	Philippines	Carmen Copper Corp	Toledo	21-Jun-2016 Philippines' Duterte says to review mining projects
MAL	SM	Russia	AO Novokuznetsk Aluminium (NkAZ)	Novokuznetsk	20-Jun-2016 Rusal may cut capacity if aluminium falls below \$1,500/T-RIA
MAL	SM	Russia	United Company RUSAL	Kandalaksha	20-Jun-2016 Rusal may cut capacity if aluminium falls below \$1,500/T-RIA
MAL	SM	Russia	AO Krasnoyarsk Aluminium (KRAZ)	Krasnoyarsk	20-Jun-2016 Rusal may cut capacity if aluminium falls below \$1,500/T-RIA
MPB	REF	Kazakhstan	Kazzink	Ust-Kamenogorsk	17-Jun-2016 Kazakhstan's Jan-May 2016 refined lead output up 48 pct/yr

Source: Thomson Reuters proprietary database gathered from industry experts, Reuters editorial, company news releases and archived stories. The production projections may differ markedly from those published by industry consultants / analysts. In times of over-supply, for example, the latter will make assumptions about production losses in a given year, whereas Thomson Reuters reacts to developments as they occur and adjusts figures accordingly. Aggregates and totals are calculated from the individual plant data.

Information on the Fundamentals Database is derived from industry experts, Reuters editorials, Company News Releases and Archived news.

On the Fundamentals Database, users can view information about the different production plants in different parts of the world or to refer to the plant view for key notes, an aggregate database of the past 5 years production capacity, comparison between metals etc.

For example, users can find the name of the South African plant with the second highest platinum production figures amongst 2016 estimates and the plant's shareholding companies and the breakdown of holdings.

Also, shareholder production reports can also be retrieved to find the percentage of a certain metal attributable to individual companies.

3. GFMS

Mine Economics

Another page where users can obtain information about Metal Fundamental Data is the GFMS Mine Economics Page. This page provides users data on gold mines, such as detailed production and cost forecasts for the next 15 years, for over 350 major gold mines and projects globally.

To reach the following page,

Users can search <MINECS> in the search bar OR

Home> Asset Classes> Commodities> Metals> Precious Metals>Mine Economics

The screenshot shows the GFMS Mine Economics page with a table titled 'MINE INDEX'. The table lists various mines, their countries, holding percentages, names, RIC codes, statuses, and primary products. The table is organized into columns: Mine, Country, Holding (%), Name, RIC, Status, and Primary Product. The data includes mines from Australia, Argentina, Ghana, Kazakhstan, Russia, Brazil, Colombia, Peru, Guyana, United States, South Africa, Sierra Leone, Indonesia, and the United States.

Mine	Country	Holding (%)	Name	RIC	Status	Primary Product
Agnew/Lawlers	Australia	100.00	Gold Fields Ltd	GFJ.J	Operating	GOLD
Agua Rica	Argentina	100.00	Yamana Gold	---	Feasibility	GOLD
Ahafo	Ghana	90.00	Newmont	NEM.N	Operating	GOLD
		10.00	Govt of Ghana	GVD-GH		
Aksu	Kazakhstan	100.00	Private investor(s)	---	Operating	GOLD
Akyem	Ghana	100.00	Newmont	NEM.N	Operating	GOLD
Albazino	Russia	100.00	Polymetal	POLY.P.L	Operating	GOLD
Albyn	Russia	100.00	Petropavlovsk	---	Operating	GOLD
Aldiss-Randalls	Australia	100.00	Silver Lake Resources	---	Historic	GOLD
Alumbrera	Argentina	50.00	GlencoreXstrata	---	Operating	GOLD
		37.50	Goldcorp	G.TO		
		12.50	Yamana Gold	YRL.TO		
AngloGold Mineracao	Brazil	100.00	AngloGold Ashanti	ANGJ.J	Operating	GOLD
Angostura	Colombia	100.00	Eco Oro Minerals	EOM.TO	Feasibility	GOLD
Antapite	Peru	100.00	Buenaventura	BUEV.LM	Operating	GOLD
Asacha	Russia	100.00	Trans-Siberian Gold	TSG.L	Operating	GOLD
Aurizona	Brazil	100.00	Luna Gold	LGC.TO	Operating	GOLD
Aurora	Guyana	100.00	Guyana Goldfields Inc.	---	Commissioning	GOLD
Bald Mountain	United States	100.00	Kinross Gold Corporation	---	Operating	GOLD
Ballarat	Australia	100.00	LionGold Corp	LION.SI	Operating	GOLD
Bambanani	South Africa	100.00	Harmony Gold	HARJ.J	Operating	GOLD
Baomahun	Sierra Leone	100.00	Amara Mining	AMARA.L	Feasibility	GOLD
Barberton	South Africa	100.00	Pan African Resources	PANJ.J	Operating	GOLD
Batu Hijau	Indonesia	35.44	Newmont	NEM.N	Operating	GOLD
		27.56	Sumitomo Corp	8053.T		
		20.00	PT Pakuafu Indah	---		
		17.00	Private investor(s)	---		
Beaconsfield	Australia	100.00	Beaconsfield Gold	BCD.AX	Historic	GOLD
Beatrix	South Africa	100.00	Sibanye Gold Limited	---	Operating	GOLD
Berezitovy	Russia	99.00	Nord Gold	---	Operating	GOLD
Bestöbe	Kazakhstan	100.00	Private investor(s)	---	Operating	GOLD
Bibiani	Ghana	90.00	Resolute Mining	---	Care and maintenance	GOLD
		10.00	Ghana Government	---		
Bingham Canyon	United States	100.00	Rio Tinto	RIOL	Operating	GOLD

Under Mine Index, a detailed overview of different mines, their countries and their shareholders can be found. From here, we can view the statuses of these mines.

Under country analysis, we can view the All-in-Cost curves of different countries and to find out how a certain country compares to other countries and which country has the highest gold mining costs.

Lastly, advanced search would allow you to search up on specific mines, countries and companies.

Forecast and Research

GFMS provide independent analysis and research into the metals markets combined with outlooks and forecasts covering all key traded metals over a wide range of forward and historic periods.

The list of GFMS Pages available on Eikon is as follows. Simply search the respective code (located in the first column) in the Eikon Toolbar for the individual pages.

GFMSPD	GFMS Palladium Homepage	Palladium market commentary and research homepage from GFMS.
GFMSPREC	GFMS Precious Metals Homepage	Precious Metals Analysis and research from GFMS
GFMSBASE	GFMS Base Metals Homepage	Base Metals Analysis and research from GFMS
GFMSPT	GFMS Platinum Homepage	Platinum market commentary and research homepage from GFMS.
BASEMINEC	GFMS Mine Economics: Copper	Thomson Reuters Copper Cost Service, updated on a quarterly basis from company releases to provide the market the most current operating and cost data.
GFMSAG	GFMS Silver Homepage	Silver market commentary and research homepage from GFMS.
GFMSCU	GFMS Copper Homepage	Copper market commentary and research homepage from GFMS
GFMSAU	GFMS Gold Homepage	Gold market commentary and research homepage from GFMS
GFMSZN	GFMS Zinc Homepage	Zinc market commentary and research homepage from GFMS

On the individual Eikon pages, a summary of the supply and demand of the various types of metals can be seen. Also, a price comparison of different similar metals (e.g. all the base metals) are presented in a chart for easy comparison and analysis. The official 3M contract on LME is also presented for the users to view together.



4. News

There are 3 common ways for users to obtain Reuters News on all metals, namely, base, precious and minor metals.

1. Press **F9** to open the News App and search the specific metals' news you are interested in

The screenshot shows the Reuters News App interface. The search bar contains 'Metals Markets AND Base Metals'. The results table is as follows:

Time	Source	RICs	Headline
05:25:31 下午	DJN	CHZHY.PK 1333.HK	DJ HK Bourse: Announcement From China Zhongwang Holdings Ltd. -4- 1333.HK CHZHY.PK
05:23:38 下午	PLTS	PMA702 PMA700	PLATTS: 702--Heard in the markets (from p701) PMA0700 PMA0702
05:23:38 下午	PLTS	PMA702 PMA701	PLATTS: 701--Heard in the markets (from p700) PMA0700 PMA0701
05:23:38 下午	PLTS	PMA701 PMA700	PLATTS: 700--Heard in the markets 108: Platts IO: 62.7%-Fe Australian Newman fines -- A cargo heard offered at \$54/dmt CFR Qingdao on PMA0700
05:22:50 下午	RTRS	1333.HK	CHINA ZHONGWANG HOLDINGS LTD 1333.HK SAYS YINGKOU ZHONGWANG ENTERED INTO YINGKOU-HEAVYMACH CONTRACTS WITH SINO-HEAVYMACH 1333.HK
05:22:48 下午	PLTS	PMA180 PMA0180	PLATTS: 180--Asia physical premiums: India's Vedanta offers 15,000 mt aluminum ingot PMA0180
05:22:44 下午	RTRS	1333.HK	CHINA ZHONGWANG HOLDINGS LTD 1333.HK - DEAL FOR TOTAL CONSIDERATION OF RMB3.13 BLN 1333.HK
05:22:39 下午	RTRS	1333.HK	CHINA ZHONGWANG - YINGKOU ZHONGWANG, A WHOLLY-OWNED SUBSIDIARY OF THE COMPANY, ENTERED INTO YINGKOU- TAIZHONG CONTRACTS WITH TAIZHONG BINHAI 1333.HK
05:22:39 下午	RTRS	1333.HK	CHINA ZHONGWANG HOLDINGS LTD 1333.HK - PANJIN ZHONGWANG ENTERED INTO PANJIN-TAIZHONG CONTRACTS WITH TAIZHONG BINHAI 1333.HK
05:22:12 下午	HIIS	1333.HK	PURCHASE OF ALUMINIUM EXTRUSION PRODUCTION EQUIPMENT(with URL) 1333.HK
05:21:59 下午	RTRS	1333.HK	CHINA ZHONGWANG-PURCHASE OF ALUMINIUM EXTRUSION PRODUCTION EQUIPMENT 1333.HK 1333.HK
05:21:06 下午	PLTS	PMA702 PMA700	PLATTS: 702--Heard in the markets (from p701) PMA0700 PMA0702
05:21:06 下午	PLTS	PMA702 PMA701	PLATTS: 701--Heard in the markets (from p700) PMA0700 PMA0701
05:21:06 下午	PLTS	PMA702 PMA700	PLATTS: 700--Heard in the markets 107: Platts IO: 61%-Fe Australian Pilbara Blend fines -- Carao bid at

2. Use the Advanced News Search function.

Home> News and Research> Advanced News Search

The screenshot shows the Reuters Advanced News Search interface. The search criteria are as follows:

Home > Asset Classes > Countries > News and Research > My Ekron > Reuters Insider > Trading > Financial Institutions > Updated 22-Jun-2016 17:24 Refresh

ADVANCED NEWS SEARCH

CRITERIA

Search for: • Headlines Only • Headlines and Story Text

Companies: <Any> [Reset](#)

Markets: <Any> [Reset](#)

Business Sectors: <Any> [Reset](#)

Geographies: <Any> [Reset](#)

More Topics: <Any> [Reset](#)

Languages: <Any> [Reset](#)

Sources: <Any> [Reset](#)

Reports: <Any> [Reset](#)

Select Date / Range : From hh:mm To hh:mm [dd-MMM-yyyy] [Reset](#)

3. View Top News to find specific news on that market

Home > News and Research > Reuters Top News > Commodities Markets

The screenshot displays the Reuters website's 'Top News | Commodities' section. The main article is 'Blackout risk raises concerns for Southern California refiners', dated June 22, 2016. It discusses potential power and gas shortages in southern California. Other news items include gold price movements, oil prices rising above \$50, and wheat quality concerns in the Black Sea region. The right-hand sidebar contains trending topics, a market snapshot for U.S. crude oil, and a video player.

Alternatively, going to the Homepage for the different metals would display the top news for each metal type as well.

5. London Metal Exchange

The London Metal Exchange is the largest market of exchange for base metals, with over 80% of all base metal futures businesses transacted on it.

There are three trading methods at the LME; the Ring, 24 hour telephone and LME Select.

Ring Trading

During Ring Trading, an open outcry takes place in a ring where each base metal trades for 5 minutes in the ring, twice in the morning and twice in the afternoon.

The different times for Ring Trading can be obtained through the following steps.

1. Press F4 to open the quote app
2. Type <LME/TIMES1> for the morning ring session timings and <LME/TIMES2> for the afternoon timings

Note that other than the 4 ring sessions, there is also something called KERB trading. KERBS are trading periods in between the ring sessions where all metals are traded simultaneously by all traders. This takes place twice a day at 13.25-14.45 and 16.15-17.00.

The London Metal Exchange - Trading Times		LME/TIMES1
===== LME MORNING TRADING TIMES =====		
Global Inter-office Trading:	Available 24 hours a day	
LME Ring	Available from 11:40 - 17:00 (London time)	
Steel Billet	11:40 - 11:45	} 1st Morning Ring Sessions
NAASAA & Al.Alloy	11:45 - 11:50	
Tin:	11:50 - 11:55	
Primary Aluminium:	11:55 - 12:00	
Copper:	12:00 - 12:05	
Lead:	12:05 - 12:10	
Zinc:	12:10 - 12:15	
Nickel:	12:15 - 12:20	
Cobalt & Molybdenum	12:20 - 12:25	
INTERVAL	12:25 - 12:30	
Copper:	12:30 - 12:35 (Officials)	} 2nd Morning Ring Session
NASAA & Al.Alloy	12:35 - 12:40 (Officials)	
Tin:	12:40 - 12:45 (Officials)	
Lead:	12:45 - 12:50 (Officials)	
Zinc:	12:50 - 12:55 (Officials)	
Primary Aluminium:	12:55 - 13:00 (Officials)	
Nickel:	13:00 - 13:05 (Officials)	
Premium Aluminium	13:05 - 13:10 (Officials)	
Steel Billet	13:10 - 13:15 (Officials)	
Interval:	13:15 - 13:25	
MORNING KERB:	13:25 - 14:45	

Inter-Office Trading

This is the 24 hour telephone market ran by LME Brokers

LMeselect Trading

LMeselect is the exchange operated electronic trading platform which operates from 01:00 - 19:00 London Time

6. Metals Outright and Arbitrage <METO>

The Metal Outrights calculator allows users to calculate real-time and historical swap points, cross swap points and outright for commodity contracts on standard maturities and broken dates. It also calculates forward forwards on broken dates, and pricing, sensitivity, and hedging information for options on commodities contracts.

To arrive at the calculator, simply type <METO> in the Eikon Toolbar.

Outrights: LME Aluminium
LME Updated at 9:34:24 AM

Market: Base Metals Trade Date: 23 Jun 2016 Currency: USD
Contract A: LME Aluminium Benchmark RIC: Fair Value LME 3M MALOUTC3

3M ALUMINIUM Bid: 1,628.00 Ask: 1,629.50

Outrights: No Arbitrage Spread Arbitrage Ratio Arbitrage

Calculation Parameters
Long Periods: No Metal Display: Bid/Ask
Interpolation Method: Linear Bid/Ask Spread (A): Native
Calendar Style: LME Calendar

Data Table
Calendar Style: LME

Period	End Date	Days	Outrights (USD)		Intermonth (USD)		Bmk Spread (USD)	
Cash	27 Jun 2016	0	1,619.75	1,620.75			-8.25	-8.75
JUL16	20 Jul 2016	23	1,622.75	1,623.75	-4.00	-2.00	-5.25	-5.75
AUG16	17 Aug 2016	51	1,625.25	1,626.25	-3.50	-1.50	-2.75	-3.25
SEP16	21 Sep 2016	86	1,629.25	1,630.25	-5.00	-3.00	1.25	0.75
3M	23 Sep 2016	88	1,628.00	1,629.50			0.00	0.00
OCT16	19 Oct 2016	114	1,630.75	1,631.75	-2.50	-0.50	2.75	2.25
NOV16	16 Nov 2016	142	1,632.75	1,633.75	-3.00	-1.00	4.75	4.25
DEC16	21 Dec 2016	177	1,634.75	1,635.75	-3.00	-1.00	6.75	6.25
JAN17	18 Jan 2017	205	1,635.25	1,636.25	-1.50	0.50	7.25	6.75
FEB17	15 Feb 2017	233	1,637.75	1,638.75	-3.50	-1.50	9.75	9.25
MAR17	15 Mar 2017	261	1,640.25	1,641.25	-3.50	-1.50	12.25	11.75
APR17	19 Apr 2017	296	1,643.50	1,644.50	-4.25	-2.25	15.50	15.00
MAY17	17 May 2017	324	1,646.24	1,647.26	-3.76	-1.74	18.24	17.76
JUN17	21 Jun 2017	359	1,649.24	1,650.26	-4.02	-1.98	21.24	20.76
SEP17	20 Sep 2017	450	1,658.24	1,659.26	-10.02	-7.98	30.24	29.76
DEC17	20 Dec 2017	541	1,666.99	1,668.01	-9.77	-7.73	38.99	38.51
MAR18	21 Mar 2018	632	1,677.98	1,679.02	-12.03	-9.97	49.98	49.52
JUN18	20 Jun 2018	723	1,688.73	1,689.77	-11.79	-9.71	60.73	60.27

Tools Rows: Insert / Delete Outrights Decimals: Increase / Decrease

Broken Dates Average Average Swap Chart

Force LME Dates

End	End Date	Days	Outrights (USD)		Bmk Spread (USD)	
1M15D	17 Aug 2016	51	1,625.25	1,626.25	-2.75	-3.25
90D	21 Sep 2016	86	1,629.25	1,630.25	1.25	0.75
3M	21 Sep 2016	86	1,629.25	1,630.25	1.25	0.75
7M	18 Jan 2017	205	1,635.25	1,636.25	7.25	6.75
6M	21 Dec 2016	177	1,634.75	1,635.75	6.75	6.25

Users may find the METO outlay to be largely similar to that of the SPO application. However, whilst the SPO calculator is limited to calculating swap points and outright of different currency pairs, the METO calculator is able to calculate arbitrage opportunities of spread and ratio arbitrage. More will be covered within this section.

Calculating Forwards

To utilize the METO calculator for non arbitrage situations, the following information should be specified.

1. Market: Base, Precious Metals or Steel
2. Which contract is being traded.
3. Trade Date

The figures for different periods would be presented. One thing to note is the “BMK Spread” located in the last column. This represents the spread between the 3M forward and the chosen maturity. The 3M forward for commodities is the benchmark rate.

Calculating Arbitrage

When a commodity future is offered on more than one exchange, a trader may be able to earn spread arbitrage by buying the commodity on one exchange and selling on the other. It is also possible to earn ratio arbitrage by buying and selling similar commodity futures in different currencies. For such contracts, METO calculates these two arbitrage amounts and provides a breakdown of the costs involved in making the trade.

Currently, there are 4 contract pairs available for spread and ratio arbitrage.

1. LME Aluminium v SHFE Aluminium
2. LME Zinc v SHFE Zinc
3. LME Copper v SHFE Copper
4. LME Copper v CMX Copper

Note that ratio arbitrage with a commodity is similar to foreign exchange arbitrage since the spread is earned by taking advantage of a difference in the prices of the currencies used by contracts A and B.

Choose: A/B to display the arbitrage as a spread on CurBCurA and vice versa.

Spread and Ratio Arbitrage can only be conducted with Base Metals as Precious Metals and Steel is only available for outright calculations.

Spread Arbitrage

To utilize the METO calculator to calculate spread arbitrage opportunities, the following can be done

1. Set the market to “Base Metals”
2. Choose the contract you would like to trade
3. Choose the trade date
4. Specify the arbitrage currency

The spread arbitrage would be displayed in the last column.

Ratio Arbitrage

Outrights: LME Aluminium
 Market: Base Metals | Buy/Sell | Trade Date: 23 Jun 2016 | Arbitrage Display: A/B
 Contract A: LME Aluminium | Buy | Contract(s) Currency: Native
 Contract B: SHFE Aluminium | Sell | Arbitrage Unit: Tonne | Contract(s) Unit: Converted

Price Adjustments

	Premium	Outcharge	Fees (For example, FOB Fees)	Freight Costs	Duties	VAT
A. LME Aluminium	0.00 USD/TONNE	0.00 USD/TONNE	0.00 USD/TONNE	0.00 USD/TONNE	0.00 %	0.00 %
B. SHFE Aluminium	0.00 CNY/TONNE	0.00 CNY/TONNE	0.00 CNY/TONNE	0.00 CNY/TONNE	0.00 %	17.00 %

Data Table

Period	End Date	Days	A. LME Aluminium USD/TONNE			B. SHFE Aluminium CNY/TONNE			Outrights*	FX Outrights	Ratio	Currency Arbitrage
			Outrights	Fixed Costs	Variable Costs	Outrights	Fixed Costs	Variable Costs				
Cash	27 Jun 2016	0	1,621.75	0.00	0.00	1,621.75	12,679.35	0.00	12,679.35	0.1521	0.1279	0.0242
JUL16	20 Jul 2016	23	1,624.75	0.00	0.00	1,624.75	12,501.29	0.00	12,501.29	0.1519	0.1300	0.0220
AUG16	17 Aug 2016	51	1,627.25	0.00	0.00	1,627.25	12,289.43	0.00	12,289.43	0.1518	0.1324	0.0193
SEP16	21 Sep 2016	86	1,631.25	0.00	0.00	1,631.25	12,106.79	0.00	12,106.79	0.1516	0.1347	0.0168
OCT16	19 Oct 2016	114	1,632.75	0.00	0.00	1,632.75	11,996.21	0.00	11,996.21	0.1514	0.1361	0.0153
NOV16	16 Nov 2016	142	1,634.75	0.00	0.00	1,634.75	11,944.17	0.00	11,944.17	0.1512	0.1369	0.0144
DEC16	21 Dec 2016	177	1,636.75	0.00	0.00	1,636.75	11,920.94	0.00	11,920.94	0.1510	0.1373	0.0137
JAN17	18 Jan 2017	205	1,637.25	0.00	0.00	1,637.25	11,925.00	0.00	11,925.00	0.1509	0.1373	0.0136
FEB17	15 Feb 2017	233	1,639.75	0.00	0.00	1,639.75	11,925.00	0.00	11,925.00	0.1507	0.1375	0.0132
MAR17	15 Mar 2017	261	1,642.26	0.00	0.00	1,642.26	11,915.00	0.00	11,915.00	0.1505	0.1378	0.0127
APR17	19 Apr 2017	296	1,645.51	0.00	0.00	1,645.51	11,916.43	0.00	11,916.43	0.1503	0.1381	0.0123
MAY17	17 May 2017	324	1,648.26	0.00	0.00	1,648.26	11,813.06	0.00	11,813.06	0.1502	0.1395	0.0107
JUN17	21 Jun 2017	359	1,651.26	0.00	0.00	1,651.26	11,954.19	0.00	11,954.19	0.1500	0.1381	0.0118
SEP17	20 Sep 2017	450	1,660.26	0.00	0.00	1,660.26	12,321.13	0.00	12,321.13	0.1488	0.1347	0.0140
DEC17	20 Dec 2017	541	1,669.02	0.00	0.00	1,669.02	12,688.06	0.00	12,688.06	0.1487	0.1315	0.0171
MAR18	21 Mar 2018	632	1,680.02	0.00	0.00	1,680.02	13,055.00	0.00	13,055.00	0.1480	0.1287	0.0193
JUN18	20 Jun 2018	723	1,690.78	0.00	0.00	1,690.78	13,421.94	0.00	13,421.94	0.1473	0.1260	0.0214

The layout of the spread and ratio arbitrage calculators are similar with the last three columns being absent in the spread arbitrage calculator, instead being replaced by a “Spread Arbitrage” column instead.

To utilize the METO calculator to calculate ratio arbitrage opportunities, the same information should be entered into the calculator.

1. Set the market to “Base Metals”
2. Choose the contracts to be traded
3. Choose the trade date
4. Select whether you want taxes and costs to be included in the arbitrage
5. Include any freight and outright fees.

7. Metals Spreads <MSPD>

Users may utilize the metal spread calculator to hedge or speculate in the commodity market by viewing how the price of 1 metal performs against another. This provides an estimate on future price direction.

On Eikon, type <MSPD> in the Eikon Toolbar to open the calculator to bring up spreads for the following Base and Precious Metals.

Base Metals

1. LME/NYMEX 1:1 Copper Spread
2. NYMEX/SHFE 1:1 Copper Spread
3. LME/SHFE 1:1 Copper Spread
4. LME/SHFE 1:1 Aluminium Spread
5. LME/SHFE 1:1 Zinc Spread
6. Base Metals Intermonth

Precious Metals

1. MCX-Comex 1:1 Gold Spread
2. NYMEX 1:1 Plat/Gold Spread
3. NYMEX 1:1 Silver/Gold Spread
4. TOCOM 1:1 Plat/Gold Spread
5. TOCOM 1:1 Silver/Gold Spread
6. NYMEX/TOCOM 1:1 Gold Spread
7. NYMEX/TOCOM 1:1 Silver Spread
8. NYMEX/TOCOM 1:1 Platinum Spread
9. NYMEX/TOCOM 1:1 Palladium Spread
10. Precious Metals Intermonth

Spreads: MCX-COMEX 1:1 Gold Spread (R:1) Simple

Updated at 11:01:28 AM

Base Metals | Precious Metals

Samples: MCX-COMEX 1:1 Gold Spread | Spread Formula Type: Simple | Always Use Fair Values if Available: On | Trade Date: 23 Jun 2016

Contract #	Buy/Sell	Ratio	RIC	Change	Source	Name	Native CCY	Native Units	Field	Use Fair Values
Contract #1	Sell	1.00	0#MAU:		MCI	1: IN MCX Gold	INR	Tola	Default	✓ No fair value curve exists for this RIC.
Contract #2	Buy	1.00	0#GCFV:		TRC	2: US Gold (CMX)	USD	Troy Ounce	Default	✓ Fair value curve in use.

Spread Dividing Ratio: 1.00

Parameters: Forward Spreads Table | Forward Spreads Chart | Historical Chart

Number	Period	Value	1: IN MCX Gold		2: US Gold (CMX)		Outrights
			INR/GRAMS	INR/TOLAS	USD/OZS	USD/INR	
#1	Month	-180.44		AUG6 30,091.00	JUN6 1,265.55	L	67.84000
#2	Month	-160.32		OCT6 30,332.00	JUL6 1,265.80	L	67.84000
#3	Month	-153.20		DEC6 30,622.00	AUG6 1,267.35	L	68.19250
#4	Month	-119.65		FEB7 31,431.00	OCT6 1,270.50	L	68.90000
#5	Month	-134.16		APR7 31,678.00	DEC6 1,273.50	L	69.60927
#6	Month	-143.95		JUN7 31,925.00	FEB7 1,276.40	L	70.20588
#7	Month				APR7 1,279.05	L	70.86302
#8	Month				JUN7 1,281.60	L	71.55100
#9	Month				AUG7 1,283.95	L	72.23285
#10	Month				OCT7 1,286.20	L	72.88186
#11	Month				DEC7 1,288.25	L	73.55303
#12	Month				FEB8 1,289.60	L	74.22419
#13	Month				APR8 1,291.20	L	74.87334
#14	Month				JUN8 1,293.20	L	75.55551
#15	Month				DEC8 1,299.65	L	75.55551
#16	Month				JUN9 1,304.55	L	75.55551
#17	Month				DEC9 1,309.20	L	75.55551
#18	Month				JUN0 1,313.10	L	75.55551

1. Specifying the Samples that you wish to view the Spread on
2. Choose which contract to buy and sell
3. Hover over the “fx” function to view the formula used (Simple or Complex)

Part 9C: Agriculture Market

Eikon shortcuts: Agriculture

REAL TIME MONITORING	
COPM	Commodities Prices Monitor
LME0	LME Overview
OPW	Option Watch
Q	Quote
QL	Quote List
QLI	Quote Line
SDB	Sidebar
TICK	Ticker

NEWS	
NEWS	News
TOPNEWS	Top News
OPECO	Organization of the Petroleum Exporting Countries
CONM	Commodities News Monitor

CHARTING	
SPDC	Commodities & Energy Spread Chart
FWDC	Forward Curve
FWCC	Forward Curve Chart
METO	Metals Outrights

AGRICULTURE	
AGRI	Agriculture Guide
ASPD	Agriculture Spreads
BARLEY	Agriculture – Barley Guide
BIODIESEL	Agriculture – Biodiesel Guide
BIOFUELS	Agriculture – Biofuels Guide
COCOA	Agriculture – Cocoa Guide
COFFEE	Agriculture – Coffee Guide
CORN	Agriculture – Corn/Maize Guide
ETHANOL	Agriculture – Ethanol Guide
FERT	Agriculture – Fertilizer Guide
FORESTRY	Agriculture – Forestry/Fibre Guide
GRAINS	Agriculture – Grains Guide
LIVESTOCK	Agriculture – Livestock/Dairy Guide
OILMEALFEED	Agriculture – Oilseeds/Meals/Feeds Guide
VEGOIL	Agriculture – Other VegOils/Meals Guide
PALMOIL	Agriculture – Palm Oil Guide
RAPCAN	Agriculture – Rapeseed/Canola Guide
RUBBER	Agriculture – Rubber Guide
SOFTS	Agriculture – Softs Guide
SOY	Agriculture – Soybeans Guide
SUGAR	Agriculture – Sugar Guide
WHEAT	Agriculture – Wheat Guide

ANALYTICS AND CALCS	
ASPD	Agriculture Spreads
AVRG	Average Calculator
CALC	Eikon Calculators
COCM	Commodity Curve Monitor
COSP	Commodity Swaps Pricer
CSPD	Cross-Commodity Spreads
EWIN	Platts eWindow Market Data
MAP	Interactive Map
MSPD	Metals Spreads
POWPJM	Power – PJM
TANK	US Weekly Oil Stocks Estimates (API, EIA)
VOLS	Volatility Surface Calculator
MAPTRK	Interactive Map Asset Tracker
HURRICANE	Hurricane Tracker
CFTC	Commodity Futures Trading Commission
FRGHT	Shipping

SEARCHES	
AGRISRCH	Agriculture – Advanced Search
ANSWERS	Eikon Answers
ENESRCH	Energy – Advanced Search
METSRCH	Metal – Advanced Search
OILREF	Oil Refineries Advanced Search
PHYSICALSRCH	Commodities Physical Assets – Advanced Search
SRCH	Advanced Search
WEATHERSRC	Weather – Advanced Search

HELP	
FAQ	Frequently Asked Questions
HELP	Online Help

1. Overview

Agricultural commodities are the first commodities to have been traded and remain the most important due to man's need for food. Agriculture futures are popular exchange-traded products where two parties take up short (agree to sell) and long (agree to buy) positions.

For example, a farmer would be the holder of a short wheat position (agreeing to sell) and the bread maker could be the holder of the long position (agreeing to buy)

Below are a list of common agricultural products which can be found in Eikon

Types of Agricultural Products	Examples
Grains	Corn Wheat Barley
Softs	Coffee Cocoa Sugar
Oilseeds/Meals/Feeds	Soybean Soybean Oil Soybean Meal
Biofuels	Ethanol
Livestock/Dairy	Cattle/Beef Hog/Pig Milk
Fertiliser	Ammonia Nitrogen Phosphate Potash Sulphur Fertiliser
Forestry/Fibre	Cotton Wool Lumber

2. Product Exchange

Commodity exchanges are exchanges where numerous commodity derivatives are traded. Some exchanges trade in the open outcry style, similar to that of the LME, or electronically.

If you go long in the market, you are buying a contract and you expect the price to rise and hence you are considered “bullish”. If you go short, you are selling a particular contract and are expecting the price to fall and thus you are considered “bearish”. To prevent having to meet a contractual obligation, a buyer or seller must liquidate his futures contract and this is known as offsetting a futures position.

Some common agricultural exchanges are CME Group (CBOT, KCBT), Intercontinental Commodity Exchange (ICE), and Tokyo Commodity Exchange (TOCOM) etc.

For example, to obtain a list or quotes for the most liquid futures from CBOT, LIFFE, Minneapolis and ICE Futures Canada, one can,

1. Press F4 to open the quote app
2. Type <GRAINGRAIN> or <GRAINGRAIN2>

The screenshot displays the 'GRAINGRAIN Quote' application window. The title bar shows 'GRAINGRAIN Quote' and 'GRAINGRAIN'. The main content area is a table with columns for commodity names, bid/ask prices, volume, and spread. The table is organized into sections for different commodities, including WHEAT, CORN, SOYBEANS, and SOYBEAN OIL. The data is color-coded, with green for up, red for down, and yellow for no change. The table includes the following data:

GRAINGRAIN Quote													
Grains & Oilseeds Composite Page													
GBP 1.4799/00		EUR 1.1345/50		JPY 104.60/65		BFO- 48.46/48		BFO-1M 50.41/43		BFO-2M 51.01/03			
KCBT WHEAT <KWVIEW1>				Bid	Ask	Vol	Sprd	CBOT CORN <CVIEW1>					
JUL6	433	0	432 ¹ / ₄ /432 ³ / ₄	328	-17.25			JUL6	390 ³ / ₄	-2 ¹ / ₄	390 ¹ / ₂ /390 ³ / ₄	9460	-5 ¹ / ₂
SEP6	450 ¹ / ₄	-0 ³ / ₄	450 ¹ / ₄ /450 ¹ / ₄	445	-25.25			SEP6	396	-2 ¹ / ₄	396 ¹ / ₄ /396 ¹ / ₄	7606	-5 ¹ / ₂
DEC6	475 ¹ / ₂	-1	475 ¹ / ₄ /475 ¹ / ₂	170	-17.50			DEC6	401 ¹ / ₂	-2 ¹ / ₄	401 ¹ / ₄ /401 ¹ / ₂	7799	-7 ¹ / ₂
MAR7	493	0	491 ¹ / ₄ /492 ¹ / ₄	3	-10.75			MAR7	409	-1 ¹ / ₄	408 ³ / ₄ /409	1995	-3 ¹ / ₄
MAY7			502 ¹ / ₄ /503		-7.50			MAY7	412 ¹ / ₄	-2	412 ¹ / ₄ /412 ¹ / ₄	101	-2 ¹ / ₂
MGE WHEAT <MVIEW1>				Bid	Ask	Vol	Sprd	CBOT WHEAT <WVIEW1>					
JUL6	525 ¹ / ₂	+0 ¹ / ₄	525 ¹ / ₂ /525 ³ / ₄	43	-10.50			JUL6	459 ¹ / ₄	+0 ¹ / ₂	459 ¹ / ₄ /459 ¹ / ₄	1850	-13
SEP6	536	+1 ¹ / ₄	535 ¹ / ₄ /536	72	-14.50			SEP6	472 ¹ / ₄	0	472 ¹ / ₄ /472 ¹ / ₄	2466	-20 ¹ / ₂
DEC6	550 ¹ / ₂	+1 ¹ / ₄	549 ¹ / ₄ /550 ¹ / ₂	12	-12.00			DEC6	493	0	492 ¹ / ₄ /493 ¹ / ₄	512	-19 ¹ / ₂
MAR7	562 ¹ / ₂	+0 ¹ / ₄	562 ¹ / ₄ /563 ¹ / ₂	2	-7.50			MAR7	513 ¹ / ₂	+1	512 ¹ / ₂ /512 ¹ / ₂	28	
MAY7			570 ¹ / ₂ /571 ¹ / ₂		-11.00			MAY7			522 ¹ / ₄ /523 ¹ / ₄		
WCE CANOLA <O#RS:>				Bid	Ask	Vol	Sprd	CBOT SOYBEANS <SVIEW1>					
JUL6	480.00	0	479.30/480.50	6	-10.50			JUL6	1135	-2 ¹ / ₂	1134 ¹ / ₄ /1135 ¹ / ₄	4008	0 ¹ / ₄
NOV6	490.50	-0.40	490.20/491.40	11	-6.10			AUG6	1134 ¹ / ₄	-3	1133 ¹ / ₄ /1134 ¹ / ₂	3145	14 ¹ / ₄
JAN7	496.60	-0.70	496.30/497.80	3	-4.80			SEP6	1119 ¹ / ₄	-4	1119 ¹ / ₄ /1120	418	9
MAR7	501.40	-0.10	500.20/502.00	3				NOV6	1110 ¹ / ₄	-6	1110 ¹ / ₄ /1111	6658	2 ¹ / ₄
MAY7			503.30/505.10					JAN7	1107 ¹ / ₄	-7	1107 ¹ / ₄ /1108 ¹ / ₄	688	38 ¹ / ₂
EUR M.WHEAT <BL2VIEW1>				Bid	Ask	Vol	Sprd	CBT SOYBEAN OIL <BOVIEW1>					
SEP6	/	/	/	/	/	/	/	JUL6	31.42	-0.13	31.41/31.43	1447	-0.14
DEC6	/	/	/	/	/	/	/	AUG6	31.55	-0.14	31.55/31.57	396	-0.14
MAR7	/	/	/	/	/	/	/	SEP6	31.70	-0.14	31.69/31.71	132	-0.12
MAY7	/	/	/	/	/	/	/	OCT6	31.87	-0.09	31.80/31.82	131	-0.28
SEP7	/	/	/	/	/	/	/	DEC6	32.09	-0.15	32.08/32.09	3871	-0.17
E TONEXT RAPESEED <O#COM:>				Bid	Ask	Vol	rd	C T SOYBEAN MEAL <SMVIEW1>					
AUG6	/	/	/	/	/	/	/	JUL6	390.2	-0.8	390.1/390.4	643	-0.7
NOV6	/	/	/	/	/	/	/	AUG6	390.9	-1.0	390.7/391.0	670	0.5
FEB7	/	/	/	/	/	/	/	SEP6	390.2	-1.6	390.2/390.4	527	1.7
MAY7	/	/	/	/	/	/	/	OCT6	388.8	-1.6	388.5/388.8	299	-0.2
AUG7	/	/	/	/	/	/	/	DEC6	388.9	-2.1	388.7/388.9	1468	3.6

KEY<COMMDO><GRAINS/1><COMMDO/FV> NB-NON PERMED EXCH DATA WILL DEFAULT TO DELAYED

When looking at the above prices, one question may come to mind. Why are the prices of the wheat futures traded on different exchanges different in price?

For wheat futures, those traded on CBOT are soft red winter wheat used for biscuits, muffins, cake and cake flour. Those traded on KCBT are hard red winter wheat which is used for bread. Trading in KCBT is less liquid than CBOT. Lastly, those traded on Minneapolis Grain Exchange are hard red spring wheat used for bread and hard baked goods.

Hence, different exchanges may trade different types of product, and thus the prices may vary as a result.

3. Agriculture Fundamentals Database

The Agriculture Fundamentals Database displays reports that show the supply and demand factors affecting the agriculture market. Supply and demand fundamentals correlate directly to the majority market price movements. The Agriculture Fundamental Database provides fundamental data on global agricultural commodity markets supplied by the United States Department of Agriculture (USDA) and retrieved from the World Agriculture Supply and Demand Estimates reports (WASDE).

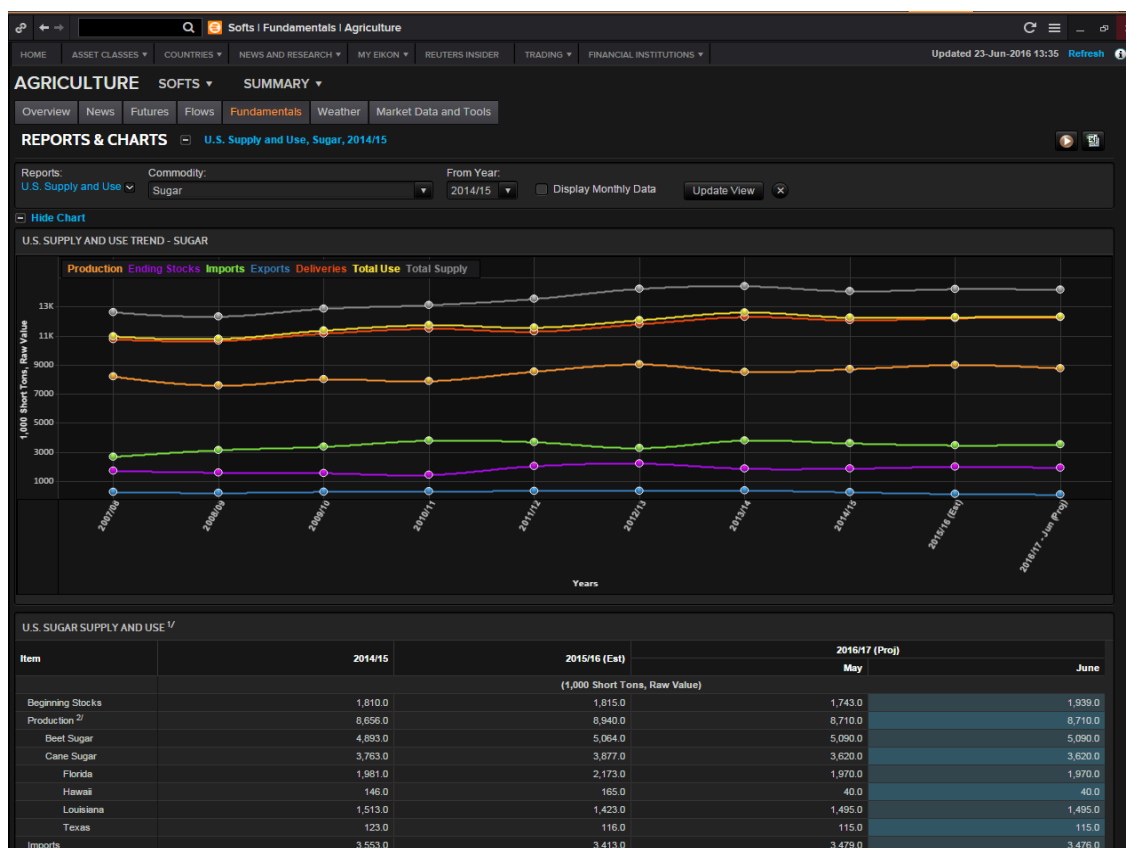
You can also view crop production data supplied by the National Agricultural Statistics Service (NASS), the Canadian Grain Commission, and U.S. oilseed statistics provided by the National Oilseed Processors Association (NOPA).

With Agriculture Fundamentals Database, you can view:

- global and US supply and usage
- US quarterly product production and prices
- Chinese import and export totals
- commercial stocks of Canadian grain etc.

To arrive at the page. You can either,

1. Type “Agriculture Fundamentals Database” in the Eikon Toolbar OR
2. Asset Classes>Commodities>Agriculture. Proceed to individual types of agriculture products and click “Fundamentals”



4. Research and Forecast

Lanworth

Lanworth crop reports are a bi-weekly fundamental report that allows workflow integration with other data available in Eikon such as real-time, historical, Agriculture Fundamentals Database and shipping content. It provides early season estimates of commodity crop production worldwide. Lanworth methodology includes:

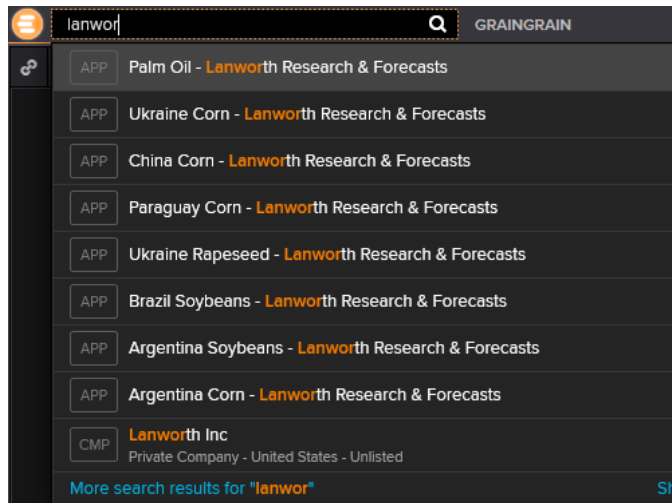
Models - based on farming practices, agronomic fundamentals and forward weather scenarios generating high quality first estimates of planting and production.

Satellite imagery - maps plantings and monitors crop development and production potential over whole countries and regions

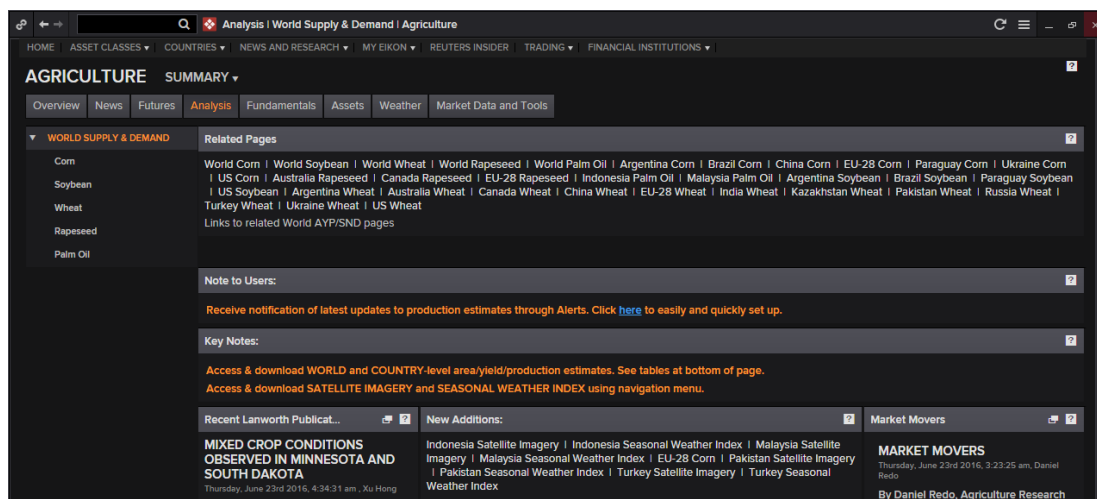
Field investigation - ensures the quality of model outputs and image analyses. Field teams are dispatched globally to validate forecasts.

There are two ways to obtain Lanworth research.

1. In the Eikon Toolbar, search <Lanworth> and click on the report needed.



2. Asset Classes> Commodities> Agriculture> Summary> Analysis

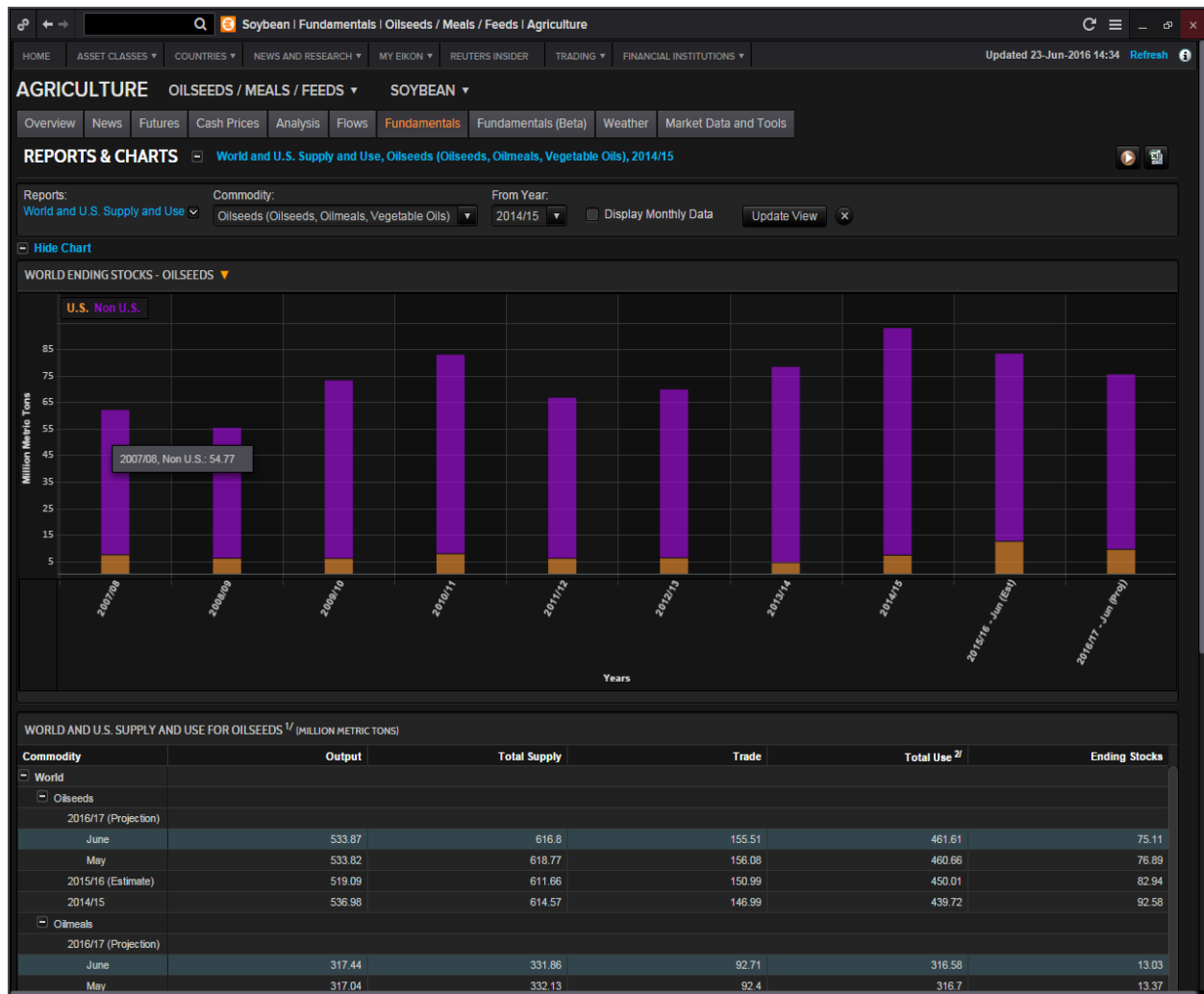


NOPA

Thomson Reuters is the exclusive distributor of US monthly (every 15th of the month) soybean crush data from the National Oilseed Processors Association (NOPA). NOPA data is a key indicator of usage and its potential impacts on the global marketplace. NOPA provides total crushings, soya meal and soya bean oil figures for all US processing states.

The NOPA Data could be assessed by going through the following steps.

Asset Classes> Commodities> Agriculture> Oilseeds/Meals/Feeds> Fundamentals



On this page, data can be migrated to Excel. Also, NOPA Crush statistics chart is available and can be edited to display monthly/annual data, date range and category. Real time news is also available.

5. Weather Dashboard

The production and transport of agricultural products is heavily dependent on weather conditions. Weather extremes can have a severe impact on crop yields and in turn the supply, demand and pricing of these commodities could be heavily impacted.

To access the weather dashboard, in the Eikon Toolbar, type <Agriculture Weather>.

The screenshot displays the 'AGRICULTURE WEATHER DASHBOARD' with a navigation menu on the left and several content panels. The 'REGIONS' menu is expanded, listing areas like Australia, Eurasia, Europe, etc. The main content area includes:

- NEWS ALERTS & NEWSLETTER:** A section for receiving notifications of the latest weather insight pieces.
- NEW RELEASES:** A list of recent articles, including 'A RETURN TO THE PATH TOWARD LA NIÑA FURTHER BOOSTS FAVORABLE RAINFALL' and 'INDIA MONSOON IS POISED TO MAKE UP FOR LOST TIME'.
- ENSO UPDATE: 15 JUNE 2016:** A text-based update regarding 'Temporary hiccup underway on the long road to La Niña'.
- DAILY WEATHER HEADLINES: 22 JUNE 2016:** A list of daily weather news items, such as 'Likely derecho moves from northern Illinois to Ohio tonight'.
- WEATHER INSIGHT: RECENTLY UPDAT...:** A section for recent updates, including 'PERIODS OF HOT AND DRY WEATHER WILL CONTINUE ACROSS MUCH OF THE US'.
- WEATHER INSIGHT: UPCOMING RELEA...:** A table listing upcoming releases for various regions.
- WEEKLY SST ANOMALIES (DATA SOUR...):** A line graph showing 'Weekly Niño 3.4 Sea-Surface Temperature Anomalies' from December to June, with a 'Recent Warming' indicated.
- ENSO ANALOGS/COMPOSITE MAPS:** A map of West Africa showing precipitation anomalies, with a legend for 'Precipitation Anomalies (inches)'.
- UPCOMING CONTENT RELEASES:** A table listing expected release timeframes for various regions.

On this page, you could analyse the weather of different regions around the world as well as to check the patterns of different oscillations (e.g. El Nino, Arctic Oscillation) and its impact on crops.

Part 9D: Shipping

1. Overview

Shipping is a sector which is of great importance to all commodity traders. For physical commodities traders, the price of shipping will have a large impact on their potential profit and got trading institutions; shipping is an effective way of analyzing supply and demand.

Tracking shipping prices can be done via looking at actual chartered prices or by following shipping indices. A shipping index is similar to an equity index as it provides a view of the overall trend and a historical comparison.

The Shipping Homepage is shown below. Search in the Eikon Toolbar for <FRGHT>

The benchmark for shipping indexes is the **Baltic Dry Index**. The Baltic exchange provides both shipping indices and fixture prices. Shipping prices are also provided by Thomson Reuters journalists, and are organized according to commodity, type of vessel and route.

Below is the quote page for the Baltic Dry Index, which can be obtained by pressing F4 to open the quote app and typing <.BADI>

Value	Net.Chng	Pct.Chng	Volume	Turnover	News
585	+5	+0.86 %			
Cls	: 580	21JUN16	Adj.Cls	:	NetIndex
Open	: 585		Cls.Pr.Yr	: 478	:
High	: 585		Yr.High	: 715	27APR16
Low	: 585		Yr.Low	: 290	10FEB16
Moves	Life.High: 11793	20MAY08	Pr.Yr.High	: 1222	TradeGP
1	Life.Low : 290	10FEB16	Pr.Yr.Low	: 471	:
Pr.Yr.Perf	: -38.87	Constituents	:	Futures	PE
Yr.Perf	: 21.34	Weighting Chain:	:	ATM Opt	****

2. Shipping Fundamental Database

Within the Shipping Homepage <FRGHT>, there are numerous fundamentals data available such as

1. Fixture Data

This is a comprehensive list of vessels information, which includes, who is chartering the vessel, type of vessel, the commodity being transported, where it is and where it is going and the cost for chartering. This data is available on Eikon for Dry/Bulk and Tanker Vessels.

Such information allows customers to identify demand trends and cargo flows to gain a deeper understanding of the supply chain dynamics and explore trading. This can also be used to monitor competitor activity in the market.

2. Fleet Analysis

This data examines the global fleet capacity with forecasts by integrating vessel deliveries, orderbook for new vessels and expected demolitions

3. Port Activity

This is data regarding vessel queues, line-ups or congestions which can have a direct impact on supply. Simply click on any tab for more fundamental data available.

The screenshot displays the Thomson Reuters Shipping Fundamental Database interface. The top navigation bar includes tabs for Overview, Dry Bulk Rates, Tanker Rates, Analysis, Shipping Reports, Equities, Bunker, Dry/Bulk Fixtures, Tanker Fixtures, Vessel Search, Port Search, and Distance Calculator. The main content area is titled 'FREIGHT UPDATE' and features a 'COMMENTARY' section. The commentary includes a 'FRIDAY UPDATE - 17 JUNE 2016' by Thomson Reuters Freight Research & Forecasts, mentioning VLCCs and Suezmaxes in the English Channel. A map shows the location of two assets, ALICE and NEPTUN, near the coast of Norway. Below the map, text indicates thermal coal exports from Colombia to India due to low freight rates, accompanied by a world map showing trade flows.

3. Research and Forecast

TRADEFLOWS

Tradeflows is a single standard service that will assess the movement of commodities - oil, LNG, coal, iron ore, agricultural products across the globe.

1. Agriculture Flows

This shows you historical cargo level detail of waterborne agriculture products imports and exports. With exclusive research and forecasts from Thomson Reuters agriculture analysts, North American Agriculture Flows will allow you to quickly understand the market and make informed and confident decisions.

Two modules are now available:

- US Bills of lading provides US historical data from US customs.
- Global Port Inspections provides coverage on 31 countries, excluding the US, both historical and future-looking

2. Metal Flows

This shows you cargo-level detail of waterborne iron ore imports and exports.

3. Energy Flows

This shows you cargo-level detail of waterborne crude oil, oil products, LNG and coal imports and exports.

To access the page, type <TRADEFLOWS> in the Eikon Toolbar.

The screenshot shows the Thomson Reuters Trade Flows web application. The main heading is "TRADEFLOWS". Below it, a sub-heading reads: "Trade Flows is a single standard service that will assess the movement of commodities – oil, LNG, coal, iron ore, agricultural products – around the globe. In addition to Agriculture and Oil flows, Iron Ore and Coal flows are now available in Beta." A "Meet the Team" button is visible. The page is organized into three primary categories: "AGRICULTURE FLOWS", "METAL FLOWS", and "ENERGY FLOWS".

- AGRICULTURE FLOWS:** Described as showing historical cargo level detail of waterborne agriculture products imports and exports. It lists two modules: "US Bills of lading" (providing US historical data) and "Global Port Inspections" (covering 31 countries). A methodology document link is provided.
- METAL FLOWS:** Described as showing cargo-level detail of waterborne iron ore imports and exports. A methodology document link is provided.
- ENERGY FLOWS:** Described as showing cargo-level detail of waterborne crude oil, oil products, LNG and coal imports and exports. A methodology document link is provided.

Below these sections, there are several smaller module tiles, each with a representative image and a "Methodology" link:

- US BILLS OF LADING:** Includes sub-tiles for "C..." and "W..." with images of corn and wheat.
- GLOBAL PORT INSPEC...:** Includes sub-tiles for "C..." and "W..." with images of port facilities.
- IRON ORE (BETA):** Includes a "World Methodology" tile with an image of an iron ore ship.
- CRUDE OIL:** Includes sub-tiles for "World Methodology", "North America", "Asia", and "North America Methodology" with an image of an oil rig.
- FUEL OIL:** Includes sub-tiles for "North America", "Asia", "North America Methodology", "Asia", and "Asia Methodology" with an image of an oil refinery.
- NAPHTHA:** Includes sub-tiles for "Asia" and "Asia Methodology" with an image of an industrial facility.
- GASOLINE:** Includes sub-tiles for "North America" and "North America Methodology" with an image of a gas pump.
- DISTILLATES:** Includes a sub-tile for "North America" with an image of an industrial facility.
- LIQUIFIED PETROLEUM...:** Includes a sub-tile for "World" with an image of an industrial facility.
- OAT:** Includes sub-tiles for "OAT" with an image of oat products.
- RICE:** Includes a sub-tile for "RICE" with an image of rice products.

Part 10: Equities

Eikon shortcuts: Equities

REAL TIME MONITORING	
BLOT	Blended Order Tracker
BOB	Blended Order Book
BRKS	Broker Statistics
BTAS	Blended Time & Sales
IMO	Index Movers
MON	Monitor
Q	Quote
QL	Quote List
QLI	Quote Line
SDB	Sidebar
SI	My Synthetic Instruments
SNAP	Snapshot
TAS	Time & Sales
TICK	Ticker

ANALYTICS & CALCS	
AVRG	Average Calculator
CALC	Eikon Calculators
CONV	Convertible Bond
CORR	Correlation Matrix
DARB	DR Arbitrage
HRA	Historical Return Analysis
IFFV	Index Futures Fair Value
OPR	Option Pricer
OSC	Option Strategy
PAIRS	Pairs Calculator
REGR	Regression Analysis
SARB	Stock Arbitrage
SIGNAL	Signal
SRET	Total Return

COMPANY – CONTEXTUAL NAVIGATION	
Type the company name and the selected tool – e.g. "IBM OV"	
OV	Overview
AQ	All Quotes
ARM	Analyst Revision Model
BAL	Balance Sheet
BUS	Business Info.
CACAL	Corporate Actions Calendar
CAPD	Capital Change Event Detail
CAPO	Capital Change Overview
CC	Stock Competitors
CDSAQ	CDS All Quotes
CDSCA	CDS Calculator
CDSCHT	CDS Charts
CDSOV	CDS Overview
CDV	Company Deals
CF	Cash Flow
CHTV	Company Chart View
CN	Company News
CRS	Credit Risk – Structural Model (BETA)
CRT	Credit Risk – Text Mining Model (BETA)
CUST	Major Customers
DVD	Dividend Payment Detail
DIVO	Dividend Overview
DS	Debt Structure
EF	All Futures
EMTO	Most Traded Options
EOP	Options
EQ	Earnings Quality
EST	Statement View
ESTD	Detailed Estimates
EV	Events
EW	Warrant Overview
EXCNV	Exchangeables and CNVs
FIL	Filings
FNOWN	Fund Ownership Summary
FOWN	Firm Ownership Summary
GUID	Guidance Summary
HS	Historical Surprise
IC	Index Competitors
IIS	Interactive Income Statement
INC	Income Statement
INSIDER	Insider / Stakeholder
IR	Issuer Ratings
I	Intrinsic Valuation
MYN	My News
OFF	Officers & Directors Overview
OFFD	Officers & Directors Detail
OFFP	People Connections
OFFREL	Corporate Relationships
OPM	Operating Metrics
PEERS	Peers
PMO	Price Momentum Model
PP	Price Performance
PTB	Price Target Builder
QH	Quote History
RAT	Ratios – Key Metrics
RATO	Ratios – Overview
RATPVR	Ratios – Profit/Value/Risk
REC	Recommendations & Target Price
RES	Company Research
RV	Relative Valuation
SC	Sector Competitors
SECN	Sector News
SEG	Segments
SH	Smart Holdings Model
SI	Short Interest
TASV	Time and Sales
TOPA	Top Analysts
VWAP	VWAP

CHARTING	
CBOOK	Datastream Chartbook
CHT	Chart app
DSCHART	Datastream Chart Studio
DSLIB	Datastream – My Library
DSNEWS	Datastream News In Charts
ECOC	Economic Indicator Chart
FESC	Fundamentals Estimates Chart
REBC	Rebasing Chart
RRG	Relative Rotation Graph
TEAC	Technical Analysis Chart
VOLC	Volatility Chart
XNET	Datastream Infobase

MARKETS	
ALPHA	Alpha Now
BIGTR	TR Indices
BIGV	Volatility Indices
EE	Economic Events
HOL	World Exchange Holidays
HOME	Home page
INDUS	Industry
INFOV	World Index Futures – Overview
INOV	World Indices – Overview
MACROX	Macro Explorer
STOV	Stocks Guide

NEWS	
NEWS	News
TOPNEWS	Top News

EQUITY INDEX – CONTEXTUAL NAVIGATION	
NAVIGATION	
Note: Type the index name and the selected tool – e.g. “IBM OV”	
CA	Constituent Analysis
CHTV	Index Chart View
EF	All Futures
EOP	Options
EV	Events
EW	Warrant Overview
FIL	Filings
IN	Index News
LJ	Leavers and Joiners
OV	Overview
PP	Index Price Performance
QH	Quote History
RES	Research
RINB	Reuters Investors Briefs

SEARCHES	
ADRSRCH	ADRs – Advanced Search
ANSWERS	Eikon Answers
ECONSRCH	Economic Indicators – Advanced Search
EQSRCH	Companies – Advanced Search
ETFSRCH	ETFs – Advanced Search
FUNDSRCH	Funds – Advanced Search
FUTSRCH	Futures – Advanced Search
MASRCH	Mergers and Acquisitions – Advanced Search
OPTSRCH	Options – Advanced Search
SCREENER	Equity Screener
SRCH	Advanced Search
WARRSRCH	Warrants – Advanced Search
RES	Research

FUNDS – CONTEXTUAL NAVIGATION	
Type the fund name or identifier and the selected tool – e.g. “QQQ AQ”	
AQ	All Quotes
CHTIP	Indexed Performance Chart
CHTNA	Total Net Assets (TNA) History Chart
CHTPD	Price & Dividend History Chart
CHTPG	Percentage Growth Chart
CHTRE	10,000 Reinvested Chart
CHTRP	Rolling Performance Chart
CHTV	Funds Chart
FHOLD	Fund Full Holdings
HOLD	Fund Holdings
OV	Overview
QA	Quantitative Analysis

HELP	
FAQ	Frequently Asked Questions
HELP	Online Help



COMMONLY USED CODES: INDICES

INDICES	
CBOE Volatility Index	.VIX
Dow Jones Industrial Average	.DJI
Dow Jones Composite	.DJA
Dow Jones Transports	.DJT
Dow Jones Utilites	.DJU
Dow Jones Total Return	.DJCTR
S&P 100	.OEX
S&P 400 Midcap Equal Weighted Index	.MIDWEF
S&P 500	.SPX
S&P 600 Small Cap	.SPCY
S&P 500 CME Value Index	.IVX
S&P 500 CME Growth Index	.IGX
S&P Total Return	.SPXT
S&P 600 Consumer Discretionary Sector	.SPSMCD
S&P 500 Consumer Staples Sector	.SPLRCS
S&P 500 E-Mini Future	ESc1
S&P 500 Energy Sector	.SPNY
S&P 500 Financial Sector	.SPSY

INDICES (continued)	
S&P 500 Future	SPc1
S&P 500 Health Care Sector	.SPXHC
S&P 500 Industrials Sector	.SPLRCI
S&P 500 Information Technology Sector	.SPLRCT
S&P 500 Materials Sector	.SPLRCM
S&P 500 Telecomm Services Sector	.SPLRCL
S&P 500 Utilities Sector	.SPLRCU
Morgan Stanley Consumer Index	.CMR
Morgan Stanley Cyclical Index	.CYC
US60 Index	.US60
Nasdaq Composite	.IXIC
Nasdaq 100	.NDX
NYSE Composite	.NYA
Thomson Reuters Global Total Return	.TRXFLDGLTU
Russell Top 50	.RU50
Russell 1000	.RUI
Russell 2000	.RUT
Russell 3000	.RUA
Willshire 5000 Index	.W5000
US Dollar	.DXY

INTERNATIONAL INDICES		
FTSE 100	Great Britain	.FTSE
DAX 30	Germany	.GDAXI
CAC 40 INDEX	France	.FCHI
STOXX 50	Europe	.STOXX50
BOVESPA	Brazil	.BVSP
MXSE IPC	Mexico	.MXX
S&P TSX 60	Canada	.SPTSE
NIKKEI 225	Japan	.N225
HANG SENG INDEX	Hong Kong	.HSI
AUSTRALIA ALL ORDS	Australia	.AORD
EURO STOCKS 50	Europe	.STOXX50E
AEX Index	Netherlands	.AEX
RTS Index	Russia	.IRTS
Kospi	South Korea	.KSII
Straits Times Index	Singapore	.FTSTI

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1. Overview

Types of Shares

There are two main forms of stocks that would be of concern to the normal investor.

1. Common Stock

These instruments are referred to as ordinary share which represents an investment in the ownership of a company. Holders will be entitled to dividend payments and voting rights. These instruments are held for **capital appreciation and dividend payments**.

In order to obtain the current quote price of the equity you are interested in, you could do to the following.

- A. Press F4 to open the Quote App
- B. Type the company's name/RIC code. (e.g. AAPL.O for Apple)

AAPL.O		25JUN16 APPLE INC		NSQ USD CUS 037833100 AAPL		Fin St IndN	
Last NAS	04:00	St	Quote.Time	Bid PSE	Ask PSE	Size	MPV
93.10	-2.70	/AGX/	08:00	93.21	93.39	1x5	2DP
93.345	-2.8096 %	VWAP	Open DEX	Cls.Bid	Cls.Ask	12MEPS	8.9871
93.345	Volume	93.6086	92.91	93.35	93.38	12MP/E	10.6931
93.37	10256258	PCT ABNVOL		Cls: NAS 23JUN16	Adj.Cls	Ex.Date	05MAY16
93.36	75311356	2.1223 %		96.10	96.1000	Dividend	2.2800
SpecTrade/Typ	Spec.Vol	Blk.Vol	High	Yr.High: 20JUL15		Div.Dat	12MAY16
93.26 132	200	23076701	94.655	132.9700		Yield	2.3725 %
PSE	07:59	L.Blocks	Low	Yr.Low: 12MAY16		News	06:51
		141	92.65	89.4700		DJ.News	22:47
50-Day Mov.Avg.Price	L.Blocks 10-50K		10-Day Mov.Avg.Vol	Type		Options	YCEHJM
98.0414	109		35486320	IMPVOL			0.7257
150-Day Mov.Avg.Price	L.Blocks 50-100K		25-Day Mov.Avg.Vol	Offcl Cls		Post&Panel	+93.40
102.5049	8		34205321	T.SzPilotGr			
200-Day Mov.Avg.Price	L.Blocks > 100K		50-Day Mov.Avg.Vol				
105.5175	24		41158383				

2. Preferred Stock

These instruments confer a degree of ownership in a company, usually comes with a fixed dividend payment but without the same voting rights. The structure of a preferred stock is similar to a hybrid of debt and equity. There are a few types of preferred stock; cumulative (accrued dividend); redeemable (callable); convertible (option to convert to common stock); participating.

In order to obtain the quote for preference shares, you could do the following

A: Press F4 to open the quote application

B: Type the name of the company and preference share (e.g. Bank of America preference share)

Latest		BidChg	Size	Reuters Yld	BYld Cg	Contributor	Loc	Time	Date
B+25.8300	A26.8300		x	5.2504 4.3335		TR PRICING	NYC	03:57	25JUN
B+25.8600	A26.8600		x	5.2223 4.3066		TR PRICING	NYC	02:47	25JUN
B25.9200	A26.9200		x	5.1661 4.2530		TR PRICING	NYC	19:01	24JUN

Source	USFISUPERRICS	
--------	---------------	--

Real Time Calculations		Reference Data		Daily View	
Time/Date	03:57 25JUN		Ticker	BAC	
Latest	B+25.8300	A26.8300	Issue Rating	FCH BB+	
Reuters Yld	5.2504	4.3335	Issuer Dom	US	
ISMA Yld Yld	5.32	4.38	Amt O/S	900	mln
Clean / GrossPrc	25.8300	26.0967	Par Value	25.0000	
Benchmark Spd	+416.0	US5YT=RR	Pay Freq	QRTLY	
Int G-Spread	+418.799		Issue Prc	100.0000	
Swap / OAS / z Spd	+421.4 /	/ +429.7	Issue Date	25APR16	
ASwp (Std/1M/3M/6M)	419.5 / 431.44 / 419.36	/ +403.1	Next Coupon	25JUL16	
TED Spd/OIS Spd			Ind News	[BNK]	
Int Basis / Int CDS			Related Data	<0#FIXEDINCOME>	
Zero Curve	<USDSWAPZC>		Issuer News	00:42	
Swap Point / Curve	+1.0364 /	<USDSB3L=RR>	Yield Date	25APR21	
Acc Int / Days Acc	0.267 /	64	Asset Status	Issued	
Mod Dur / BPV	4.101 /	1.0908	Yld Convntn		
Convx	20.4211		Day Count		
Settle Date	29JUN16				

Daily Return(%)	
Codes	
All Quotes	
0#060505260=	
CUS 060505260	
USFISUPERRICS	

2. Equity Data Pages

Equity Homepage <EQG>

The first page that you should utilize to obtain information about equities is the Equity Homepage. On this page, you can have a brief overview of the different applications applicable to equities as well as a key list of equity indexes and top news.

To arrive at the following page,

Home > Asset Classes > Equities OR

In the Eikon Toolbar, search <EQG>

The screenshot displays the 'EQUITIES OVERVIEW' page in Eikon. At the top, there's a search bar and navigation tabs for 'Overview', 'News', 'Market Data and Tools', 'Economic Events', and 'Research'. The main content is divided into several sections:

- SEARCH:** A table with categories like Indices, Futures, Warrants, ADRs and their corresponding tools (Stocks, Options, ETFs, Equity Screener).
- FEATURED CONTENT:** Links to 'What's New in Equities', 'Market Share Reporter (MSR)', 'Relative Rotation Graph (RRG)', and 'Aggregates Matrix'.
- TOP NEWS:** A list of news articles with a featured article about Ping An's risks.
- TOP INDICES:** A line chart showing the N225 index price in JPY from Dec-30 to May-31. Below the chart is a table of 'Selected Indices (1)' with columns for Name, Last, Net Chng, % Chng, MTD % Chng, and YTD % Chng.
- ECONOMICS TODAY:** A table listing economic events with columns for Event Name, Time, Period, Poll, Actual, and Prior.
- TOP SECTOR INDICES:** A table listing sector indices with columns for Name, Last, Net Chng, % Chng, MTD % Chng, and YTD % Chng.

Equity News

From the Homepage, you can easily navigate to the News and Research tab to read up on the latest news of the market of your choice.

Home > News and Research > Top News

Alternatively, you could go to the Stocks Buzz News Service to have short headlines of the main happenings.

In the Eikon Toolbar, search <Stocks Buzz>

News: Stocks Buzz News Service AND (Chinese (Simplified) OR English)

Time	Source	RICs	Headline
10:36:19 AM	RTRS	FLT.AX	BUZZ-Australia's Flight Centre hits more than 3-yr low
10:29:46 AM	RTRS	9831.T	BUZZ-Japan's Yamada Denki soars after Goldman upgrades rating
10:26:42 AM	RTRS		BUZZ-China's steelmakers jump on Baosteel-Wuhan Steel restructuring report
09:51:43 AM	RTRS	RMD.AX QBE.AX	BUZZ-ASX 200 slipping below 4800 "not implausible" - Morgan Stanley
09:27:34 AM	RTRS	HGGH.L HGG.AX	BUZZ-UK-exposed Australian stocks open lower in Brexit aftershocks
08:39:43 AM	RTRS	TTS.AX	BUZZ-Australia's Tatts slips to more than 2-mth low, sells stake in UK slots business
08:30:57 AM	RTRS	MQG.AX	BUZZ-Australia's Macquarie hits 1-1/2-mth low on Brexit uncertainty
07:28:09 AM	RTRS	PRY.AX AGL.AX	BUZZ-Credit Suisse lowers ASX 200 year-end target on Brexit uncertainty
25 June 2016			
05:53:12 AM	RTRS	SKULO	BUZZ-Skullcandy soars on receiving two buyout offers in a day
04:26:10 AM	RTRS	NEM.N .XAU	BUZZ-U.S. stocks weekly: Brexit, stage left
02:43:04 AM	RTRS	ALXN.O	BUZZ-Alexion at 3-yr low on Brexit, Piper Jaffray sees chance to buy
02:11:53 AM	RTRS	XLFP.BKX	BUZZ-European ADRs sink, on track for biggest drop since '09
01:33:23 AM	RTRS	WEN.O V.N	BUZZ-U.S. STOCKS ON THE MOVE-Brexit effect: Banks, energy down, miners up
01:00:11 AM	RTRS	FCAU.N TSLA.O	BUZZ-U.S. carmakers: Skid after Brexit vote

3. Equity Data Search Tools

Advanced Search <EQSRCH>

Using the advanced search tool on Eikon for equities, one can screen out different equity instruments available, according to the different requirements they have stipulated in the filters. After filtering out the different equities, one can sort it (e.g. high to low for dividend yield) for easier search.

In the Eikon Toolbar, type <EQSRCH> and hit enter.

Double click on the name of the issuer to be directed to the company view page.

The screenshot shows the 'Equities Search' window with the following table of results:

Name (or Codes)	RIC	Currency	Market Capitalisation (USD)	Dividend Yield
Apple Inc	AAPL.O	US Dollar	511,591,495,000	2.44
Microsoft Corp	MSFT.O	US Dollar	391,687,063,434	2.89
Amazon.com Inc	AMZN.O	US Dollar	329,788,870,921	-
Facebook Inc	FB.O	US Dollar	320,583,042,793	-
Tesla Motors Inc	TSLA.O	US Dollar	28,176,975,412	-
Alphabet Inc	GOOGL.O	US Dollar	467,000,117,695	-
General Electric Co	GE	US Dollar	274,214,491,740	3.09
Bank of America Corp	BAC	US Dollar	133,534,903,489	1.54
Priceline Group Inc	PCLN.O	US Dollar	61,162,666,905	-

Advanced Search Companies and Issuers <ORGSRCH>

This application is useful as it allows you to search for un-listed companies (i.e. private companies). From here, you can click on the different type of instruments available from the company/issuer.

In the Eikon Toolbar, search <ORGSRCH> and hit enter.

The screenshot shows the 'Companies/Issuers Search' window with the following table of results:

Company Name	Country of Domicile	TRBC Sector	RIC	Instruments Available
Wells Fargo & Co	United States	Banks (NEC)	WFC	Equities Bonds CDS Warrant Ownership
Industrial and Commercial Bank of China Ltd	China (Mainland)	Banks (NEC)	601398.SS	Equities Bonds CDS Warrant Ownership
JPMorgan Chase & Co	United States	Banks (NEC)	JPM	Equities Bonds CDS Warrant Ownership
China Construction Bank Corp	China (Mainland)	Banks (NEC)	601939.SS	Equities Bonds CDS Warrant Loans Ownership
Agricultural Bank of China Ltd	China (Mainland)	Commercial Banks	601288.SS	Equities Bonds CDS Warrant Ownership
Bank of America Corp	United States	Banks (NEC)	BAC	Equities Bonds CDS Warrant Ownership
Bank of China Ltd	China (Mainland)	Banks (NEC)	601988.SS	Equities Bonds CDS Warrant Loans Ownership
HSBC Holdings PLC	United Kingdom	Commercial Banks	HSBAL	Equities Bonds CDS Warrant Ownership
Citigroup Inc	United States	Banks (NEC)	C	Equities Bonds CDS Warrant Ownership

Screener

Another application which the user could utilize to search for equities is the screener app.

Here, you can specify different fields to search for equities and export your results to Excel.

In the Eikon Toolbar, search <SCREENER> and hit enter.

Identifier	Company Name	Country of Headquarters	Company Market Cap (SGD)	P/E (Daily Time Series Ratio)	Div Per
CAEP.SI	China Merchants Holdings Pacific Ltd	Singapore	1,830,414,582.00	13.39	
KPLM.SI	Keppel Corporation Ltd	Singapore	9,742,315,012.43	7.04	
MONE.SI	M1 Ltd	Singapore	2,416,594,846.14	13.68	
SLVX.SI	Silverlake Axis Ltd	Singapore	1,322,365,954.24	9.30	
CACT.SI	CapitaLand Commercial Trust	Singapore	4,170,054,503.16	12.72	
SUNT.SI	Suntec Real Estate Investment Trust	Singapore	4,234,047,550.78	12.76	
ASRT.SI	Ascott Residence Trust	Singapore	1,826,025,017.12	10.75	
CRCT.SI	CapitaLand Retail China Trust	Singapore	1,258,326,609.89	10.63	
MAPL.SI	Mapletree Logistics Trust	Singapore	2,444,687,171.04	12.65	
MAPI.SI	Mapletree Industrial Trust	Singapore	2,968,763,068.83	10.62	
HPHT.SI	Hutchison Port Holdings Trust	Singapore	5,004,287,981.86	14.26	
OUER.SI	OUE Hospitality Trust	Singapore	1,208,163,639.08	12.33	
MAPE.SI	Mapletree Greater China Commercial ...	Singapore	2,718,107,174.62	6.22	
FRCT.SI	Fraser's Centrepoint Ltd	Singapore	4,486,449,390.96	7.43	

As you can see in the leftmost column, you can specify the country of headquarters, P/E, Dividend etc. For commonly used filters, one can utilize the “Quick Filters” function. Alternatively, type in the necessary filter in the search box.

Press the button in green at the top right hand corner to export the table to Excel.

Difference between Advanced Search and SCREENER:

Using the screener, one is able to

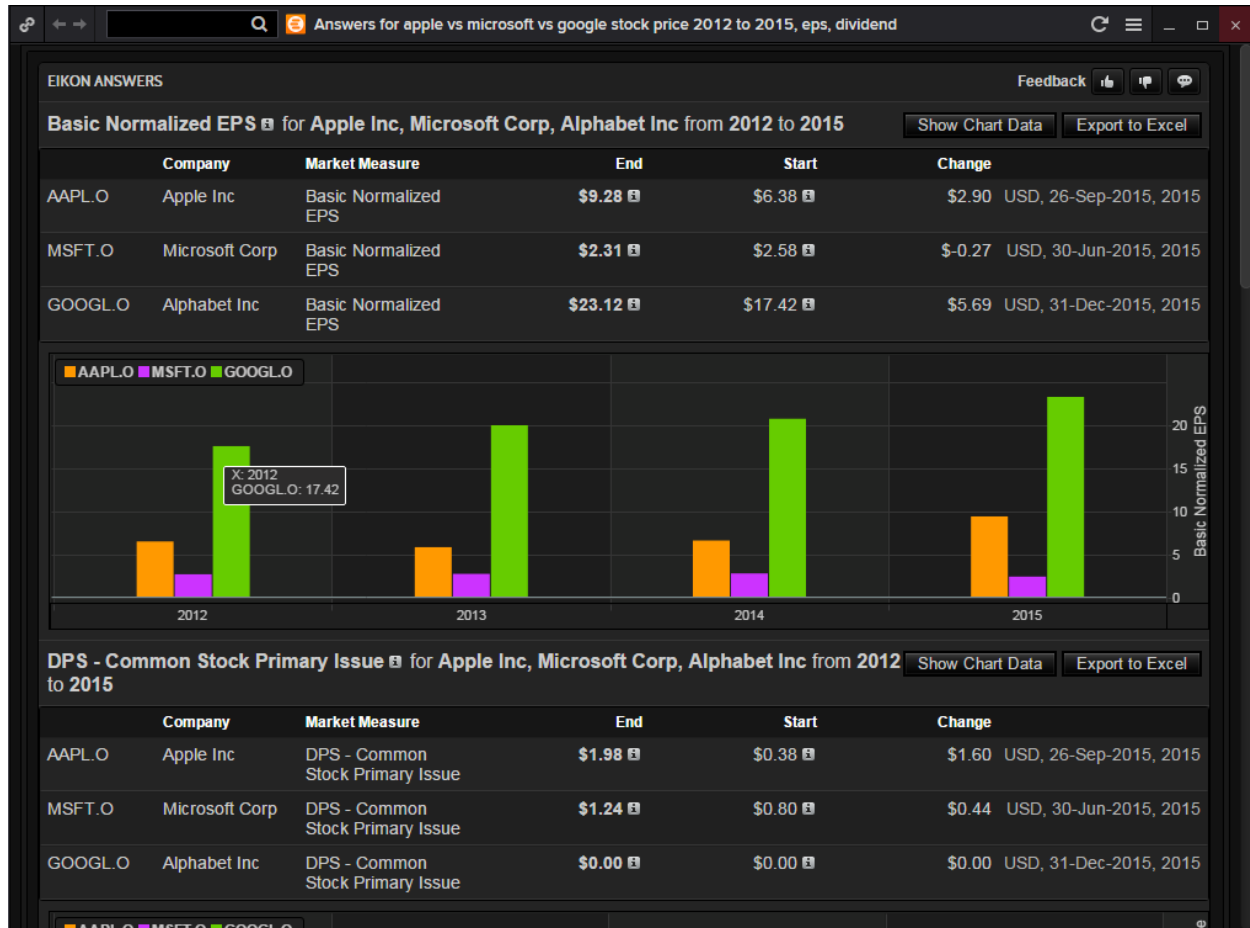
1. Filter more fields (such as IBES, Starmine, and Technical Analysis etc)
2. Set your own universe (portfolio) of stocks that you wish to look into
3. You can add columns to display the result with further data
4. Data can be displayed in a scatter plot format
5. The results can be exported to Excel.

These are functions not available with the EQSRCH and ORGSRCH applications.

Eikon Answers

Using Eikon Answers, one can conduct a natural language search which can provide direct answers to your questions pertaining to equity and equity indices and its respective Technical and Fundamental ratios.

E.g. Searching for “Apple vs. Microsoft vs. Google Stock Price 2012 to 2015, EPS, Dividend” in the Eikon Toolbar would generate the following page with the corresponding visual charts.



After scrolling down past the results, you would see the following option bar.

Related Answers: [Apple Inc PE Ratio](#) | [Alphabet Inc PE Ratio](#) | [Apple Inc Market Cap](#) | [Apple Inc Gross Dividends - Common Stock](#)
 More Information: [Apple Inc Overview](#) | [Apple Inc Income Statement Overview](#) | [Apple Inc Estimates Overview](#) | [Alphabet Inc Overview](#) | [Alphabet Inc Income Statement Overview](#) | [Alphabet Inc Estimates Overview](#) | [Microsoft Corp Overview](#) | [Microsoft Corp Income Statement Overview](#) | [Microsoft Corp Estimates Overview](#)

Using these links, the Answer Application provides you with links to information or searches that it deems would aid you, thus creating an easy and quick way for you to search for correlated information without having to search for it again.

Further down the page are direct links to the company overview, futures and equity products available, as well as top news from the past day.

Equity Offering Apps <IPO>

IPO Process

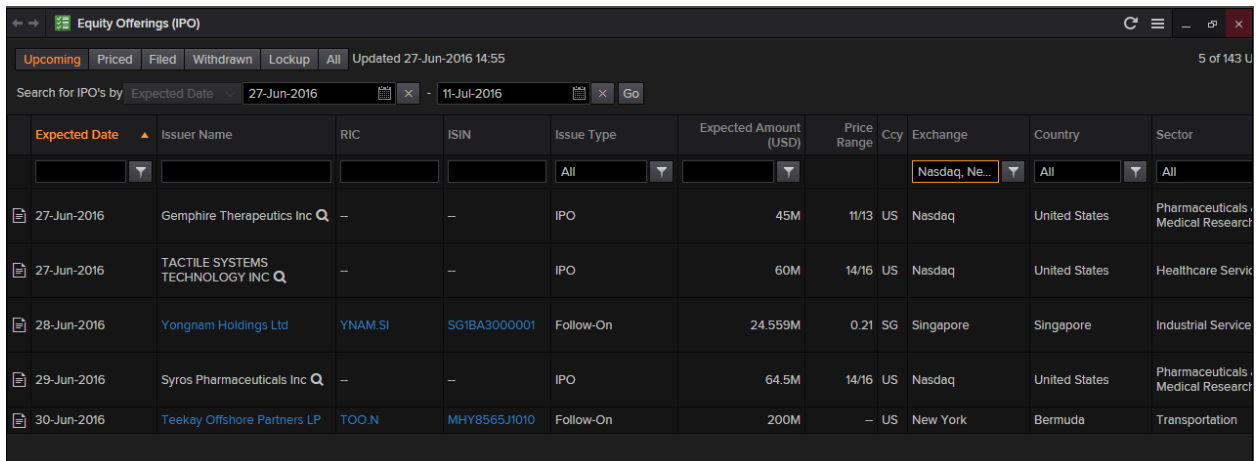
In order to carry out an IPO, the following steps must be taken by a company.

1. Pitch: bankers from many firms will pitch themselves to become book runner roes
2. Kick-off meeting: meeting for everyone (company management, auditors, accountants, underwriting banks, lawyers etc) involved in the IPO to get together
3. The S-1 filing (For US only): SEC filing used by companies to register their securities with SEC
4. Pre-selling the offering: a pre-IPO analyst meeting
5. Roadshow: meet with investors and market the company for 1-2 weeks
6. Pricing meeting: decide on the final price of the deal based on the orders received
7. Allocation: the syndicate of banks will allocate shares to investors
8. Trading: the stock starts trading and the general public can now buy and sell shares.

EIKON Application

On Eikon, there is an app which would list all IPOs, and here, all IPOs two weeks forwards and historical IPOs can all be accessed.

On this page, you could specify the expected date of IPO, including the exchange and country that you are interested in. Specific sectors can also be viewed.



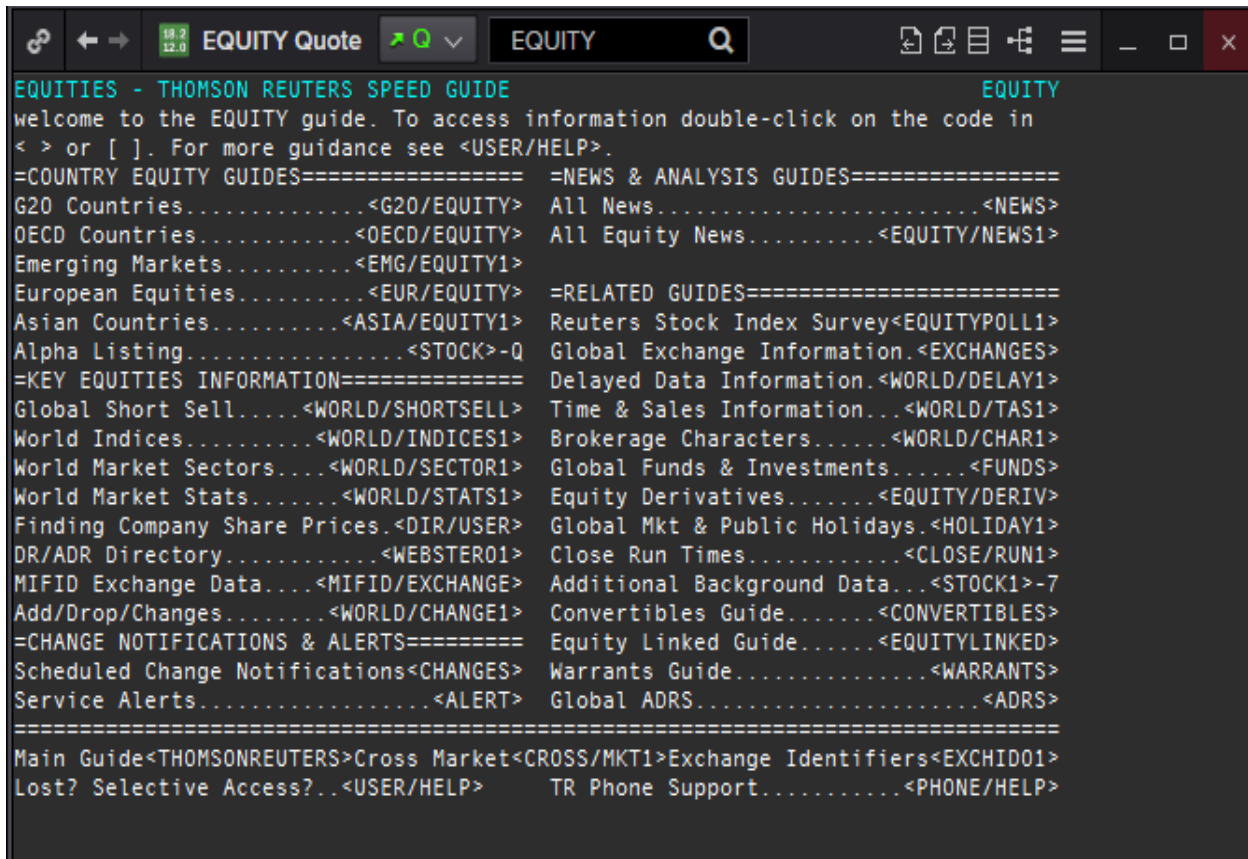
Expected Date	Issuer Name	RIC	ISIN	Issue Type	Expected Amount (USD)	Price Range	Ccy	Exchange	Country	Sector
27-Jun-2016	Gemphire Therapeutics Inc	---	---	IPO	45M	11/13	US	Nasdaq	United States	Pharmaceuticals, Medical Research
27-Jun-2016	TACTILE SYSTEMS TECHNOLOGY INC	---	---	IPO	60M	14/16	US	Nasdaq	United States	Healthcare Services
28-Jun-2016	Yongnam Holdings Ltd	YNAM.SI	SG1BA3000001	Follow-On	24.559M	0.21	SG	Singapore	Singapore	Industrial Services
29-Jun-2016	Syros Pharmaceuticals Inc	---	---	IPO	64.5M	14/16	US	Nasdaq	United States	Pharmaceuticals, Medical Research
30-Jun-2016	Teekay Offshore Partners LP	TOO.N	MHY8565J1010	Follow-On	200M	---	US	New York	Bermuda	Transportation

Equity Speedguides

Within the Quote app, there are speedguides which provide a menu based approach to searching for data. Here, main headings would allow you to navigate to other pages which could lead to further searches.

The speedguide for equity could be accessed through the following steps.

1. Press F4 to open the quote application
2. Search <EQUITY> and the following page will appear.



```

EQUITIES - THOMSON REUTERS SPEED GUIDE
welcome to the EQUITY guide. To access information double-click on the code in
< > or [ ]. For more guidance see <USER/HELP>.
=COUNTRY EQUITY GUIDES=====
G20 Countries.....<G20/EQUITY>
OECD Countries.....<OECD/EQUITY>
Emerging Markets.....<EMG/EQUITY1>
European Equities.....<EUR/EQUITY>
Asian Countries.....<ASIA/EQUITY1>
Alpha Listing.....<STOCK>-Q
=KEY EQUITIES INFORMATION=====
Global Short Sell.....<WORLD/SHORTSELL>
World Indices.....<WORLD/INDICES1>
World Market Sectors....<WORLD/SECTOR1>
World Market Stats.....<WORLD/STATS1>
Finding Company Share Prices.<DIR/USER>
DR/ADR Directory.....<WEBSTER01>
MIFID Exchange Data....<MIFID/EXCHANGE>
Add/Drop/Changes.....<WORLD/CHANGE1>
=CHANGE NOTIFICATIONS & ALERTS=====
Scheduled Change Notifications<CHANGES>
Service Alerts.....<ALERT>
=====
Main Guide<THOMSONREUTERS>Cross Market<CROSS/MKT1>Exchange Identifiers<EXCHID01>
Lost? Selective Access?...<USER/HELP>
=NEWS & ANALYSIS GUIDES=====
All News.....<NEWS>
All Equity News.....<EQUITY/NEWS1>
=RELATED GUIDES=====
Reuters Stock Index Survey<EQUITYPOLL1>
Global Exchange Information.<EXCHANGES>
Delayed Data Information.<WORLD/DELAY1>
Time & Sales Information...<WORLD/TAS1>
Brokerage Characters.....<WORLD/CHAR1>
Global Funds & Investments.....<FUNDS>
Equity Derivatives.....<EQUITY/DERIV>
Global Mkt & Public Holidays.<HOLIDAY1>
Close Run Times.....<CLOSE/RUN1>
Additional Background Data...<STOCK1>-7
Convertibles Guide.....<CONVERTIBLES>
Equity Linked Guide.....<EQUITYLINKED>
Warrants Guide.....<WARRANTS>
Global ADRS.....<ADRS>
=====

```

On this page, you could be linked to the different guides related to equity instruments such as the equity instruments of G20, OECD and Emerging markets.

Occasionally, you may be faced with having to scroll through different pages as the country you are searching for <XXXX/1> to <XXXX.2>

4. Charting for Equities

Basic Charting

In order to plot the basic chart of an equity's price, there are 2 ways to do so.

1. Use the Chart App

Press F10 to open the Chart app. Subsequently, enter the RIC or search for the company's name in order to plot the price of the chart.



2. In the Company Overview page, select “Price and Charts” for a chart representation of the equity

Some Common Technical Analysis

There are certain technical analyses for Equities

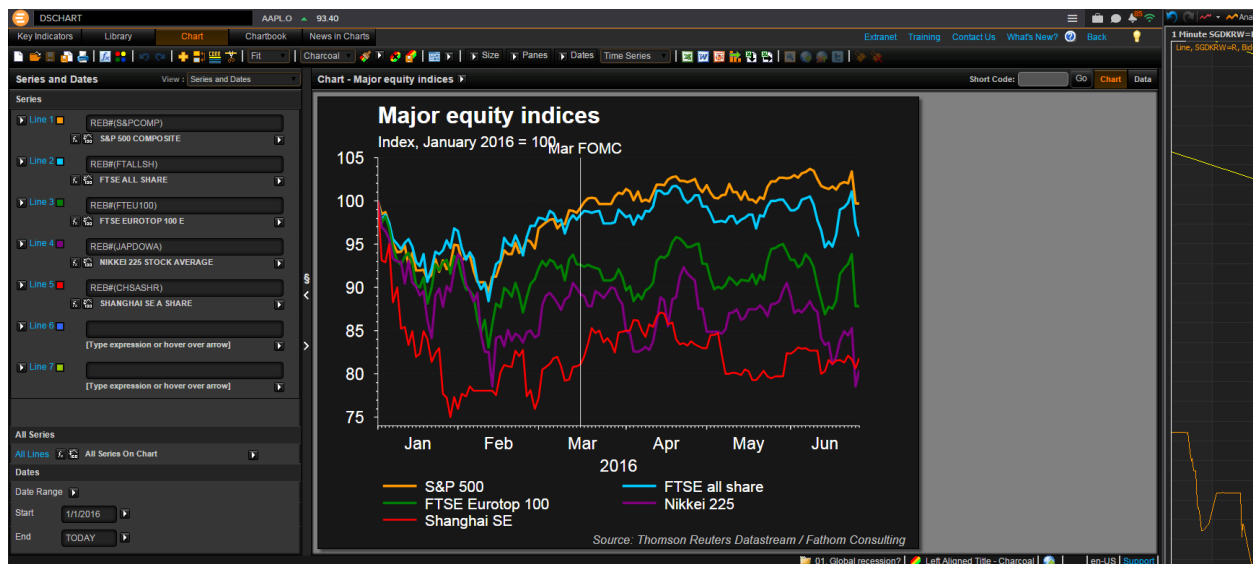
- Simple Moving Average
- Bollinger Bands
- Volume
- Relative Performance
- Rebasing

Pre-defined Charts in the Chart Application



Within the DataStream Chart Library application in Eikon, there are some pre-defined charts which could be useful for you when charting economic indicators as well as different types of equity instruments.

In order to access this page, you would type <DSCHART> in the Eikon Toolbar and click on the “Chartbook” tab at the top. This would lead you to the page of chart templates which you can use and modify for your usage.



5. Country Overview

Before investing in an equity, some investors may conduct a simple research about the Country of Exchange. In order to do so, there is a straightforward way to obtain a wholesome view of the country's financial status.

Through the country overview page, you could obtain

1. Country's Currency and Equity Index
2. Issuer Ratings
3. Key News and Events
4. Financial Markets
5. Central Bank
6. Amount of Debt
7. Key Economics
8. Comparison with other Countries
9. Key Information about Leadership in the Country

In order to open the country overview for any one country, simply search the country's name in the Eikon Toolbar. E.g. Search for "Singapore"



6. Company Overview

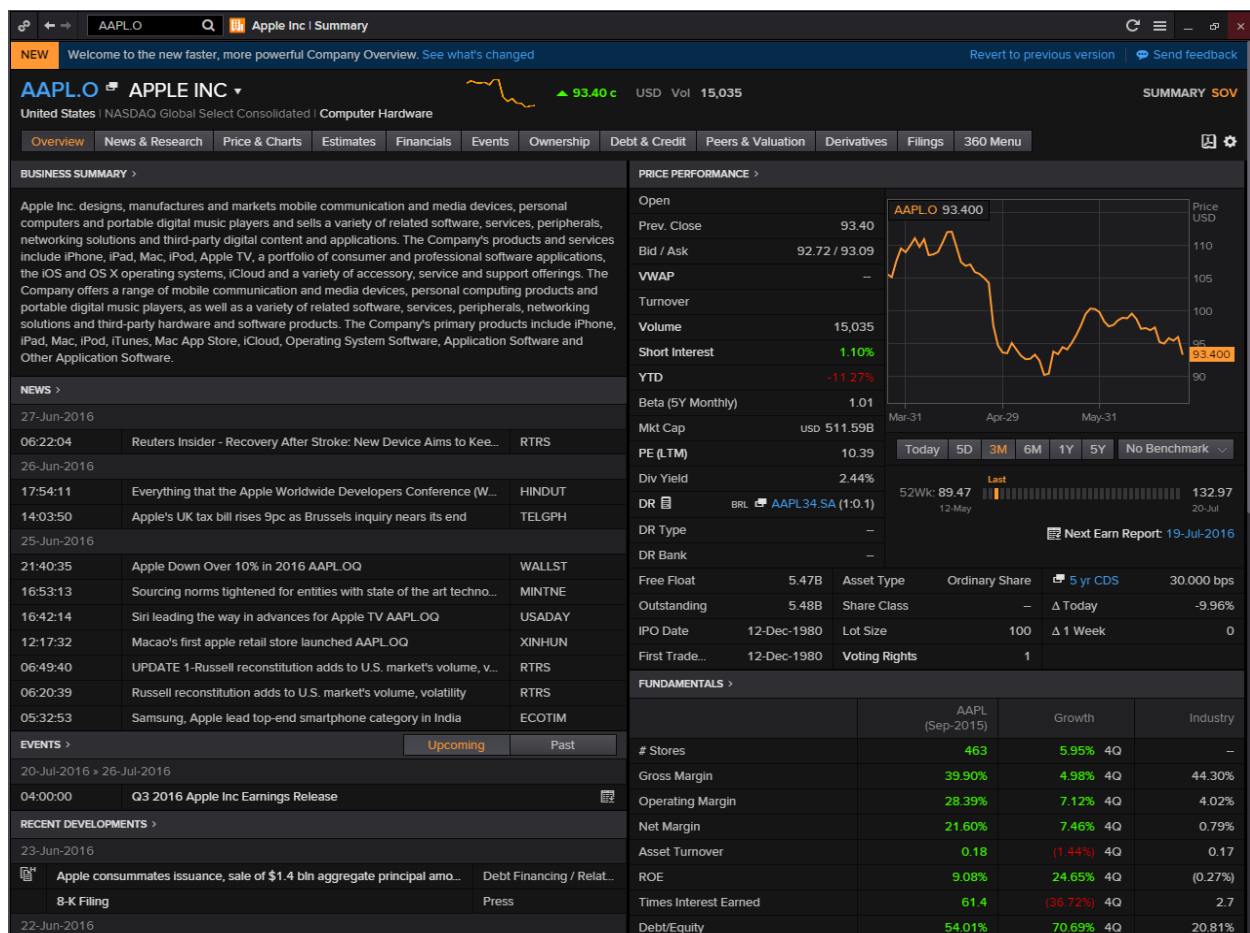
Overview

The Company Overview page in Eikon provides access to fundamentals, estimates, research, events, significant developments and background information on companies. It gives a comprehensive overview of a stock in order for users to determine its health and the overall state of the equity instrument.

For the purpose of discussion, we have chosen to use Apple (AAPL.O) for discussion. Type the company name or ticker into the Search box and select from the Auto suggest options presented to you. (E.g. Apple or AAPL.O)

From the overview page, the following pages can be accessed,

1. Summary about the instrument
2. Stock Valuation
3. Fundamentals
4. Trading
5. Private Equity
6. Takeover Defence
7. Information about Officers



News and Research

Within the Company Overview Page, the “News and Research” tab would provide users with a list of news from the past few days that relates to the equity you are searching on.

On the right hand column, Eikon has generated a Most Read list that would allow you to screen through the different headlines that others found important or interesting.

Within the News and Research tab, you could access the following information


1. Company News
2. My View
3. Social Media Monitor
4. Sector News
5. Reuters Investor Brief
6. Company Research

The screenshot shows the Eikon interface for AAPL.O. The top navigation bar includes 'Overview', 'News & Research', 'Price & Charts', 'Estimates', 'Financials', 'Events', 'Ownership', 'Debt & Credit', 'Peers & Valuation', 'Derivatives', 'Filings', and '360 Menu'. The 'News & Research' tab is active, displaying a list of news articles. The 'MOST READ' section is also visible on the right side of the interface.

Date	Source	Headline
27-Jun-2016	RTRS	Reuters Insider - Recovery After Stroke: New Device Aims to Keep Patients Motivated
26-Jun-2016	HINDUT	Everything that the Apple Worldwide Developers Conference (WWDC) was, and wasn't AAPL.OQ
14:03:50	TELGPH	Apple's UK tax bill rises 9pc as Brussels inquiry nears its end
25-Jun-2016	WALLST	Apple Down Over 10% in 2016 AAPL.OQ
16:53:13	MINTNE	Sourcing norms tightened for entities with state of the art technology AAPL.OQ
16:42:14	USADAY	Siri leading the way in advances for Apple TV AAPL.OQ
12:17:32	XINHUN	Macao's first apple retail store launched AAPL.OQ
06:49:40	RTRS	UPDATE 1-Russell reconstitution adds to U.S. market's volume, volatility
06:20:39	RTRS	Russell reconstitution adds to U.S. market's volume, volatility
06:03:04	RTRS	Reuters Insider - U.S. stocks plunge on British vote to leave EU
05:32:53	ECOTIM	Samsung, Apple lead top-end smartphone category in India
04:52:04	CNBC	Reuters Insider - Nasdaq worst performer today
04:22:34	THST	Reuters Insider - Thinking About Halloween Yet? Well, Here's a Look Inside Party City's Design Studio
03:54:57	RSCH	Jefferson Research Financial Sonar Report. A detailed analysis of the current fundamental performance of APPLE INC including Earnings Quality, Cash Flow Quality, Operating Efficiency, Balance Sheet Quality and Valuation. (11 AAPL.O
02:45:26	RSCH	Here's How Samsung Could Benefit From Its Acquisition Of Joyent (3 pages) - Trefis 005930 KS
01:53:36	RTRS	INTERVIEW-Ireland says well-placed to lure firms from London post-Brexit
24-Jun-2016	RSCH	Trefis Report: BlackBerry - \$7.76 Trefis Price Estimate (24 pages) - Trefis BB.TO
22:47:04	DJN	DJ Chinese Company Defends Case Against Apple AAPL.O
22:42:11	RTRS	BUZZ-U.S. tech companies: Chips are down after Brexit
22:00:46	RTRS	BUZZ-U.S. STOCKS ON THE MOVE-Brexit effect: Banks, energy down, miners up
21:59:23	RTRS	BUZZ-U.S. tech companies: Chips are down after Brexit

Time	Source	Headline
21:40	WALLST	Apple Down Over 10% in 2016 AAPL.OQ
22:42	RTRS	BUZZ-U.S. tech companies: Chips are down after Brexit
17:54	HINDUT	Everything that the Apple Worldwide Developers Conference (WWDC) was, and wasn't AAPL.OQ
11:37	RTRS	路透基点：台湾群创启动280亿台币再融资-TRLPC
01:53	RTRS	INTERVIEW-Ireland says well-placed to lure firms from London post-Brexit
10:08	RTRS	美国个股：苹果称iPhone 6和iPhone 6 Plus仍在中国有售
22:34	RTRS	Days after RBI chief steps down, India eases foreign investment rules
06:03	RTRS	Reuters Insider - U.S. stocks plunge on British vote to leave EU
20:01	RITPC	Reuters Insider - Is there potential for an interest rate cut after Brexit?
21:31	PRN	Covered Call reports for Apple, SolarCity, Skyworks Solutions, NVIDIA, and Abbott Laboratories include trade ideas that offer returns of 20% or more!
04:52	CNBC	Reuters Insider - Nasdaq worst performer today
03:17	BRIEFC	Briefing.com: Hourly In Play (R) - 15:00 ET AUGN
00:13	THST	Reuters Insider - Opening Bell: Stocks Slip on Brexit Worries, Microsoft to Buy LinkedIn
14:03	TELGPH	Apple's UK tax bill rises 9pc as Brussels inquiry nears its end
04:47	RTRS	Tech group rejects post-Paris call for data encryption 'backdoors'
21:59	RTRS	BUZZ-U.S. tech companies: Chips are down after Brexit
23:48	RTRS	Intel gets mobile chip contract from Apple -

Going to the “My Views” tab would allow you to add specific news sections that you wish to search on based on companies, markets, business sectors, geographies etc.

Clicking on the  logo would allow you to search individual news that you wish to find, or to search news based on a specific time on a date. This would allow you to search on events or news that make have caused significant movements in stock prices at that time.

Price and Charts

The next tab is for information about “Prices and Charts”

1. Time and Sales
2. Autex Liquidity: Indicates the market liquidity by connecting traders to those on the bid/ask side
3. Quote History
4. Price Performance
5. Price Momentum Model
6. All Quotes
7. Short Interest: Quantity of active short positions
8. VWAP: volume weighted average price
9. 10B-18: Based on SEC Rule 10B-18 which allows companies to repurchase stocks subject to conditions
10. Chart
11. Chart Studies



By clicking on the small “+” next to the frequency on the chart, you are able to add in other price series, spreads and ratios, technical analysis, economic indicators, fundamental data, estimates and mark out key events. It is similar to the F10 chart function.

Estimates

The “Estimates” tab on Eikon provides users with different estimates about a company.

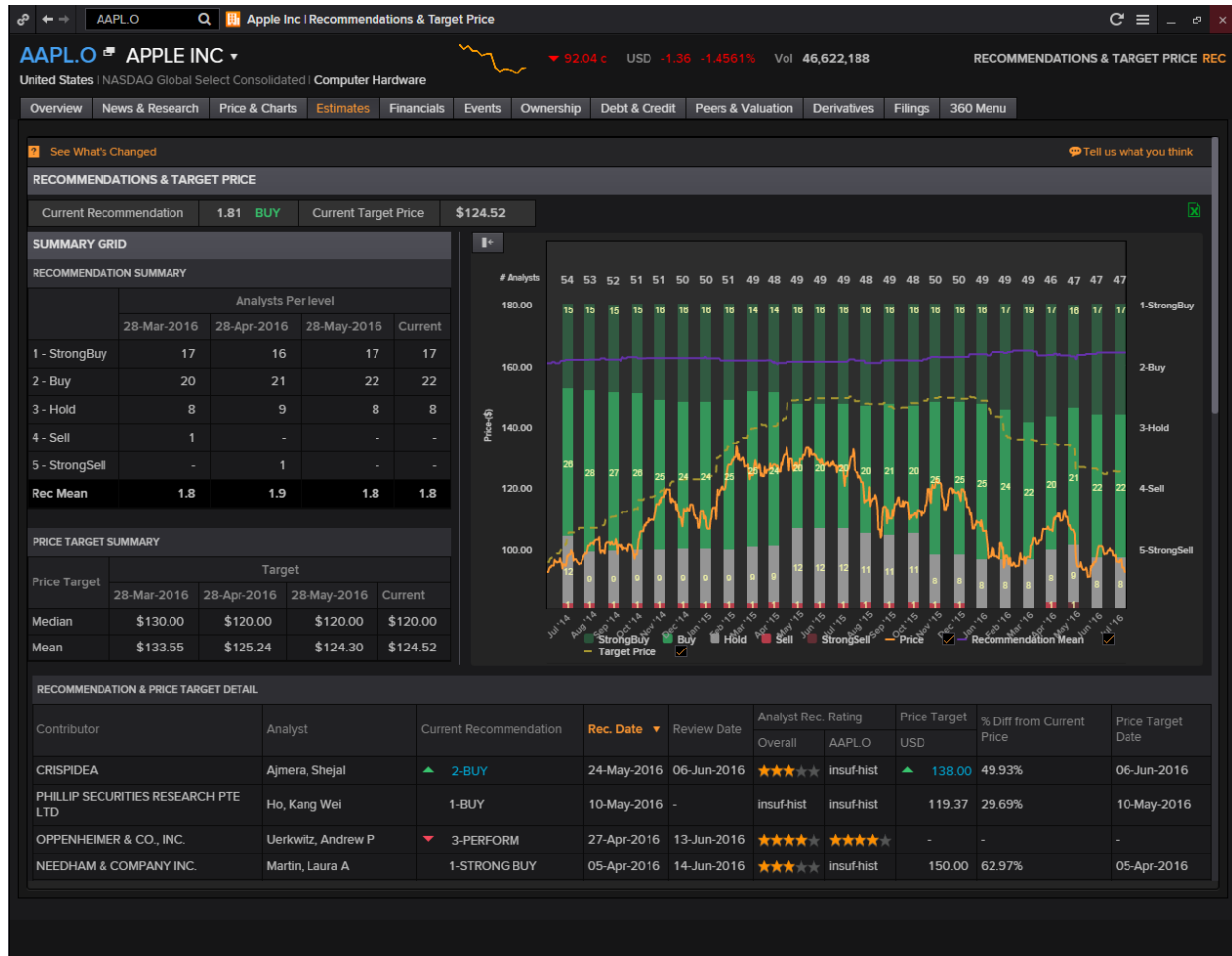
1. Statement View
2. Detailed Estimates
3. Recommendations and Target Price
4. Historical Surprise
5. Guidance Summary
6. Top Analysis
7. Analyst Revisions Model
8. Interactive Income Statement

The screenshot displays the 'Estimates' tab for Apple Inc. (AAPL.O) on the Eikon platform. The interface includes a navigation bar with tabs for Overview, News & Research, Price & Charts, Estimates (selected), Financials, Events, Ownership, Debt & Credit, Peers & Valuation, Derivatives, Filings, and 360 Menu. The main content area shows an income statement with columns for historical data (FY Sep-11 to FY Sep-15) and forecast data (FY Sep-16 to FY Sep-19). The data is presented in a table format with various financial metrics and their year-over-year growth percentages.

	HISTORICAL					FORECAST (MEAN)			
	FY Sep-11	FY Sep-12	FY Sep-13	FY Sep-14	FY Sep-15	FY Sep-16	FY Sep-17	FY Sep-18	FY Sep-19
INCOME STATEMENT									
REVENUE	108,249	156,508	170,910	182,795	233,715	216,241	226,210	237,062	223,658
Yr/Yr Growth %	66.0%	44.6%	9.2%	7.0%	27.9%	-7.5%	4.6%	4.8%	-5.7%
COST OF GOODS SOLD	-	-	-	111,808	140,089	131,604	137,916	145,445	-
Yr/Yr Growth %	-	-	-	-	25.3%	-6.1%	4.8%	5.5%	-
GROSS INCOME	-	-	64,304	70,537	93,626	85,216	89,432	95,217	84,306
Yr/Yr Growth %	-	-	-	9.7%	32.7%	-9.0%	4.9%	6.5%	-11.5%
GROSS PROFIT MARGIN	40.5%	43.9%	37.6%	38.6%	40.1%	39.2%	39.6%	39.5%	38.5%
Yr/Yr Growth	1.1%	3.4%	-6.3%	1.0%	1.5%	-0.8%	0.3%	0.0%	-1.0%
R&D EXPENSE	-	-	4,475	6,041	8,067	9,964	10,630	12,013	11,606
Yr/Yr Growth %	-	-	-	35.0%	33.5%	23.5%	6.7%	13.0%	-3.4%
SELLING & MARKETING EXPENSE	-	-	-	11,993	14,329	14,203	14,219	-	-
Yr/Yr Growth %	-	-	-	-	19.5%	-0.9%	0.1%	-	-
SG&A EXPENSE	-	-	10,830	11,993	14,329	14,318	14,620	15,809	16,423
Yr/Yr Growth %	-	-	-	10.7%	19.5%	-0.1%	2.1%	8.1%	3.9%
EBITDA	35,604	58,518	58,009	60,449	82,487	71,555	74,488	77,808	70,785
Margin%	32.9%	37.4%	33.9%	33.1%	35.3%	33.1%	32.9%	32.8%	31.6%
EBITDA PER SHARE	5.43	-	8.55	9.87	14.24	9.56	13.78	-	-
Yr/Yr Growth %	81.1%	-	-	15.4%	44.3%	-32.9%	44.2%	-	-
EBITDA REPORTED	-	-	55,756	172,707	222,576	71,685	72,387	-	-
Margin%	-	-	32.6%	94.5%	95.2%	33.2%	32.0%	-	-
DEPRECIATION	-	-	5,800	6,900	9,200	12,329	13,039	13,400	13,000
Yr/Yr Growth %	-	-	-	19.0%	33.3%	34.0%	5.8%	2.8%	-3.0%
AMORTIZATION	-	-	960.00	1,100	1,300	1,083	825.00	-	-
Yr/Yr Growth %	-	-	-	14.6%	18.2%	-16.7%	-23.8%	-	-
DEPRECIATION & AMORTIZATION	-	-	6,757	7,946	11,257	11,796	12,468	13,670	-
Yr/Yr Growth %	-	-	-	17.6%	41.7%	4.8%	5.7%	9.6%	-
EBIT	33,790	55,241	48,999	52,503	71,230	60,410	63,128	66,375	56,277

From the Statement Views page, you can get historical data for the past 5 years and it may feature data for the next three years as well.

Under the Recommendations page, you can find the analyst’s recommendations for the company. From here, you can consider their suggestions when deciding on your trade.



The research team in Eikon contacts analysts to ask them about their opinion about a stock, subsequently, they would assign a number (1: Strong buy to 5: Strong sell) to their recommendations, and subsequently find the average which would stand for their recommendation on whether to buy or sell the stock.

For example, here, analysts in general believe you should buy into Apple.

Financials

The “Financials” page is good for users who is interested about the Fundamentals of the company. From here, the following information is available.

1. Financial Statements (Income Statement, Balance Sheet and Cash Flow)
2. Operating Metrics
3. Segments
4. Major Customers
5. Ratios - Key Metrics
6. Ratios - Overview
7. Ratios - Profit/Value/Risk
8. Earnings Quality

	2015	2014	2013	2012	2011
Earnings Quality Score	91	90	90	67	67
Period End Date	26-Sep-2015	27-Sep-2014	28-Sep-2013	29-Sep-2012	24-Sep-2011
Revenue	233,715	182,795	170,910	156,508	108,249
Other Revenue, Total	--	--	--	--	--
Total Revenue	233,715	182,795	170,910	156,508	108,249
Cost of Revenue, Total	140,089	112,258	106,606	87,846	64,431
Gross Profit	93,626	70,537	64,304	68,662	43,818
Selling/General/Admin. Expenses, Total	14,329	11,993	10,830	10,040	7,599
Research & Development	8,067	6,041	4,475	3,381	2,429
Depreciation/Amortization	--	--	--	--	--
Interest Expense, Net - Operating	--	--	--	--	--
Interest/Investment Income - Operating	--	--	--	--	--
Interest Expense(Income) - Net Operating	--	--	--	--	--
Interest Exp.(Inc.)Net-Operating, Total	--	--	--	--	--
Unusual Expense (Income)	--	--	--	--	--
Other Operating Expenses, Total	--	--	--	--	--
Total Operating Expense	162,485	130,292	121,911	101,267	74,459
Operating Income	71,230	52,503	48,999	55,241	33,790
Interest Expense, Net Non-Operating	(733)	(384)	(136)	--	--
Interest/Invest Income - Non-Operating	2,921	1,675	1,316	1,088	519
Interest Income(Exp.), Net Non-Operating	--	--	--	--	--
Interest Inc.(Exp.)Net-Non-Op., Total	2,188	1,291	1,180	1,088	519
Gain (Loss) on Sale of Assets	--	--	--	--	--
Other, Net	(903)	(311)	(24)	(566)	(104)
Net Income Before Taxes	72,515	53,483	50,155	55,763	34,205
Provision for Income Taxes	19,121	13,973	13,118	14,030	8,283
Net Income After Taxes	53,394	39,510	37,037	41,733	25,922
Minority Interest	--	--	--	--	--
Equity In Affiliates	--	--	--	--	--
U.S. GAAP Adjustment	--	--	--	--	--
Net Income Before Extra. Items	53,394	39,510	37,037	41,733	25,922

On the Ratios - Overview, you can find all kinds of ratios relating to information extracted from the accounting statements.

Segments would provide you the information about the different business segments of the company and the respective revenue for each segments. Note that different segments may belong to different industries.

Events

The “Events” page is useful for users to monitor the occurrence of certain events that may impact the price of the equity. These events include, corporate announcements, or dividend related dates. Information available include:

1. Corporate Events
2. Company Deals
3. Corporate Actions Calendar
4. Capital Change Overview
5. Capital Change Event Detail
6. Dividend Overview
7. Dividend Payment Detail

The screenshot displays the 'Events' page for Apple Inc. (AAPL) on a financial data platform. The page features a navigation bar with tabs such as Overview, News & Research, Price & Charts, Estimates, Financials, Events, Ownership, Debt & Credit, Peers & Valuation, Derivatives, Filings, and 360 Menu. The main content area is titled 'EVENTS' and includes filters for 'Last 1 Year & Next 1 Year', 'Event Types (All)', 'Content Type', and 'Group By'. It displays three sections: 'TODAY'S EVENTS (0)', 'UPCOMING EVENTS (2)', and 'PAST EVENTS (17)'. The 'UPCOMING EVENTS' section shows two events: 'Q3 2016 Apple Inc Earnings Release' and 'Apple Inc Annual Shareholders Meeting'. The 'PAST EVENTS' section shows a list of 17 events, including dividends and earnings releases from 2015 to 2016.

Date/Time	Type	RIC	Event Name	Content	Add
20-Jul-2016	AMC	AAPL	Q3 2016 Apple Inc Earnings Release		
25-Feb-2017		AAPL	Apple Inc Annual Shareholders Meeting		
Displaying 1 - 2 of 2 records					
PAST EVENTS (17)					
Date/Time	Type	RIC	Event Name	Content	Add
05-May-2016	NTS	AAPL	Dividend For AAPL4.BA - 0.0570 USD		
05-May-2016	NTS	AAPL	Dividend For AAPL - 0.5700 USD		
27-Apr-2016	AMC	AAPL	Q2 2016 Apple Inc Earnings Release		
27-Apr-2016	05:00	AAPL	Q2 2016 Apple Inc Earnings Call		
27-Feb-2016	01:00	AAPL	Apple Inc Annual Shareholders Meeting		
04-Feb-2016	NTS	AAPL	Dividend For AAPL4.BA - 0.0520 USD		
04-Feb-2016	NTS	AAPL	Dividend For AAPL - 0.5200 USD		
27-Jan-2016	AMC	AAPL	Q1 2016 Apple Inc Earnings Release		
27-Jan-2016	06:00	AAPL	Q1 2016 Apple Inc Earnings Call		
05-Nov-2015	NTS	AAPL	Dividend For AAPL4.BA - 0.0520 USD		
05-Nov-2015	NTS	AAPL	Dividend For AAPL - 0.5200 USD		
28-Oct-2015	AMC	AAPL	Q4 2015 Apple Inc Earnings Release		
28-Oct-2015	05:00	AAPL	Q4 2015 Apple Inc Earnings Call		
06-Aug-2015	NTS	AAPL	Dividend For AAPL4.BA - 0.0520 USD		
06-Aug-2015	NTS	AAPL	Dividend For AAPL - 0.5200 USD		
22-Jul-2015	AMC	AAPL	Q3 2015 Apple Inc Earnings Release		
22-Jul-2015	05:00	AAPL	Q3 2015 Apple Inc Earnings Call		
Displaying 1 - 17 of 17 records					

Ownership

Ownership data shows a company’s shareholder list, sometimes it reflects the company’s economy and governmental background.

1. Ownership Summary
2. Shareholders Report
3. Shareholders History Report
4. Fund Ownership Summary
5. Fund Shareholders Report and History Report
6. Insider/Stakeholder
7. Smart Holdings Model
8. Equity Holdings
9. Private Equity Holdings

OWNERSHIP SUMMARY

Primary Exchange: NO MARKET (EG, UNLISTED) | Free Float: 5,474,052,371 | Free Float %: 99.94% | Shares Outstanding: 5,477,425,000 | Strategic Entities Ownership %: 0.06% | Market Capitalization (M USD): 511,591.50

TOP INVESTORS (AS OF LATEST FILING)				RECENT ACTIVITY					
Rank	Investor Name	Turnover	Change	Type	Value	Shares	Investor Name	Value	Shares
1	The Vanguard Group, Inc.	LOW	+7.02M shares	BUYS			Capital World Investors	+23.94M	
2	BlackRock Institutional Trust Company, N.A.	LOW	-1.94M shares	SELLS			Icahn Associates Corporation	-45.76M	
3	State Street Global Advisors (US)	LOW	-1.81M shares				Susquehanna Financial Group, LLLP	-25.97M	
4	Fidelity Management & Research Company	LOW	-11.38M shares				Fidelity Management & Research C...	-11.38M	
5	T. Rowe Price Associates, Inc.	LOW	+0.96M shares				Coatue Capital, L.L.C.	-6.81M	
6	Geode Capital Management, L.L.C.	LOW	+1.46M shares				BNP Paribas Securities Corp. North...	-5.85M	
7	Norges Bank Investment Management (NBIM)	LOW	+0.77M shares						
8	TIAA Global Asset Management	LOW	+0.82M shares						
9	Northern Trust Investments, Inc.	LOW	+0.13M shares						
10	Invesco PowerShares Capital Management LLC	LOW	-4.19M shares						

BREAKDOWN (AS OF LATEST FILING)				
Type	Style	Location	Rotation	Turnover
INSTITUTIONS				
Investment Managers			3,153	53.58%
Brokerage Firms			49	3.15%
STRATEGIC ENTITIES				
Corporation			1	0%
Holding Company			2	0%
Individual Investor			17	0.05%
Government Agency			N/A	N/A

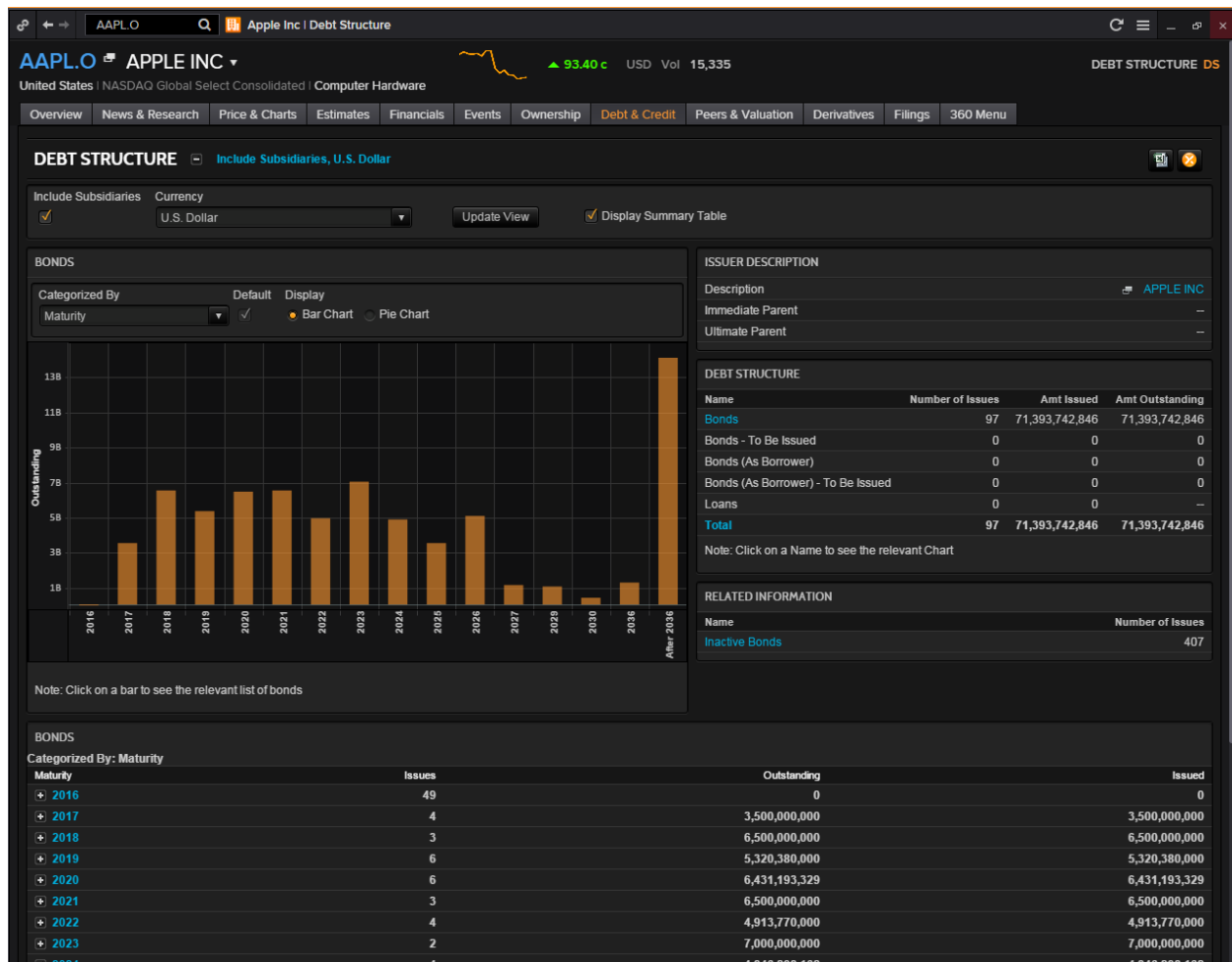
Hovering over any name in the list of investors would cause this icon  to pop up.

Pressing on this button would allow you to generate a visual overview of the historical holdings of this stock by this specific investor. Also, the top 10 Holdings of the company would be displayed in the form of a pie chart.

Debt and Credit

As the name suggests, this page allows users to have a more in-depth view on the debt structure of the company as well as its credit risk. The list of Credit Default swaps available for the company can also be found.

1. Debt Structure
2. Issuer Curve and Ratings
3. Exchangeables and CNVs
4. CDS Overview
5. CDS All Quotes
6. CDS Charts
7. CDS Calculator
8. Combined Credit Risk
9. Text Mining Credit Risk
10. Structural Credit Risk
11. Smart Ratios Credit Risk



Peer and Valuation

One good way to analyse a company other than through fundamental analysis is to do peer comparison with other similar stocks in the market.

1. Peer Analysis
2. Sector Competitors
3. Index Competitors
4. Stock Comparison
5. Value Chains
6. Relative Valuation Model
7. Relative Valuation
8. Intrinsic Valuation
9. Value momentum
10. Price Target Builder
11. Combined Alpha Model

Identifier	Company Name	EV / Revenue (SmartEstimate [®]) (NTM, Consolidated)	EV / EBITDA (SmartEstimate [®]) (NTM, Consolidated)	Price / EPS (SmartEstimate [®]) (NTM, Consolidated)	Price / Cash Flow Per Share (SmartEstimate [®]) (ntm, Consolidated)	Price / Book Value Per Share (SmartEstimate [®]) (ntm, Consolidated)	Price / Sales Ratio - SmartEstimate [®] (NTM, Consolidated)	Dividend Per Share Yt % (SmartEstimate [®]) (NTM, Consolidated)
AAPL.O	Apple Inc	2.40	7.25	10.56	7.58	3.69	2.3%	2
HPO.N	HP Inc	0.50	5.57	7.54	7.01	NA	0.5%	4
IBM.N	International Business Machines Corp	2.16	8.68	10.64	8.96	8.02	1.8%	3
CSCO.OQ	Cisco Systems Inc	2.08	6.24	11.37	10.00	2.06	NA	3
MSI.N	Motorola Solutions Inc	2.36	8.75	13.53	8.72	NA	2.2%	2
MSFT.OQ	Microsoft Corp	3.50	9.24	17.25	12.49	5.05	NA	3
005930.KS	Samsung Electronics Co Ltd	0.80	3.26	9.52	4.94	1.09	NA	1
NOKIA.HE	Nokia Corp	0.93	7.44	18.89	19.01	155	0.8%	3

As shown in the screenshot above of the peer analysis for Apple, a list of similar equity instruments and their respective data will be displayed in data form.

Should you have a preferred list of peers, you could always click the “Edit Peers” button in blue to choose your own comp set. Alternatively, you could type the name or RIC of the equity in the “Add Security” option offered at the bottom of the page.

Derivatives

There are a few equity derivatives that are tradable, but people generally purchase options and futures on equities.

Thus, in Eikon, we have provided a list of the most traded options for your perusal. Similarly, a more detailed list of futures and warrants available.

1. Most Traded Options
2. Options
3. All Futures
4. Warrant Overview

Name	Display RIC	Underlying	Exchange	Last	Bid	Ask	Net Chg	Close	Vol Today	Open Int.	Vol v Open Int.
AAPL 1J16 90.0 P		AAPLO	OPQ					0.36		4,324	
AAPL 1J16 88.5 P		AAPLO	OPQ					0.27		501	
AAPL 1J16 89.0 P		AAPLO	OPQ					0.25		825	
AAPL 1J16 89.5 P		AAPLO	OPQ					0.29		1,149	
AAPL 1J16 90.5 P		AAPLO	OPQ					0.48		1,113	
AAPL Jul16 92.5 P		AAPLO	OPQ					1.60		19,495	
AAPL 1J16 88.0 P		AAPLO	OPQ					0.18		858	
AAPL 1J16 88.5 C		AAPLO	OPQ					8.91		17	
AAPL 1J16 89.5 C		AAPLO	OPQ					11.02		13	
AAPL 1J16 89.0 C		AAPLO	OPQ					5.10		53	
AAPL 1J16 91.0 P		AAPLO	OPQ					0.52		3,710	
AAPL 1J16 90.0 C		AAPLO	OPQ					4.05		492	
AAPL Jul16 100.0P		AAPLO	OPQ					6.65		29,087	
AAPL 1J16 88.0 C		AAPLO	OPQ					5.50		60	
AAPL 1J16 91.5 P		AAPLO	OPQ					0.63		1,404	
AAPL 1J16 90.5 C		AAPLO	OPQ					3.24		213	
AAPL Jul16 100.0C		AAPLO	OPQ					0.17		65,454	
AAPL 1J16 92.0 P		AAPLO	OPQ					0.76		1,727	
AAPL 1J16 100.0P		AAPLO	OPQ					6.60		23,760	
AAPL Jul16 97.5 P		AAPLO	OPQ					4.49		30,495	
AAPL Jul16 97.5 C		AAPLO	OPQ					0.52		25,025	
AAPL Jul16 90.0 P		AAPLO	OPQ					0.87		34,569	
AAPL 1J16 91.5 C		AAPLO	OPQ					2.58		299	
AAPL Jul16 95.0 C		AAPLO	OPQ					1.35		51,697	
AAPL 1J16 92.5 P		AAPLO	OPQ					0.97		1,725	
AAPL 1J16 92.0 C		AAPLO	OPQ					2.23		812	
AAPL 1J16 100.0C		AAPLO	OPQ					0.02		22,807	
AAPL 1J16 95.0 P		AAPLO	OPQ					2.20		5,496	
AAPL 1J16 93.0 P		AAPLO	OPQ					1.10		8,087	
AAPL 1J16 94.0 P		AAPLO	OPQ					1.56		3,374	
AAPL 1J16 92.5 C		AAPLO	OPQ					1.88		544	
AAPL Jul16 105.0C		AAPLO	OPQ					0.03		52,367	
AAPL Jul16 105.0P		AAPLO	OPQ					11.65		20,751	

While you may heard of options and futures, warrants is also a type of derivative available on the market.

Similar to options, a warrant confers a right for you to buy and sell an instrument. This may prompt you to categorise options and warrants as the same thing. However, there are a few key differences. Warrants are usually issued by the company and are traded OTC more than in an exchange. When an investor exercises their warrant, they are issued a newly issued stock instead of an outstanding one. Lastly, the expiry of a warrant is much longer than an option and often come in tenors lastly up to a few years rather than just a few months.

Filings

The “Filings” tab is just a one stop place for you to refer to recent company filings by the company such as their Form 8-K etc.

The screenshot displays the 'Company Filings Search' interface for Apple Inc. (AAPLO). The interface includes a navigation menu with tabs for Overview, News & Research, Price & Charts, Estimates, Financials, Events, Ownership, Debt & Credit, Peers & Valuation, Derivatives, Filings, and 360 Menu. The 'Filings' tab is currently selected. On the left, there are filter options for Filing Date (30 Days), Keywords, Delta Reports, and Category. The main area shows a table of 28 filings for Apple Inc. The table has columns for Filing Date, Document Date, Company Name, and Format. The filings are sorted by Filing Date in descending order.

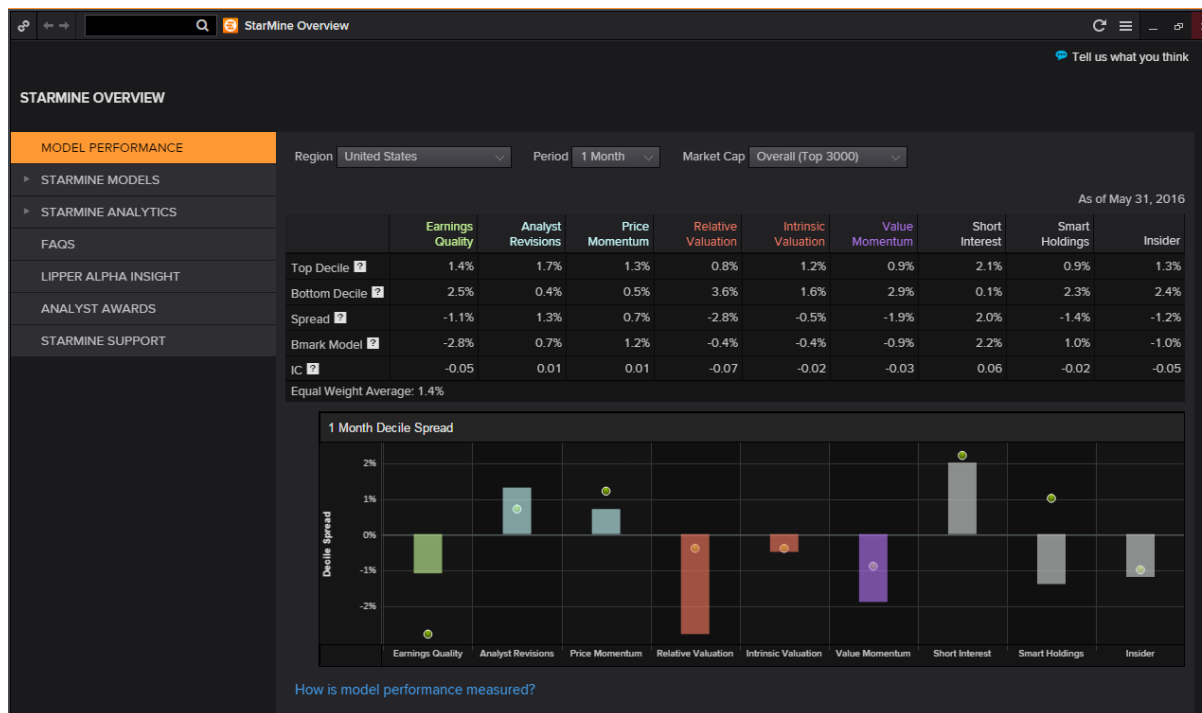
Filing Date	Document Date	Company Name	Format
06/23/2016	06/07/2016	Apple Inc	PDF
06/18/2016	06/10/2016	Apple Inc	PDF
06/17/2016	06/14/2016	Apple Inc	PDF
06/15/2016	06/10/2016	Apple Inc	PDF
06/09/2016	06/03/2016	Apple Inc	PDF
06/09/2016	06/03/2016	Apple Inc	PDF
06/09/2016	06/08/2016	Apple Inc	PDF
06/08/2016	06/03/2016	Apple Inc	PDF
06/08/2016	06/03/2016	Apple Inc	PDF
06/08/2016	06/07/2016	Apple Inc	PDF
06/07/2016	06/07/2016	Apple Inc	PDF
06/03/2016	05/31/2016	Apple Inc	PDF
06/02/2016	05/31/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	04/05/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	04/22/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	06/02/2016	Apple Inc	PDF
06/02/2016	05/27/2016	Apple Inc	PDF
06/02/2016	05/29/2016	Apple Inc	PDF

Displaying 28 records

7. STARMINE Models

Overview

STARMINE models provide quantitative modelling and derived outputs, with unique value-add analytics and predictive financial modelling that help you make investment decisions.



In the Eikon Toolbar, enter <STARMINE> and hit enter in order to pull up the above page. From this page, you are able to view the overall model performance of STARMINE's predictions so far.

STARMINE uses two measures of stock selection. Firstly, a decile spread is used to analyse the model scores on the last trading day of the month and create two equally weighted portfolio based on these score. They then hold these stocks until the end of the holding period and they subsequently rebalance, ignoring transaction trends. They also utilise a global score in order to evaluate global performance, a region=relative score to examine performance in a region.

In this manual, we will briefly look at the following models.

1. Price Momentum Model
2. Analyst Revision Model
3. Earnings Quality
4. Relative Valuation
5. Intrinsic Valuation
6. Value Momentum
7. Credit Risk - Combined Model

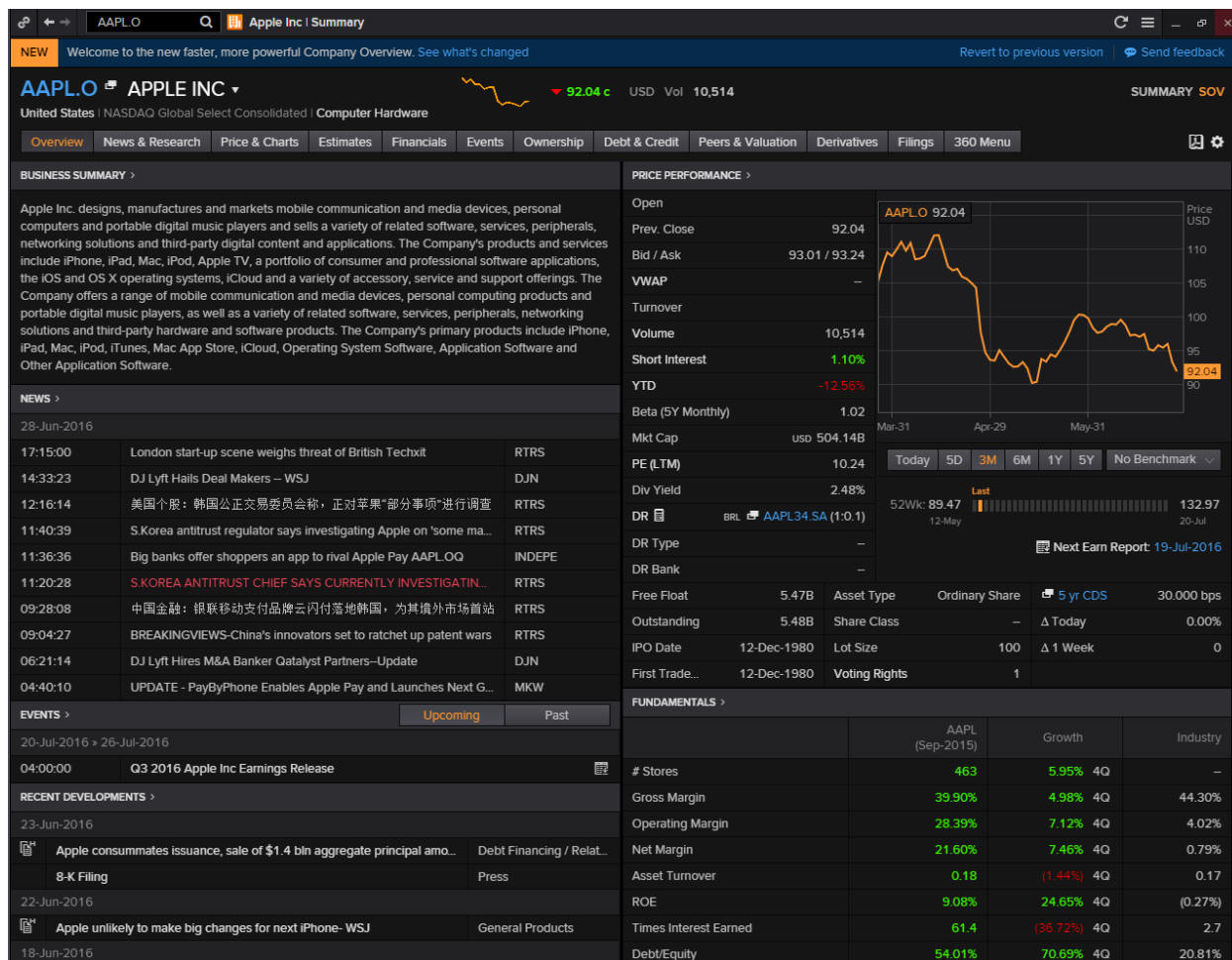
For every model covered, a detailed description would be provided, followed by an explanation and demonstration using Apple's equity.

How to Use StarMine Models?

In order to obtain results for any of the StarMine models, one should first navigate to the home page of the focus company (equity instrument first).

For example, we are searching for the StarMine models for the Apple Equity (AAPL.O).

1. In the Eikon Toolbar, search for the equity instrument you wish to view. (e.g. AAPL.O)



Here is where to find each model to be discussed:

1. Price Momentum Model - Prices and Charts
2. Analyst Revision Model - Estimates
3. Earnings Quality - Financials
4. Relative Valuation - Peers and Valuation
5. Intrinsic Valuation - Peers and Valuation
6. Value Momentum - Peers and Valuation
7. Credit Risk - Combined Model - Debt and Credit

Price Momentum Model

Overview

StarMine's Price Momentum Model is a percentile ranking of stocks based on recent historical price performance. The stock ranking scores are on a scale from one to a hundred (1-100). The model is highly predictive of relative price movement and is effective across stocks in each category, investment style, and market sector.

Long Term Component

The Long Term component exploits the tendency of stocks with strong performance over the past 6-12 months to continue to outperform going forward.

It compares the average daily closing price over the last six months to that over the last 12 months, rewarding stocks whose prices have increased over the last year.

This component is normalized by the trailing 12-month volatility, as measured by the standard deviation of the last 12 monthly price changes. This adjustment amplifies scores for stocks whose price changes were achieved in steady moves and moderates scores for those whose changes were inconsistent or the result of sharp jumps.

Mid Term Component

The Mid Term component compares the average daily closing price over the last ten trading days to that over the last three months, rewarding stocks whose 10-day average is greater than their 3-month average.

The Mid Term component is normalized by volatility, using an exponentially weighted moving average of daily returns over the last year.

Short Term Component

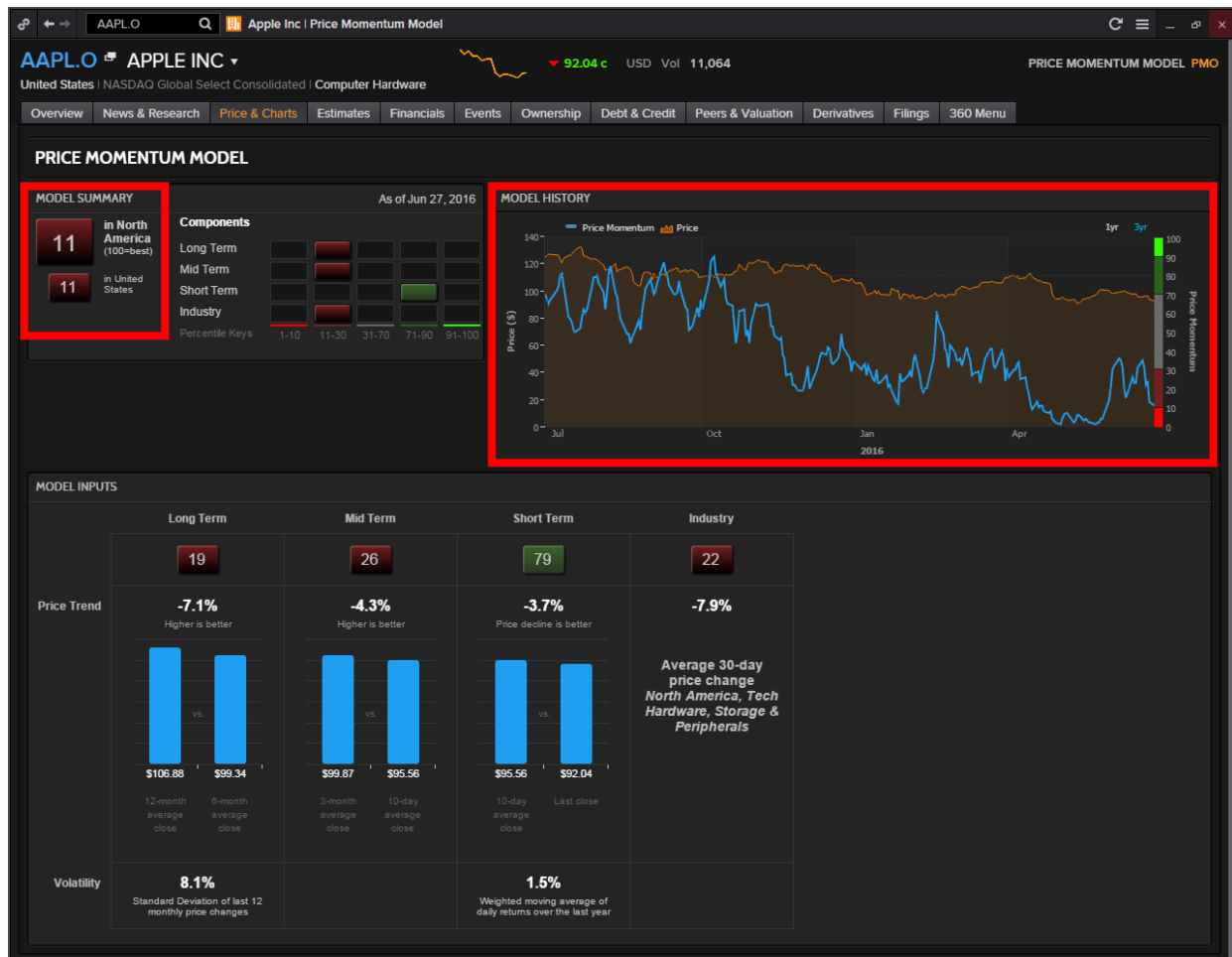
The Short Term component compares the most recent closing price to the average daily closing price over the last ten trading days. This component captures the phenomenon that, at short-term horizons, there is negative auto-correlation in returns - the biggest winners over the last week tend to be losers in the following week or so.

The Short Term component rewards stocks whose prices have decreased over the last ten days. It is normalized by volatility, using an exponentially weighted moving average of daily returns over the last year.

Industry Component

The Industry component captures the power of price momentum at the industry level. Namely, industries that have outperformed over the last 1-2 months tend to continue to outperform. The model ranks stocks on the basis of the average price change of its industry/region peers over the last month.

How to Use the Price Momentum Model?



When you click on the “Price Momentum Model” option under the “Prices and Charts” tab, the above page would load.

There are a few things to note from the above page.

Firstly, the **Model Summary**.

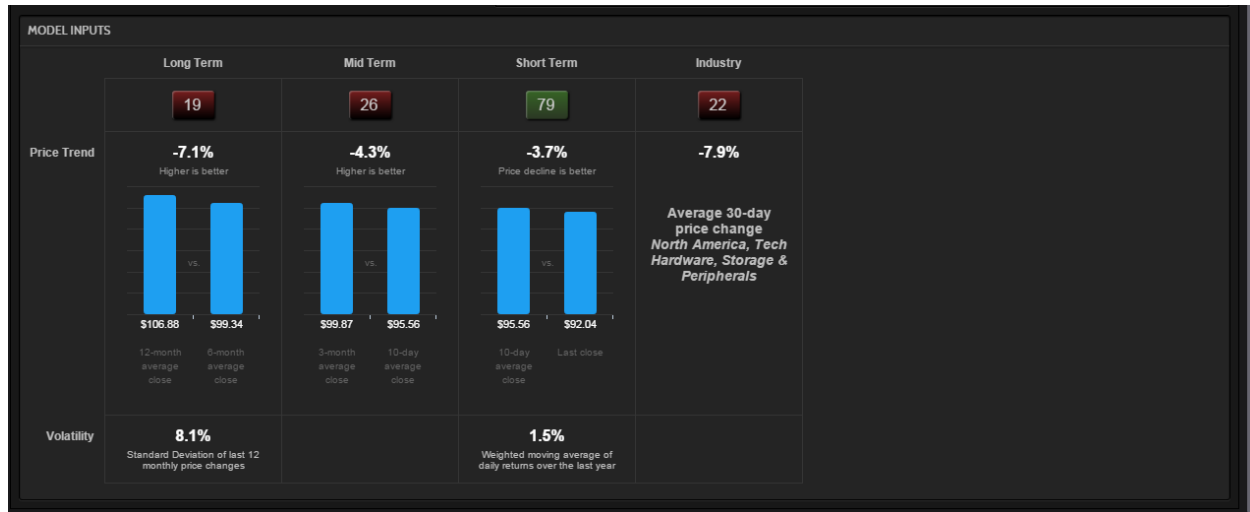
In the Model Summary, there is a “11” which is highlighted in red. What this figure means is that across all the components, the equity beat 11 percentile of its peers, here in comparison to “North America” and “United States”

Secondly, the **Model History**.

In the Model History, there is a chart providing the past performance of the price momentum model and the trading price of the equity instrument. The blue line on the chart represents the price momentum predicted by the model against the actual trading price, which is represented by the orange line.

An important thing to note is the colour bar located at the far right of the chart. The different colours of this bar which coincides with the figures in the Model Summary indicate whether the recommendation is Strong Sell, Strong Buy or anything in between.

Bright Red (0-10): Strong Sell
 Dull Red (10-30): Sell
 Grey (30-70): Hold
 Dark Green (70-90): Buy
 Bright Green (90-100): Strong Buy



Thirdly, at the bottom of the page, there is a section about **Model Input**.

Here, several charts which show the breakdown of the different components, the Long, Mid, Short Term and Industry allows users to have a better understanding about how the final figure “11” was derived.

One can view the criteria here, for the Long Term and Mid Term Component which states that “Higher is Better” for the Long and Mid Term periods is better. While this is easily understood - a higher price in the long run would signal an upward trend in price, the short term component may not be so easily understood at first glance.

While the LT and MT components try to explain the longer term price trend, the price should be declining in the short term in order to encourage a smooth entrance into the market. Hence “Price decline is better” would imply that the investor is able to buy into the market at a lower price.

The industry component would simply provide the investor an overview of how the specific equity is performing in comparison to other equity instruments in the same industry. Hence, even if its other components are performing badly but the equity is performing well compared to others in the same industry, it could imply that the industry on a whole is on a decline.

Analyst Revisions Model

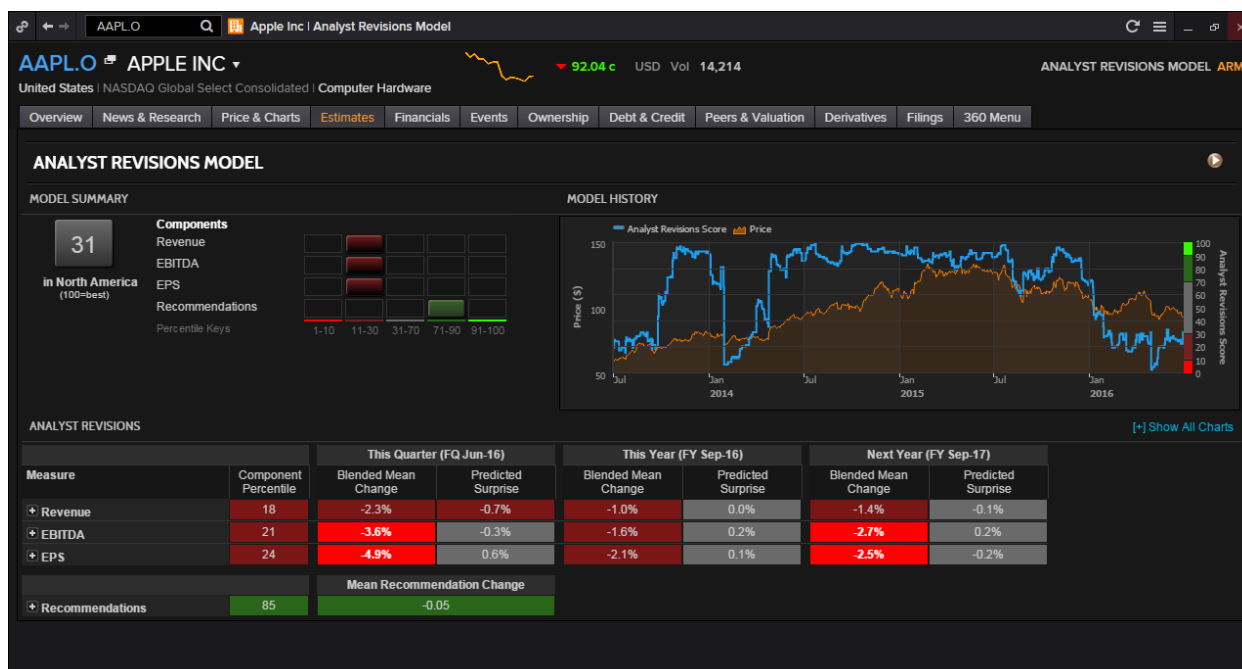
Overview

StarMine’s Analyst Revisions Model (ARM) is a percentile (1-100) ranking of stocks based on changes in analyst sentiment, with 100 representing the highest rank. The model is highly predictive of relative price movement and is effective across stocks in each capitalization category, investment style, and market sector.

StarMine’s Analyst Revisions model (ARM) is a proprietary model that allows you to observe the key drivers for a stock by looking at individual revision components. For each stock, StarMine determines the most relevant estimate measures to include in ARM:

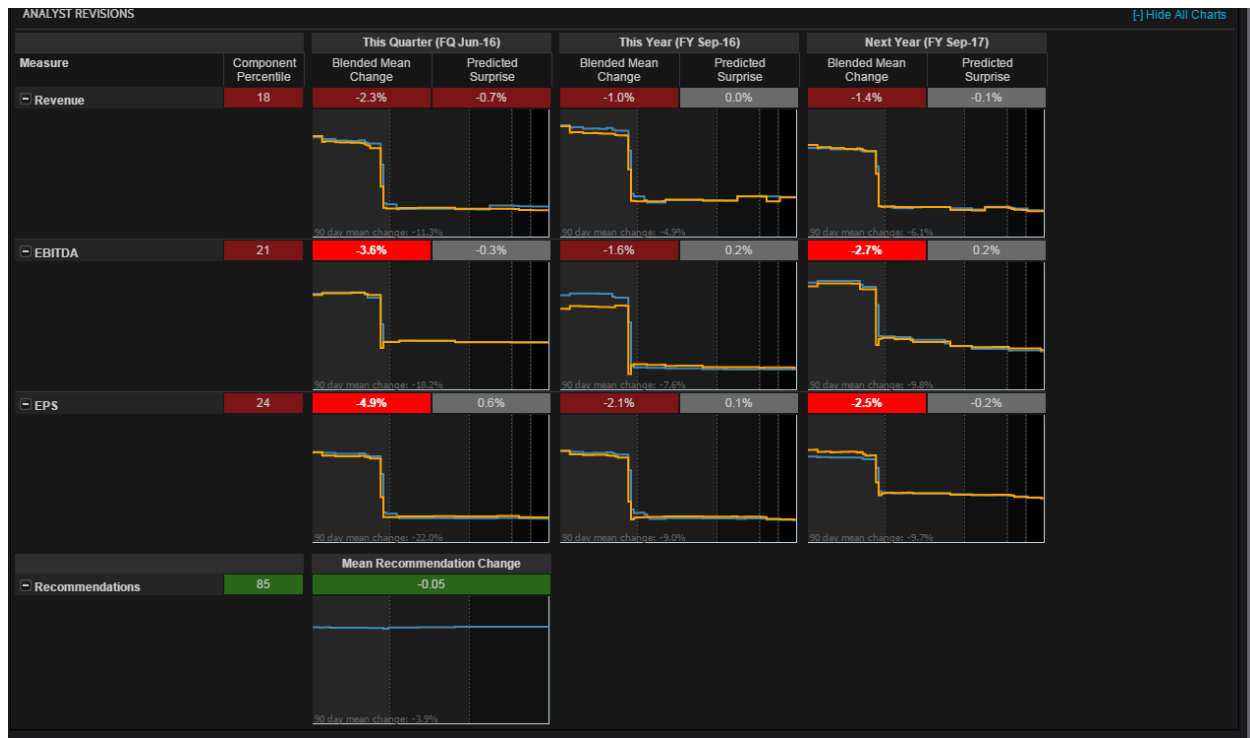
- StarMine’s Preferred Earnings measure, which is EPS for most stocks
- EPS or EBITDA, depending on what was used as the Preferred Earnings measure
- Revenue, where available
- Recommendations, for all securities for which recommendations data is available

How to Use the Analyst Revisions Model?



The model summary displays the overall percentile rank of the stocks in its region along with bar charts of how the individual components of the models have fared.

The model history would chart the stock price and the changes in the percentile score over time, showing how well analyst revisions have predicted the performance of the stock.



The **analyst revision** portion displays the percentile score for each of the components of the model. As shown in the above image, you are able to display charts for all the different factors.

For each estimate measure, the model is able to display changes over the past 90 days in the mean estimate and predicted surprise for

- the current quarter
- the current year
- the next year.

Predicted surprise displays the different between the current values for mean estimate and SmartEstimate. Charts here display the movement of mean estimate and SmartEstimate over time.

The numerical scores would incorporate the percentage change in each of the 7, 14, 30, 60 and 90 day change periods.

The **recommendations** are in dark green as shown above, indicating a buy recommendation. The mean change figure of '-0.05' incorporates the change in the consensus recommendation for each of the 30, 60, and 90-day change periods.

Earnings Quality

Overview

StarMine research findings have determined that the market is inefficient in differentiating between sustainable and unsustainable sources of earnings. In light of these findings, StarMine has developed its Earnings Quality (EQ) model - a percentile (1-100) ranking model developed using a systematic, quantitative methodology that evaluates earnings quality according to sustainability. The EQ model assigns higher rankings to companies that are more likely to sustain their earnings.

To generate its proprietary Earnings Quality (EQ) scores, StarMine uses computer-driven models to analyze financial statements and to calculate rankings for more than 35,000 companies worldwide. Data is updated daily. These scores have proven to be reliable predictors of a company's ability to sustain high earnings over the coming quarters.

With the StarMine EQ score, you can objectively compare a company's earnings quality to that of other companies:

- The model favours companies whose earnings are backed by cash flows and other sustainable sources.
- The model penalizes stocks driven by accruals and other less sustainable sources.
- Low scores should be considered more bearish, high scores more bullish.

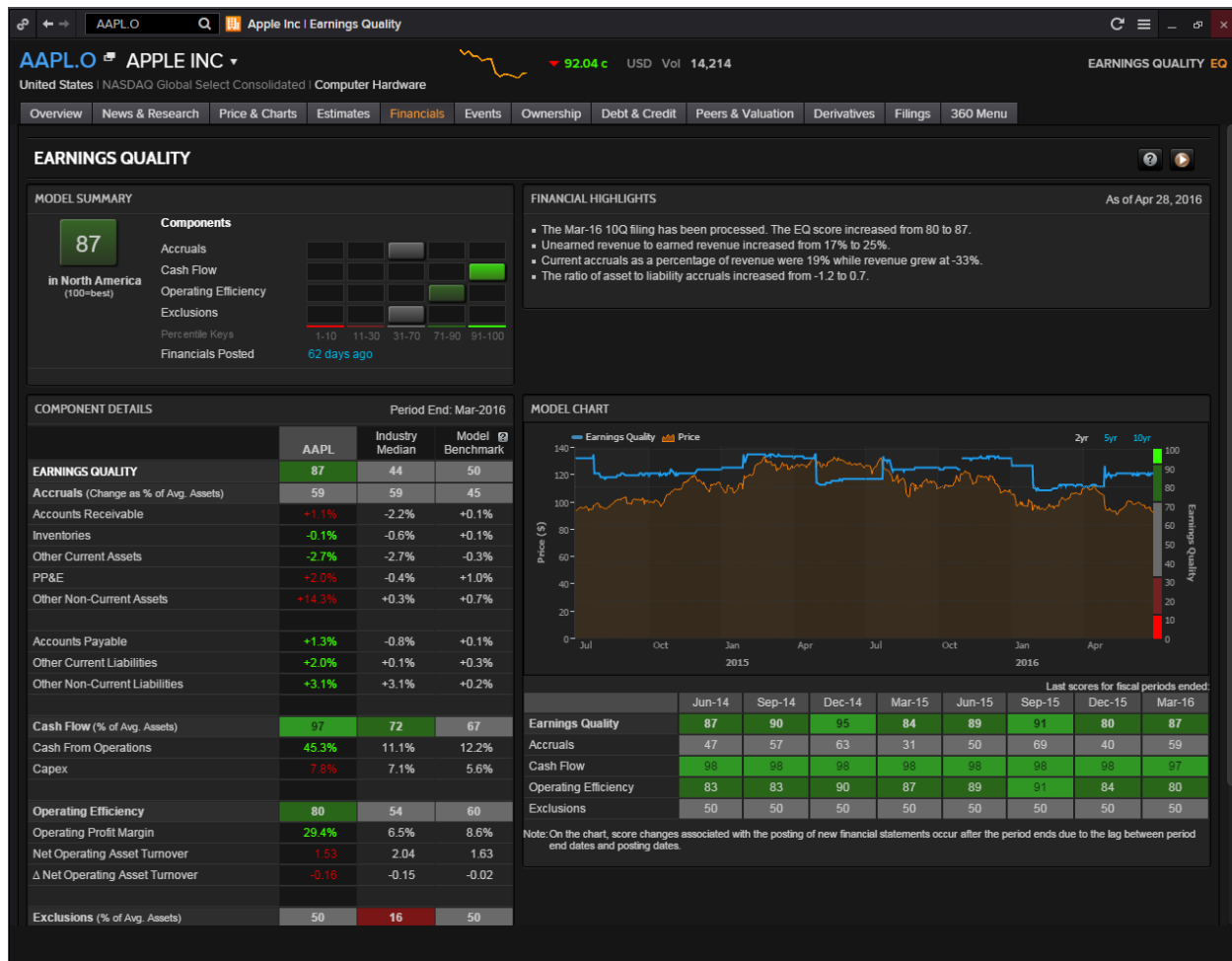
Model Components

The sources that StarMine's research has found to be most predictive of earnings sustainability are:

- Accruals
- Cash flow
- Operating efficiency
- Exclusions (North America only)

These sources are the components of the EQ model.

How to Use the Earnings Quality Model?



The **Model summary** displays the overall percentile score for the company relative to its region, and graphs the individual component scores that go into the overall score. Financials Posted indicates how recently the company filed its latest financial figures.

The **Financial Highlights** displays highlights from recent financial results, providing a quick summary of what is really going on in the fundamentals of the company.

Component Details displays a breakdown of each component. Values in green have a positive effect on the component score, while values in red have a negative effect.

Earnings Quality History has two different components. The chart in displays history for 2, 5, or 10 years (if available). It also shows stock price history. Roll over a point on the chart to see data for that date.

The table below the chart gives detailed scores for previous fiscal periods. These periods correspond to quarterly, semiannual or annual data, depending on the frequency of financial reporting by the company.

The table displays a maximum of eight columns of data, or up to five full years of history. For example, a company that reports financial results each quarter would have eight columns of quarterly data, while a company that reports only annual results would have five columns of annual data.

Relative Valuation

Overview

StarMine Relative Valuation is a percentile (1-100) ranking of stocks based on price and enterprise value multiples

There are a few benefits to using this model:

- Compare 12-month forward or 12-month trailing multiples for the focus company with average multiples for peers
- Customize the list of company peers
- Compare the focus company's current and historical multiples in table and chart form
- Quickly see which metrics show a significant premium or discount, thanks to colour-coding
- Select a metric to create a price target in Price Target Builder
- View the company's score in its region, country, and sector, using the StarMine Relative Valuation Model
- Analyze earnings per share (EPS) and revenue growth metrics for the company and its peer

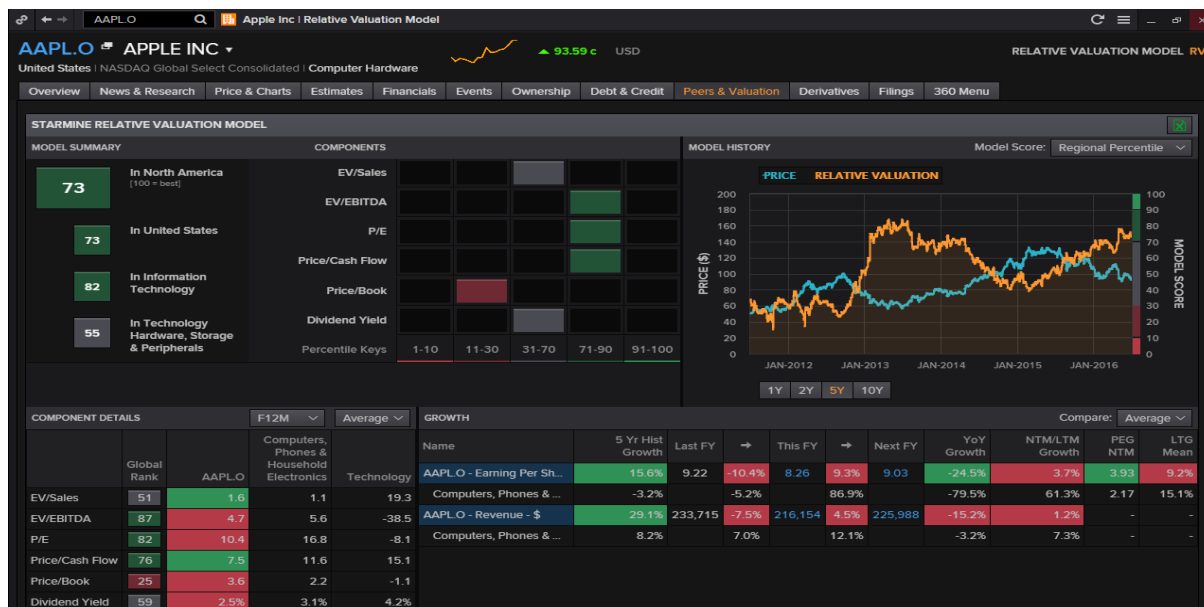
Valuation Metrics

Relative Valuation displays a wide range of valuation metrics for a focus company and its peers, including:

- Market capitalization
- Net debt (or cash)
- Enterprise value (EV)
- Price multiples (P/E, P/Cash Flow, P/Sales, P/Book, EV/EBITDA or EV/Sales)

One good thing to note is that there are two different Relative Valuation tools available on Eikon. While one provides a snapshot view of the relative valuation available (Relative Valuation Model), the other provides a more thorough explanation of relative valuation calculated for the particular company.

Below is the Relative Valuation Model.



How to Use the Relative Valuation Tool?

Apple Inc ▲ **AAPLO** Last: **93.59** c USD ▲ **+1.55 1.68%** Close: **93.59** Buy

Overview Price Research News Debt Valuation 360 Menu

RELATIVE VALUATION

CURRENT VALUATION SUMMARY

Market Valuation: Market Cap USD 512,632 MM, Net Debt USD 24,589 MM, Enterprise Value USD 537,221 MM

Fiscal Year Ratios (with SmartEstimates):

	FY0 Sep 2015	FY1 Sep 2016	FY2 Sep 2017
P/E	10.2	11.3	10.4
P/Sales	2.2	2.4	2.3

PEER COMPARISON View: Forward Valuation (Next Twelve Month) Show Peer: Median

Name	EV/Sales NTM	EV/EBITDA NTM	P/E NTM	Price/Cash Flow NTM	Price/Book NTM	Dividend Yield NTM
AAPLO - APPLE INC	1.6	4.7	10.4	7.5	3.6	2.5%
Peer Median (Edit Peers)	2.2	7.9	11.2	8.8	2.0	3.8%
Premium/Discount to Peers	-27.4%	-40.2%	-6.8%	-14.9%	+79.1%	-35.0%
Computer Hardware	N/A	N/A	N/A	N/A	N/A	N/A
Technology Equipment	N/A	N/A	N/A	N/A	N/A	N/A

HISTORICAL COMPARISON Historical Range: 10 Years

Name	EV/Sales NTM	EV/EBITDA NTM	P/E NTM	Price/Cash Flow NTM	Price/Book NTM	Dividend Yield NTM
AAPLO - APPLE INC	1.6	4.7	10.4	7.5	3.6	2.5%
AAPLO - 10 Year Median	2.7	9.0	14.1	10.3	4.2	N/A
Premium/Discount to Historical	-42.0%	-47.1%	-26.1%	-27.5%	-13.9%	N/A

One good thing to note is that when doing Peer Comparison, you are able to customise the peer group you are interested in. Clicking on the blue “Edit Peers” would redirect you to the following page for you to edit the list to your liking.

AAPLO **APPLE INC** ▲ **93.59** c USD

United States | NASDAQ Global Select Consolidated | Computer Hardware

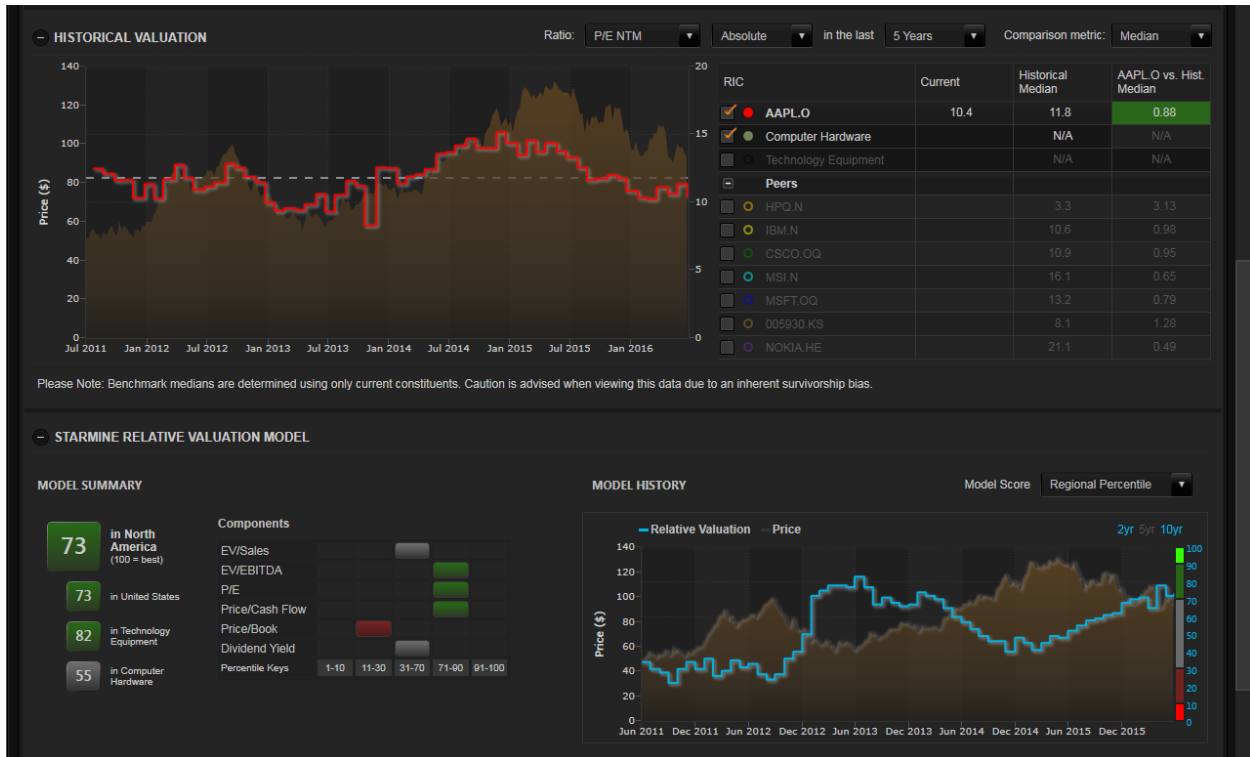
Overview News & Research Price & Charts Estimates Financials Events Ownership Debt & Credit **Peers & Valuation** Derivatives Filings 360 Menu

PEER ANALYSIS FOR APPLE INC (AAPLO)

Forward Valuation Add Column Add Rank Edit Peers

Identifier	Company Name	EV / Revenue (SmartEstimate %) (NTM, Consolidated)	EV / EBITDA (SmartEstimate %) (NTM, Consolidated)	Price / EPS (SmartEstimate %) (NTM, Consolidated)	Price / Cash Flow Per Share (SmartEstimate %) (ntm, Consolidated)	Price / Book Value Per Share (SmartEstimate %) (ntm, Consolidated)	Price / Sales Ratio - SmartEstimate* (NTM, Consolidated)	Dividend Per Share Ytd % (SmartEstimate%) (NTM, Consolidated)
AAPLO	Apple Inc	2.41	7.27	10.59	7.59	3.66	2.3%	2.
HPQ.N	HP Inc	0.49	5.38	7.25	6.74	NA	0.5%	4.
IBM.N	International Business Machines Corp	2.15	8.64	10.59	8.91	7.97	1.8%	3.
CSCO.OQ	Cisco Systems Inc	2.08	6.26	11.41	10.01	2.07	NA	3.
MSI.N	Motorola Solutions Inc	2.33	8.64	13.31	8.58	NA	2.2%	2.
MSFT.OQ	Microsoft Corp	3.47	9.15	17.14	12.39	5.01	NA	3
005930.KS	Samsung Electronics Co Ltd	0.80	3.23	9.48	4.96	1.09	NA	1.
NOKIA.HE	Nokia Corp	0.86	6.92	17.62	17.98	1.44	0.8%	3.

Add Security



In the above chart, you are able to specify which company or industry you would like to compare against, as well as the ratio preferred. Below the chart is the snapshot of the summary and history, a similar set up of all StarMine models

GROWTH

Show Peer Median

EARNINGS PER SHARE

Name	5-Year Historical Growth	Last Year ↔ This Year		This Year ↔ Next Year		This Qtr, YoY Growth	NTM/LTM Growth	PEG NTM	Long Term Growth Mean	
		Last Year	Growth	This Year	Growth					Next Year
AAPL.O - APPLE INC	15.6%	9.22	-10.4%	8.26	9.3%	9.03	-24.5%	3.7%	2.84	9.2%
Peer Median (Edit Peers)	2.8%		7.0%		5.0%		-2.8%	6.7%	2.07	9.4%
HPQ.N HP INC	-16.0%	N/A		1.62	0.9%	1.63	-49.3%	N/A	N/A	N/A
IBM.N INTL BUSINESS MACHS	2.5%	14.92	-9.4%	13.52	3.7%	14.02	-24.6%	-3.3%	N/A	2.6%
CSCO.OQ CISCO SYSTEMS, INC.	6.6%	2.21	5.6%	2.33	5.0%	2.45	2.0%	5.1%	2.24	10.5%
MSI.N MOTOROLA SOLUTIONS	2.8%	3.33	36.6%	4.55	10.5%	5.03	27.5%	21.8%	0.61	10.4%
MSFT.OQ MICROSOFT CORP	0.0%	2.46	8.4%	2.67	8.3%	2.89	-2.8%	8.3%	2.07	8.5%
005930.KS SAMSUNG ELECTRONIC	6.1%	126,303.00	13.8%	143,728.08	5.0%	150,877.63	-0.5%	9.2%	N/A	11.9%
NOKIA.HE	4.1%	0.36	-43.7%	0.20	67.4%	0.34	-58.8%	-4.6%	N/A	8.3%

REVENUE

Name	5-Year Historical Growth	Last Year ↔ This Year		This Year ↔ Next Year		This Qtr, YoY Growth	NTM/LTM Growth	
		Last Year	Growth	This Year	Growth			Next Year
AAPL.O - APPLE INC	29.1%	233,715	-7.5%	216,154	4.5%	225,988	-15.2%	1.2%
Peer Median (Edit Peers)	-3.9%		1.5%		2.6%		0.2%	3.6%
HPQ.N HP INC	-3.9%	N/A		46,966	-3.4%	45,374	-55.1%	N/A
IBM.N INTL BUSINESS MACHS	-3.9%	81,741	-2.8%	79,423	-0.4%	79,115	-3.4%	-1.7%
CSCO.OQ CISCO SYSTEMS, INC.	4.2%	49,161	0.0%	49,162	2.6%	50,451	-2.0%	2.4%
MSI.N MOTOROLA SOLUTIONS	-5.6%	5,695	5.4%	6,002	2.6%	6,157	2.3%	4.0%
MSFT.OQ MICROSOFT CORP	8.4%	93,580	-2.1%	91,594	3.9%	95,197	0.2%	3.9%
005930.KS SAMSUNG ELECTRONIC	5.3%	200,653	3.1%	206,855	3.7%	214,433	6.6%	3.4%
NOKIA.HE	-21.7%	13,574	83.3%	24,876	1.6%	25,283	82.8%	31.2%

The growth portion provides you an overview of the different companies and their EPS/Revenue for this year, last year and the growth as well as an estimate for the next year and a 5 year historical growth figure.

Intrinsic Valuation Model

Overview

Intrinsic Valuation is based upon a dividend discount model that uses forecasts about the company's earnings, combined with proprietary adjustments to project future dividends. These dividend flows are then discounted back to the present time to arrive at an intrinsic value for the stock. The same model, when plugging in the current stock price, is also used to derive market-implied EPS growth rates.

Intrinsic Valuation uses StarMine SmartEstimates when available. SmartEstimates helps you better predict future earnings and analyst revisions. Compared to consensus estimates, SmartEstimates places more weight on recent forecasts by top-rated analysts. The model uses SmartEstimates and analyst long-term growth rates for earnings projections.

Projected DPS Calculation:

Type of Company	Calculation Method for Projected DPS
Companies that pay dividends currently	<p>The payout ratio (DPS as a percentage of EPS) is determined in three key periods:</p> <p>Year 1 - In FY1, the model outputs a value of DPS and then calculates the implied payout ratio. This value uses DPS estimates when available. For North America, an estimate provided by analysts at Thomson Reuters called implied annual dividend (IAD) is used. This value is an annualized representation of the most recently-announced dividend policy, excluding special dividends. Outside North America, SmartEstimates for dividends are used.</p> <p>Year 5 - Starting with the DPS estimate used in FY1 and adjusting for past dividend momentum and estimates of long-term growth for EPS (LTG), the model provides an estimate for FY5 dividends.</p> <p>Steady State - The steady state payout rate reflects the average payout rate for mature companies.</p>
Companies that do not currently pay dividends	An assumption is made that this policy will persist through FY5. A payout rate in FY10 is then forecast as a function of long-term growth (LTG), a relationship identified by StarMine Research in the empirical data.
Companies with the GICS industry assignment associated with REITs	The dividend payout ratio is set to reflect the legislated requirement (for example, 90% for REITs in the United States) for all periods after FY1. For FY1, the payout ratio is based on the implied dividend and earnings projections.

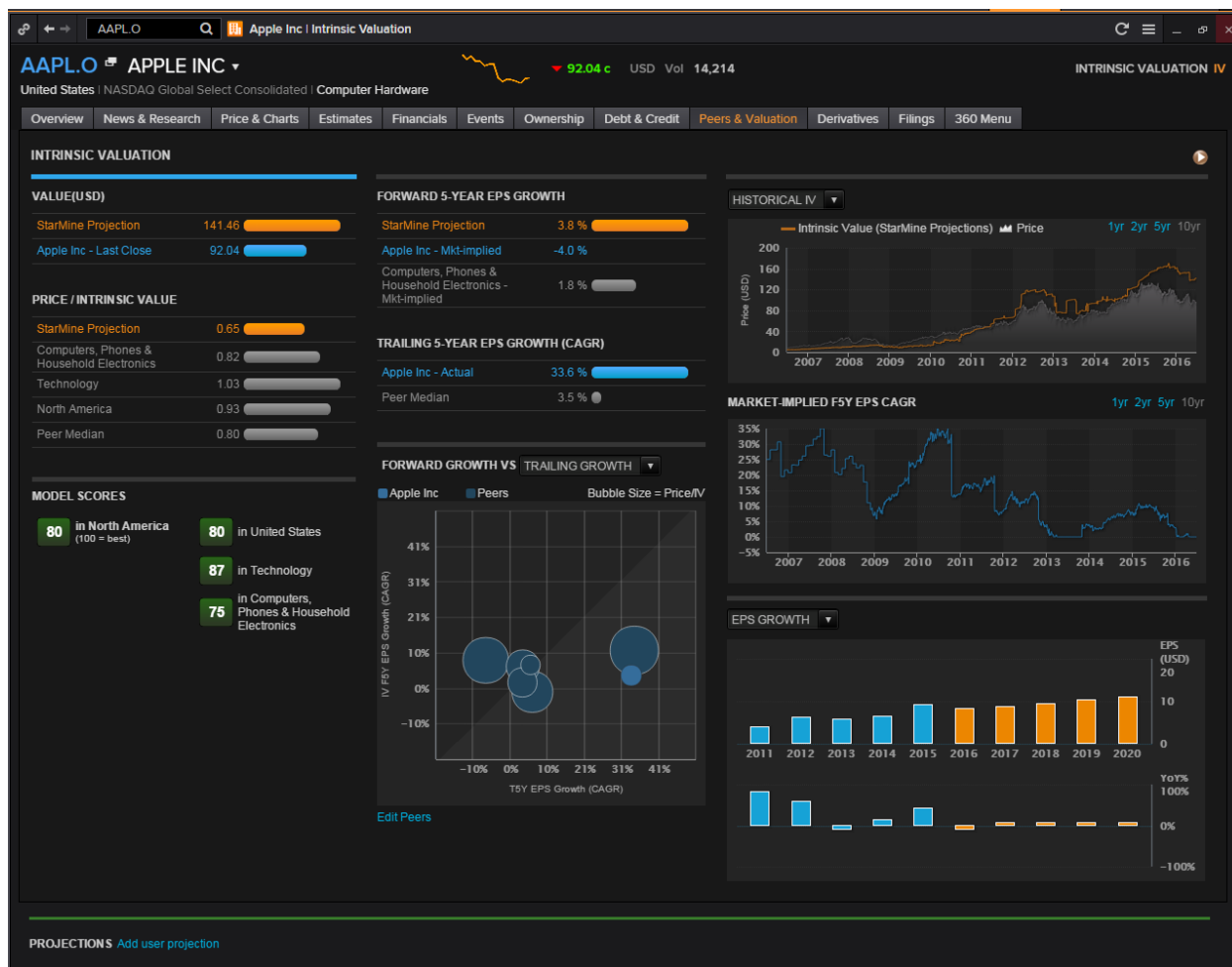
Calculation Formulae

EPS = Revenue x Net Margin / Shares Outstanding

When you enter custom projections, the following values are recalculated:

Custom Revenue	<p>YoY Growth(x) changes to $(\text{Revenue}(x) - \text{Revenue}(x-1))/\text{Revenue}(x-1)$ for current and next period</p> <p>EPS(x) changes to $\text{Revenue}(x) * \text{Net Margin}(x) / \text{Shares Outstanding}(x)$</p> <p>EPS YoY Growth changes to $(\text{EPS}(x) - \text{EPS}(x-1))/\text{EPS}(x-1)$ using the new EPS(x) for current and next period</p>
Custom Revenue YoY Growth	<p>Revenue(x) changes to $\text{Revenue}(x-1) * (1 + \text{Revenue YoY Growth}(x))$ for current and all future periods</p> <p>EPS(x) changes to $\text{Revenue}(x) * \text{Net Margin}(x) / \text{Shares Outstanding}(x)$ using the new Revenue(x) for current and all future periods</p> <p>EPS YoY Growth changes to $(\text{EPS}(x) - \text{EPS}(x-1))/\text{EPS}(x-1)$ using the new EPS(x) for current and all future periods</p>
Custom Net Margin	<p>EPS(x) changes to $\text{Revenue}(x) * \text{Net Margin}(x) / \text{Shares Outstanding}(x)$</p> <p>EPS YoY Growth changes to $(\text{EPS}(x) - \text{EPS}(x-1))/\text{EPS}(x-1)$ using the new EPS(x) for current and next period</p>
Custom Shares Outstanding YoY Growth (FY1)	<p>Shares Outstanding YoY Growth(x) = $\text{Shares Outstanding YoY Growth}(\text{FY1}) - [\text{Shares Outstanding YoY Growth}(\text{FY1}) / (\text{Years to Steady State}-1)] * (x-1)$ for all future periods</p> <p>Shares Outstanding(FY1) = $\text{Shares Outstanding}(\text{FY0}) * (1 + \text{Shares Outstanding YoY Growth}(\text{FY1}))$ for current and all future periods</p> <p>EPS(x) changes to $\text{Revenue}(x) * \text{Net Margin}(x) / \text{Shares Outstanding}(x)$, for current and all future periods</p> <p>EPS YoY Growth changes to $(\text{EPS}(x) - \text{EPS}(x-1))/\text{EPS}(x-1)$ using the new EPS(x) for current and all future periods</p>
Custom EPS	<p>EPS YoY Growth changes to $(\text{EPS}(x) - \text{EPS}(x-1))/\text{EPS}(x-1)$ using the new EPS(x) for current and next period</p> <p>Net Margin(x) changes to $(\text{Shares Outstanding}(x) * \text{EPS}(x)) / \text{Revenue}(x)$</p>
Custom EPS YoY Growth	<p>EPS(x) changes to $\text{EPS YoY Growth}(x) * \text{EPS}(x-1)$ for current and all future periods</p> <p>Net Margin(x) changes to $(\text{Shares Outstanding}(x) * \text{EPS}(x)) / \text{Revenue}(x)$ for all periods x and after</p>

How to Use the Intrinsic Valuation Model?



The value portion displays the prior day's closing price of a stock and its projected value while the price/intrinsic value displays a stock comparison within its industry, sector, and region.

Forward 5-year EPS Growth compares the projected growth calculated by StarMine to the industry and to the market-implied growth.

Forward Growth VS displays a diagram of the forward growth compared to the trailing growth or forward P/E for the company and its peers. Bubbles in the chart area in white indicate that, for the companies in question:

- Forward growth is greater than trailing growth, which signals a company with accelerating growth, for a trailing growth chart
- The PEG ratio is less than 1

Market Implied F5Y EPS CAGR plots the historical value of market expectations for the EPS growth for the company over the chosen period.

EPS Growth plots historical and projected EPS and YOY growth rates.

Historical and Implied Future ROE plots five years of historical ROE and ROA (when available), and annual figures for future implied ROE for ten years followed by five-year increments out to FY15.

The **Trailing 5-year EPS Growth** compares company trailing growth to that of its peers.

Value Momentum

Overview

StarMine's Value-Momentum (Val-Mo) model can be used in a stock ranking or screening system, as an input into a quantitative multi-factor investment model, or for reference in a non-quantitative strategy.

The Value-Momentum model is a percentile (1-100) ranking of stocks based on recent valuation and momentum characteristics. These characteristics are described in combining value and momentum signals.

The model uniquely captures the signals given by valuation and momentum characteristics by combining four of StarMine's stock selection models:

- Intrinsic Valuation Model and Relative Valuation Model for value characteristics
- Analyst Revisions Model and Price Momentum Model for momentum characteristics

The combination of global ranks on each of these four input models results in the overall model scores for a security. The overall score is generated in two steps:

1	<p>StarMine includes only non-micro-cap stocks (as defined by the top 98.5% of market cap in each region) in the “first-pass” ranking to ensure that illiquid micro-cap stocks do not influence the score of any securities.</p> <p>This roughly corresponds to the top 3,000 in North America, top 1,500 in Developed Europe, top 600 in Developed Asia ex-Japan, top 1,500 in Japan, and top 2,500 in Emerging Markets.</p>
2	<p>Micro-cap stocks are then positioned in the “second-pass” such that the original ordering of securities is preserved. Thus, the score is uniformly distributed over the set of all non-micro-cap securities. However, the distribution is allowed to be non-uniform when micro-caps are included.</p>

How to Use the Value Momentum Model?



The **model summary** displays the component scores display the rankings of the company derived from the Relative Valuation (StarMine RV), Intrinsic Valuation (StarMine IV), Analyst Revisions (StarMine ARM), and Price Momentum (StarMine Price Mo) component models. Component scores are then aggregated to form the overall company score, indicative of the company's ranking compared to other companies in the same region and country.

The **model history** charts the stock price and changes in the stock's percentile score over time.

COMPONENT DETAILS

VALUE	77	MOMENTUM	23
INTRINSIC VALUATION MODEL		ANALYST REVISION MODEL	
	80		31
Price/IV	0.65	Revenue	18
Market Implied 5Y CAGR	-4.0 %	EBITDA	21
RELATIVE VALUATION MODEL		PRICE MOMENTUM MODEL	
	73		11
EV/Sales	51	Long Term	19
EV/EBITDA	87	Mid Term	26
P/E	82	Short Term	79
Price/Cash Flow	76	Industry	22
Price/Book	25		
Dividend Yield	59		

The component details display a breakdown of the component models that drive the ranking results.

PEER COMPARISON Edit Peers

RIC	Company Name	Val-Mo	Value		Momentum	
			RV	IV	ARM	Price Mo
AAPL.O	Apple	40	73	80	31	11
HPQ.N	HP	93	95	N/A	56	33
IBM.N	IBM	76	81	73	54	46
CSCO.OQ	Cisco Systems	92	75	82	74	55
MSI.N	Motorola	47	58	53	34	68
MSFT.OQ	Microsoft	43	47	56	32	74
005930.KS	Samsung Elec	97	83	66	97	88
NOKIA.HE	Nokia Corp	8	30	43	9	26
Peer Avg.		62	68	57	48	50

PEER VALUE/MOMENTUM

The peer comparison displays model scores and component rankings for peer companies. The default list of peers is based on competitor lists provided in filings, analyst cross coverage, business classification, and revenue proximity. This hierarchical approach produces very reasonable sets of peer companies for most securities.

Peer Value/Momentum plots the average ranking of the focus stock and its peers. It provides a visual cue indicating if stocks have a bullish or bearish outlook:

- Green area - bullish outlook
- Grey area - lack of advantage
- Red area - bearish outlook

Credit Risk - Combined Model

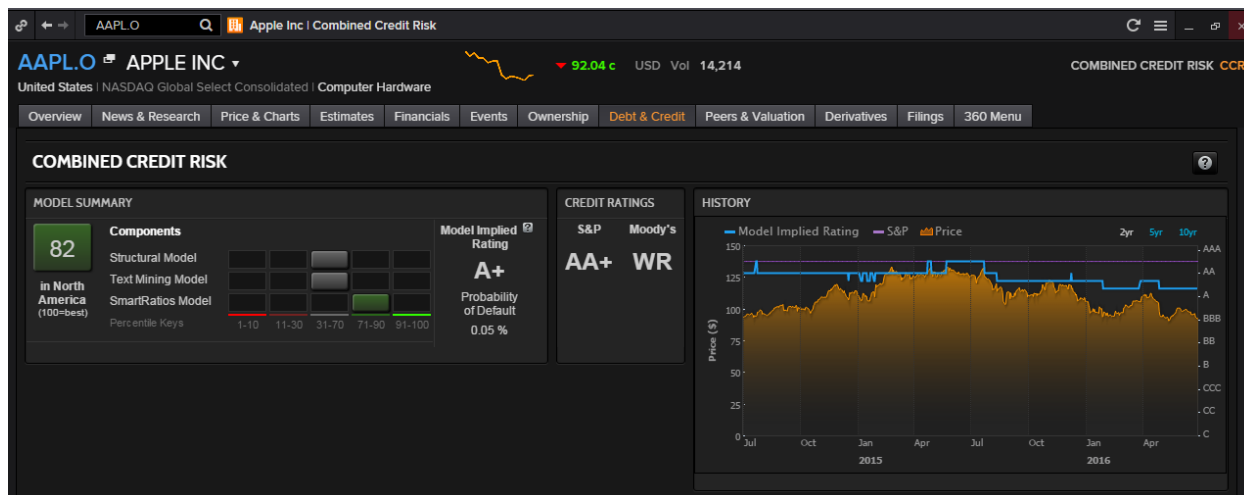
Overview

The Credit Risk Combined Model is a proprietary corporate credit risk model suite that includes models assessing a company's default risk through both the accounting ratio analysis and the contingent claims analysis. In addition, StarMine's credit risk model suite includes a novel third approach that applies cutting-edge machine learning algorithms to mining textual data for information regarding a company's financial health.

Structural Model	The StarMine Structural Credit Risk Model (StarMine SCR) evaluates credit risk from the equity market's view via StarMine's proprietary extension of the Merton structural default prediction framework that models a company's equity as a call option on its assets.
SmartRatios Model	The StarMine SmartRatios Credit Risk Model (StarMine SRCR) utilizes financial ratio analysis for credit risk assessment and incorporates both reported information and forward-looking estimates via the StarMine SmartEstimate.
Text Mining Model	The StarMine Text Mining Credit Risk Model (StarMine TMCR) mines the language in textual data from multiple sources (Reuters News, StreetEvents conference call transcripts, corporate filings, and select broker research reports) to evaluate companies' potential financial distress.

The combination of these three models generates a single, final estimate of public company credit risk that is more accurate than using any one data source alone.

How to Use the Combined Credit Risk Model?



The **Model Summary** provides component scores that display the credit quality rankings of the company derived from the Structural, Text Mining, and SmartRatios models respectively. Component scores are then aggregated to form the total company score, indicative of:

- The company's ranking compared to other companies in the same region
- The relative probability of the company to default on its credit obligations.

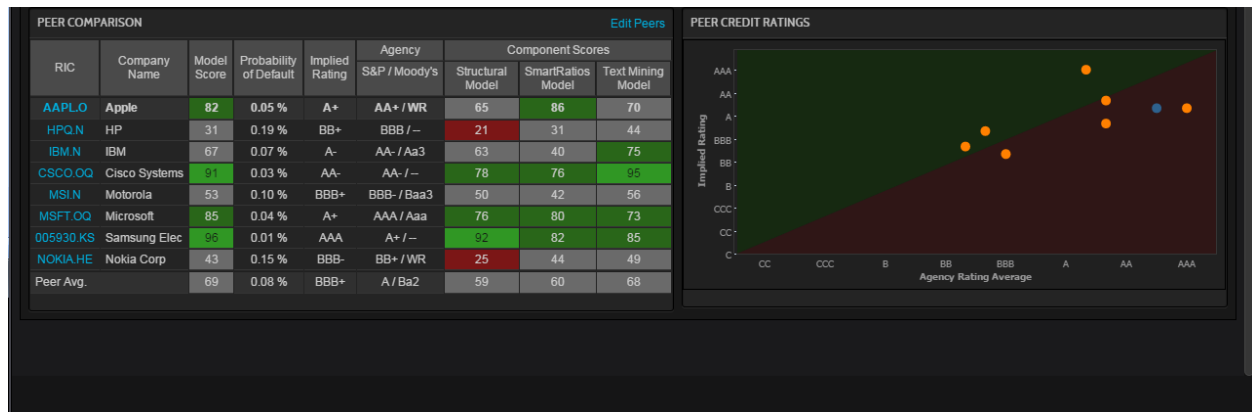
A high score indicates a lower credit risk. The Implied rating is based on the default probability derived from the component models.

The **credit ratings** portion displays Standard & Poor’s and Moody’s Foreign Issuer Long Term Rating. The above illustration shows a stock rated: A+ by the model AA+ by S&P no rating available from Moody’s.

COMPONENT DETAILS

STRUCTURAL MODEL	65	TEXT MINING MODEL	70
Structural Leverage	49	Transcripts	74
Asset Volatility	72	Reuters News	21
Asset Drift	26	Filings	70
		Research	54
SMARTRATIOS MODEL	86		
Profitability	85		
Leverage	83		
Coverage	77		
Liquidity	60		
Growth & Stability	59		

The **Component Details** displays a breakdown of the component models that drive the ranking and rating results. The weight given to each component model is based on the volume of text on a given company. Hence, the weight of the Credit Risk - Text Mining Model increases with increasing text volume.



The **Peer Comparison** displays credit quality ratings for the top peer companies. The default list of peers is based on competitor lists provided in filings, analyst cross coverage, business classification, and revenue proximity. This hierarchical approach produces very reasonable sets of peer companies for most securities.

The **Peer Credit Ratings** plots the average rating of the focus stock and its peers. The unit line joining the same rating pairs on both axes provides a visual cue indicating if stocks have a bullish or bearish outlook:

- Stocks above the line, in the green area, have a bullish outlook
- Stocks on the line indicate that the model and agency ratings are identical, signalling a lack of advantage
- Stocks below the line, in the pink area, indicate a lower model rating compared to the agency rating, signalling a bearish outlook

8. Equity Derivatives

There are four main equity derivatives which are mainly traded

1. Equity Options
2. Equity Warrants
3. Index Options
4. Index Futures

Equity Index Futures

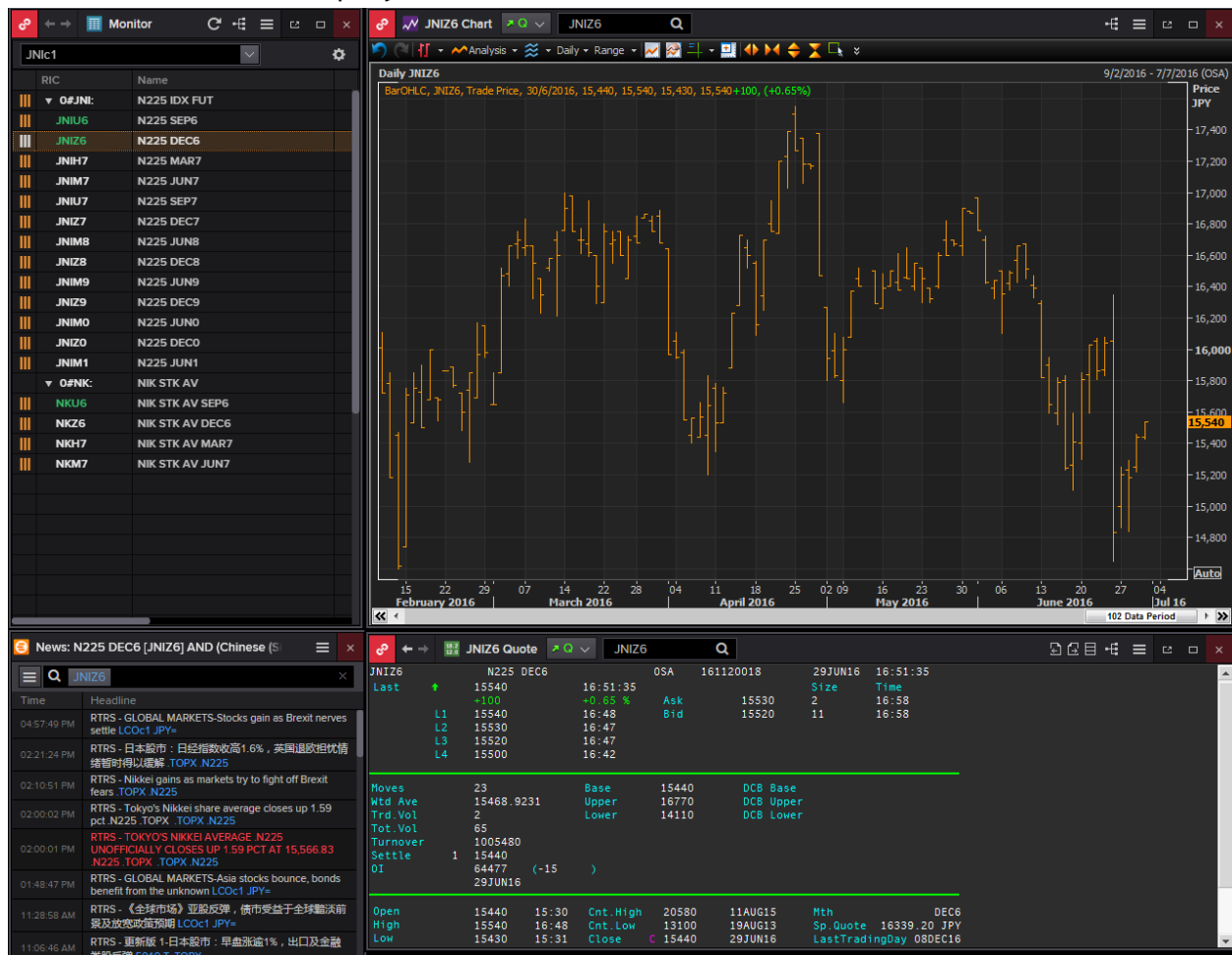
Equity Index Futures are futures contracts whose value is dependent on the level of an underlying stock index, such as the FTSE 100 or the S&P500.

Similar to commodity futures, the different futures contracts each have a continuation RIC.

Continuation RICs are constructed by using a lower case “c” and a number which denotes whether it is the first month or second or third in the series.

e.g. FFI (FTSE100 Future root) c (continuation) 1 (first month) = FFIc1

In order to monitor different equity index price movements, a page could be set up as shown below, with a monitor, news, quotes and charts. By linking the pages together, you are able to quickly monitor different chain markets contracts as per your need.



Index Futures Fair Value Calculator <IFFV>

An application that may come in useful is the Index Futures Fair Value Calculator <IFFV>. The FV calculator adopts the FV assumption where it is believed that futures contracts should be priced given such things as current index level, index dividends, and days to expiration and interest rate. This excludes short term supply and demand fluctuations.

Here, Fair Value = Cash Price x (1 + DaystoDelivery x (Fund Rate - Div Yield) x 100)/CcyYearBasis

S&P 500 Index Settings ?
Updated at 5:12:14 PM

Contract: SP Trade Date: 29 Jun 2016

Calculation Parameters

Dividend Yield: Historical Fund Rate: Zero Curve 3M Deposit Rate: 0.970

Cash Index Price: Latest Risk-Free Rate Interpolation Mode: Natural Cubic Spline Interpolate on: Discount Factors Allow Extrapolation

+ Dividend Yield Schedule

Main ZC Curve

- Cash Index USD

Latest	Net Change	% Change	Open	High	Low	Close	
2,036.09	35.55	1.78	2,006.67	2,036.09	2,006.67	2,000.54	27 Jun 2016

- Index Futures USD IOM

Contracts	Latest	Fund Rate	Div Yield	Fair Value	Basis	Spot-FV Spread	Calendar Spread	Premium	Implied Yield	Implied Rate
Sep 16	2,037.50	0.607	2.614	2,027.28	1.41	8.81		10.22	0.284	2.978
Dec 16	2,019.80	0.629	2.614	2,017.38	-16.29	18.71	-17.70	2.42	2.356	0.889
Mar 17	2,012.40	0.649	2.614	2,007.64	-23.69	28.45	-7.40	4.76	2.283	0.982
Jun 17	2,007.10	0.667	2.614	1,998.18	-28.99	37.91	-5.30	8.92	2.152	1.133
Sep 17	2,005.10	0.687	2.614	1,988.95	-30.99	47.14	-2.00	16.15	1.948	1.360
Dec 17	2,004.30	0.707	2.614	1,979.99	-31.79	56.10	-0.80	24.31	1.780	1.550
Mar 18	2,010.20	0.729	2.614	1,971.34	-25.89	64.75	5.90	38.86	1.474	1.884
Jun 18	2,016.10	0.751	2.614	1,962.93	-19.99	73.16	5.90	53.17	1.252	2.134
Dec 18	2,011.10	0.797	2.614	1,946.23	-24.99	89.86	-5.00	64.87	1.292	2.139
Dec 19	2,034.20	0.856	2.614	1,915.12	-1.89	120.97	23.10	119.08	0.879	2.621
Dec 20	2,057.30	0.948	2.614	1,889.95	21.21	146.14	23.10	167.35	0.713	2.887

1. In the Eikon Toolbar, search <IFFV>
2. Enter/Search the Cash Index Code (e.g. <.STI>)
3. Choose a Contract Root

Column Description

- Dividend Yields: widely used to measure the income return of a share
- Calendar Spread: different between current price of a future and price of its nearest term contract
- Basis: Futures contract price - index price
- Premium: futures price - fair value
- Implied Rate: difference between spot rate and the futures rate (+ve: higher future borrowing rate)
- Implied yield: anticipated yield from a futures contract based on the current spot rate.

9. Equity Applications


Advanced Events Search <ADVEV>






One page which would be useful for investors to look at is the Advanced Events Search <ADVEV> application. Using this application, users can view future events, such as

1. Earnings and Corporate
2. Dividends
3. Institutional
4. Conference
5. General
6. Transactions
7. Corporate Actions (CorAx)
8. Economic

Date	Event Type	RIC	Event Name	Dial-In
29-Jul-2016 04:30	Earnings Conference Call	GOOGL.OQ	Q2 2016 Alphabet Inc Earnings Call	T
28-Jul-2016	NTS Earnings Release	GOOGL.OQ	Q2 2016 Alphabet Inc Earnings Release	
28-Jul-2016	NTS Earnings Release	005930.KS	Q2 2016 Samsung Electronics Co Ltd Earnings Release	
27-Jul-2016 05:00	Earnings Conference Call	AAPL.OQ	Q3 2016 Apple Inc Earnings Call	T
27-Jul-2016	AMC Earnings Release	AAPL.OQ	Q3 2016 Apple Inc Earnings Release	
20-Jul-2016 05:30	Earnings Conference Call	MSFT.OQ	Q4 2016 Microsoft Corp Earnings Call	T
20-Jul-2016	AMC Earnings Release	MSFT.OQ	Q4 2016 Microsoft Corp Earnings Release	
07-Jul-2016	NTS Trading Statement Release	005930.KS	Q2 2016 Samsung Electronics Co Ltd Trading Updatae	
30-Jun-2016	NTS Regular Dividends	005930.KS	0593qx.L Interim Cash Dividend of gross going ex on Jun ...	
30-Jun-2016	NTS Regular Dividends	005930.KS	0593q.L Interim Cash Dividend of gross going ex on Jun 2...	
30-Jun-2016	NTS Regular Dividends	005930.KS	SMSN.BA Interim Cash Dividend of gross going ex on Jun ...	

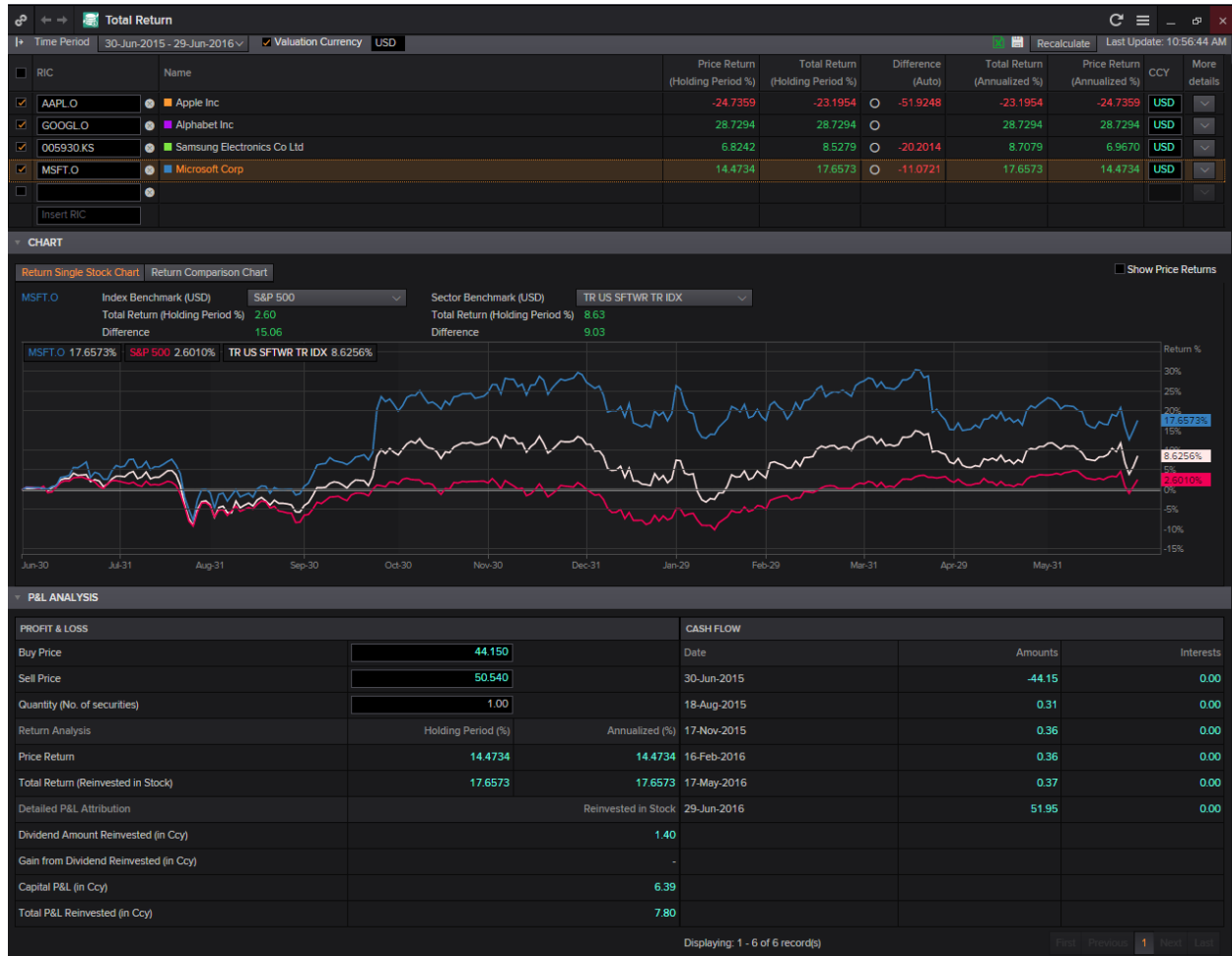
1. In the Eikon Toolbar, search <ADVEV>
2. Define the Events Date (Up to the Next 30 Days), Event Type
3. Search a list of RICs or Companies that you are interested in looking for .
4. If any, define the industries and countries as well as the specific content type you are interested in.

Note: If you see this , it implies that a transcript is to be expected. A green sign indicates a live delivery, grey indicates an intraday delivery and light blue indicates near-live delivery.

Other options are as follows.  is to indicate a brief will be provided.  indicates the availability of a presentation.  is for audio,  for mp3 and  for guidance.

Total Return <TRTR>

In order measure the total return from holding an equity, Eikon has a total return calculator <TRTR> which allows users to measure the price return as well as the total return during both the holding period and the annual period.




1. In the Eikon toolbar, search <TRTR> to open the application
2. Search for the different RICs that you would like to use. (e.g. AAPL.O for Apple)
If you do not know the RIC, you are also able to search for the company and select from the auto suggest
3. Below the table of figures would be chart area. From the chart area, you are able to choose either a return of a single stock or to do a return comparison.
4. Located at the bottom of the page is a P&L analysis which helps you to calculate the amount of profit or loss you are likely to make if you invest in this stock, after factoring in your dividend reinvestment profit.

Blended Order Book <BOB>

The blended order book brings together market data on buying and selling interests in financial instruments. It displays market data gathered from exchanges and venues, market makers and trade reporting venues.

The main purpose of this app is to display unified liquidity. You are able to set a single currency to display data from multiple venues, selecting the venue display, plot a liquidity pie chart etc.

Venue	Count	AccSize	Size	Bid	Ask	Size	AccSize	Count	Venue
SES	1	61,400	61,400	15.810	15.820	116,100	116,100	1	SES
SES	1	140,000	78,600	15.800	15.830	103,300	219,400	1	SES
SES	1	180,600	40,600	15.790	15.840	221,100	440,500	1	SES
SES	1	199,600	19,000	15.780	15.850	140,100	580,600	1	SES
SES	1	205,000	5,400	15.770	15.860	37,500	618,100	1	SES
SES	1	214,300	9,300	15.760	15.870	19,700	637,800	1	SES
SES	1	238,500	24,200	15.750	15.880	27,800	665,600	1	SES
SES	1	247,900	9,400	15.730	15.890	8,200	673,800	1	SES
SES	1	248,000	100	15.720	15.900	87,000	760,800	1	SES
SES	1	250,500	2,500	15.710	15.910	3,100	763,900	1	SES
SES	1	268,800	18,300	15.700	15.920	13,900	777,800	1	SES
SES	1	269,300	500	15.660	15.930	5,000	782,800	1	SES
SES	1	282,400	13,100	15.650	15.940	5,100	787,900	1	SES
SES	1	282,500	100	15.630	15.950	113,600	901,500	1	SES
SES	1	283,400	900	15.620	15.960	6,300	907,800	1	SES
SES	1	291,000	7,600	15.610	15.970	9,100	916,900	1	SES
SES	1	318,200	27,200	15.600	15.980	43,600	960,500	1	SES
SES	1	318,800	600	15.590	15.990	80,400	1,040,900	1	SES
SES	1	321,800	3,000	15.580	16.000	316,300	1,357,200	1	SES
SES	1	327,300	5,500	15.550	16.010	51,100	1,408,300	1	SES
	20		327,300	15.751	15.911	1,408,300		20	
	20		327,300	100.000%	100.000%	1,408,300		20	

1. In the Eikon toolbar, search <BOB> in order to open the application
2. In the search bar within the app, search for the RIC or the company you are interested in. A list as shown above would be generated.
3. For stocks that trade in more than one exchange, click the  sign at the top of the page in order to generate a pie chart or bar chart to represent how much of that stock was traded in each exchange.

The left side of the table represents the demand amount while the right side represents the supply. Hence the total number of shares in the market to be bought and sold at each price level is provided. Thus, the summation at the bottom of the page would signal whether or not there is more buying or selling,

More buy orders than sell orders would imply that the price will strengthen since price tends to strengthen with more buying demands and vice versa.

Prices on this page are listed from the highest bid (highest price you can sell) and the lowest ask (the cheapest you can buy).

Time and Sales Application <TAS>

The times and sales application (TAS) will display real time “Times and Sales” as well as Volume Weighted Average Prices (VWAPs) which would act as a benchmark for traders.

The TAS includes details of individual trade; the trade price, bid and ask spread at the time of the trade and the volume of trade etc.

Note that data here can be viewed on a blended mode, which implies that results from different exchanges and venues can all be displayed on a single page.

There are two ways to obtain TAS and VWAP information.

Firstly, using the <TAS> application in Eikon.

Timestamp	Last	Trade Price	Trade Volume	Best Bid	Bid Size	Best Ask	Ask Size	Turnover	Calc VWAP	Flow	Trade Flags
30/6/2016 11:17:47.237	15.810	15.81	700	15.810	23,600	15.820	110,500	11,067	15.8188	380,707	Normal Price
30/6/2016 11:17:26.645	15.810	15.81	300	15.810	13,600	15.820	113,000	4,743	15.8188	369,640	Normal Price
30/6/2016 11:17:16.284	15.810	15.81	4,200	15.810	14,500	15.820	112,100	66,402	15.8188	364,897	Normal Price
30/6/2016 11:17:01.735	15.810	15.81	4,300	15.800	12,600	15.810	58,200	67,983	15.8188	298,495	Normal Price
30/6/2016 11:17:01.735	15.810	15.81	3,200	15.800	12,600	15.810	58,200	50,592	15.8188	230,512	Normal Price
30/6/2016 11:17:01.735	15.810	15.81	14,500	15.800	12,600	15.810	58,200	229,245	15.8188	179,920	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	100	15.800	12,600	15.810	58,200	1,581	15.8189	-49,325	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	3,000	15.800	12,600	15.810	58,200	47,430	15.8189	-50,906	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	200	15.800	12,600	15.810	58,200	3,162	15.8189	-58,336	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	900	15.800	12,600	15.810	58,200	14,229	15.8189	-101,498	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	100	15.800	12,600	15.810	58,200	1,581	15.8189	-115,727	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	100	15.800	12,600	15.810	58,200	1,581	15.8189	-117,308	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	10,000	15.800	12,600	15.810	58,200	158,100	15.8189	-118,889	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	3,000	15.800	12,600	15.810	58,200	47,430	15.8189	-276,989	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	2,300	15.800	12,600	15.810	58,200	36,363	15.8189	-324,419	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	2,000	15.800	12,600	15.810	58,200	31,620	15.8189	-360,782	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	8,300	15.800	12,600	15.810	58,200	131,223	15.8189	-392,402	Normal Price
30/6/2016 11:17:01.733	15.810	15.81	6,200	15.800	12,600	15.810	58,200	98,022	15.8189	-523,625	Normal Price
30/6/2016 11:17:00.325	15.800	15.8	4,700	15.800	16,400	15.810	53,900	74,260	15.8189	-621,647	Normal Price
30/6/2016 11:16:55.713	15.800	15.8	1,000	15.800	16,400	15.810	51,400	15,800	15.819	-547,587	Normal Price
30/6/2016 11:16:48.973	15.800	15.8	700	15.800	16,100	15.810	37,000	11,060	15.819	-531,587	Normal Price
30/6/2016 11:16:47.833	15.810	15.81	6,800	15.800	16,000	15.810	53,600	107,508	15.819	-520,527	Normal Price
30/6/2016 11:16:46.685	15.800	15.8	700	15.800	16,700	15.810	58,200	11,060	15.819	-628,035	Normal Price
30/6/2016 11:16:46.424	15.800	15.8	200	15.800	13,600	15.810	64,300	3,160	15.819	-639,095	Normal Price
30/6/2016 11:16:46.404	15.800	15.8	400	15.800	14,000	15.810	67,800	6,320	15.819	-642,255	Normal Price
30/6/2016 11:16:46.395	15.800	15.8	200	15.800	14,200	15.810	67,800	3,160	15.819	-648,575	Normal Price
30/6/2016 11:16:46.385	15.800	15.8	100	15.800	14,300	15.810	66,600	1,580	15.819	-651,735	Normal Price
30/6/2016 11:16:46.385	15.800	15.8	300	15.800	14,600	15.810	66,400	4,740	15.819	-653,315	Normal Price
30/6/2016 11:16:46.385	15.800	15.8	200	15.800	14,600	15.810	66,400	3,160	15.819	-658,055	Normal Price
30/6/2016 11:16:46.375	15.800	15.8	500	15.800	14,800	15.810	66,200	7,900	15.819	-661,215	Normal Price
30/6/2016 11:16:46.375	15.800	15.8	100	15.800	15,400	15.810	66,200	1,580	15.819	-669,115	Normal Price
30/6/2016 11:16:46.375	15.800	15.8	200	15.800	15,600	15.810	66,200	3,160	15.819	-670,695	Normal Price
30/6/2016 11:16:46.365	15.800	15.8	600	15.800	16,200	15.810	61,500	9,480	15.819	-673,855	Normal Price
30/6/2016 11:16:46.335	15.800	15.8	100	15.800	16,200	15.810	66,100	1,580	15.819	-683,335	Normal Price
30/6/2016 11:16:46.324	15.800	15.8	100	15.800	16,400	15.810	66,700	1,580	15.819	-684,915	Normal Price
30/6/2016 11:16:46.315	15.800	15.8	1,200	15.800	16,400	15.810	66,700	18,960	15.819	-686,495	Normal Price

1. In the Eikon Toolbar, search <TAS> in order to open the time and sales application.
2. In the search bar within the application, search for the instrument you are interested in using
3. The application would list the different trades made for this specific instrument. Every time a solid green or red arrow is shown next to the price, it indicates a change in price.

- One of the column in the page is a calculate VWAP figure which is calculated by Eikon. Note that this figure differs from that in the quote page.

Last	Trd. Vol	Net. Chng	Size	Bid Ask	Size
15.780	100	+0.250	80300	15.780/15.790	40600
15.790		% Chng			
15.790		+1.61 %			
15.790		Moves			
15.790		6588			
IEP					
Offcl. Close			Acc. Volume	Turnover	
Cls. Bid/Ask	15.520 / 15.530	29JUN16	10514300	166875197.70	
Open	16.040	12MEPS 1.7428	INT. Div	Status /	
High	16.040	12MP/E 8.91	Ex. Date	ISIN SG1L01001701	
Low	15.710	12M Div 0.6000	Sp. Div	Sector 0#FIAN.SI	
Cls 29JUN16	15.530	Div Pay 20JUN16	Ex. Date	Corp. Act /	
Yr. Hi 23JUL15	21.500	Div Ex 05MAY16	Fin. Div	News 11:14	
Yr. Lo 12FEB16	13.010	Div Yld 3.86 %	Ex. Date		
VWAP	15.8872	Div. Ccy SGD	Lot. Size 100		
VWAP Vol	9123900				
Avg. Vol. 5D	8956300	Prc Chn1M -0.064 %	M Deal	1390400	

Also, on the TAS application, you are able to plot the VWAP against the traded price as shown below.



The second method to obtain TAS data is to utilise the company overview page as shown below.

1. In the Eikon toolbar, search for the company or RIC you are interested in finding.
2. Navigate Price & Charts > TAS or VWAP depending on which information you are seeking.

DBSM.SI DBS GROUP HOLDINGS LTD 15.800 SGD 0.270 1.74% Vol 8,170,100

Overview News & Research Price & Charts Estimates Financials Events Ownership Debt & Credit Peers & Valuation Derivatives Filings 360 Menu

VWAP 30-Jun-2016 00:00, 30-Jun-2016 11:19, Single Venue

Start: 30-Jun-2016 00:00:00 End: 11:19:49 30-Jun-2016 Now Hold Date & Time Price Limits: - Volume Range: - Update View

Calculation Type: Single Venue Exchanges & Types: Exchanges (1), Types (2) Participation Order Quantity: Rate (%):

VWAP VOLUME
15.9104 7,326,400 STD DEV 0.074850 TRADES 4,139 AVG TRD SZ 1,770 FIRST 16.0400 LAST 15.8000 LOW 15.7100 HIGH 16.0400

Date	Local Time	Volume	Price	Turnover	Exchange	Trade Type
30-Jun-2016	11:17:01.715	14,500	15.8100	229,245	Singapore SE	Normal Trade
30-Jun-2016	11:16:46.286	40,000	15.8000	632,000	Singapore SE	Normal Trade
30-Jun-2016	11:16:45.805	14,800	15.7900	233,692	Singapore SE	Normal Trade
30-Jun-2016	11:15:44.609	23,900	15.8100	377,859	Singapore SE	Normal Trade
30-Jun-2016	11:15:15.018	20,800	15.8100	328,848	Singapore SE	Normal Trade
30-Jun-2016	11:11:47.218	30,000	15.8100	474,300	Singapore SE	Normal Trade
30-Jun-2016	11:04:23.038	17,700	15.8100	279,837	Singapore SE	Normal Trade
30-Jun-2016	11:03:53.299	25,900	15.8100	409,479	Singapore SE	Normal Trade
30-Jun-2016	11:00:13.670	12,600	15.8100	199,206	Singapore SE	Normal Trade
30-Jun-2016	11:00:08.981	13,000	15.8100	205,530	Singapore SE	Normal Trade
30-Jun-2016	10:48:42.382	15,000	15.8100	237,150	Singapore SE	Normal Trade
30-Jun-2016	10:44:10.943	13,600	15.8100	215,016	Singapore SE	Normal Trade
30-Jun-2016	10:43:25.149	13,000	15.8100	205,530	Singapore SE	Normal Trade
30-Jun-2016	10:40:55.717	12,700	15.8000	200,660	Singapore SE	Normal Trade
30-Jun-2016	10:37:12.265	16,900	15.8200	267,358	Singapore SE	Normal Trade
30-Jun-2016	10:28:16.907	20,000	15.8500	317,000	Singapore SE	Normal Trade
30-Jun-2016	10:28:16.888	13,400	15.8500	212,390	Singapore SE	Normal Trade

DBSM.SI DBS GROUP HOLDINGS LTD 15.800 SGD 0.270 1.74% Vol 8,172,100

Overview News & Research Price & Charts Estimates Financials Events Ownership Debt & Credit Peers & Valuation Derivatives Filings 360 Menu

TIME AND SALES

Display: Time and Sales Start: 30-Jun-2016 00:00 End: 11:21 30-Jun-2016 Now Price Limits: - Volume Range: - Update View

Showing 1 - 500 of 4190 Last event on this page: 30-Jun-2016, 10:52:34

Date	Local Time	Tick	Last Trade	Volume	Bid	Ask	Turnover
30-Jun-2016	11:20:07		15.800	200	15.800	15.810	3,160
30-Jun-2016	11:20:07		15.800	500	15.800	15.810	7,900
30-Jun-2016	11:20:07		15.800	300	15.800	15.810	4,740
30-Jun-2016	11:19:57		15.800	200	15.800	15.810	3,160
30-Jun-2016	11:19:57		15.800	400	15.800	15.810	6,320
30-Jun-2016	11:19:57		15.800	100	15.800	15.810	1,580
30-Jun-2016	11:19:57		15.800	300	15.800	15.810	4,740
30-Jun-2016	11:19:46		15.800	500	15.800	15.810	7,900
30-Jun-2016	11:19:46		15.800	100	15.800	15.810	1,580
30-Jun-2016	11:19:46		15.800	100	15.800	15.810	1,580
30-Jun-2016	11:19:46		15.800	300	15.800	15.810	4,740
30-Jun-2016	11:19:34		15.800	600	15.800	15.810	9,480
30-Jun-2016	11:19:34		15.800	400	15.800	15.810	6,320
30-Jun-2016	11:19:32		15.810	200	15.800	15.810	3,162
30-Jun-2016	11:19:27		15.810	100	15.800	15.810	1,581

Index Movers <IMO>

The Index Movers application <IMO> provides fundamental, reference and real-time data in a customizable display for an index, its constituents, sectors and statistical data. The primary objective of this app is to highlight the stocks within a particular index that have the strongest impact on the index value.

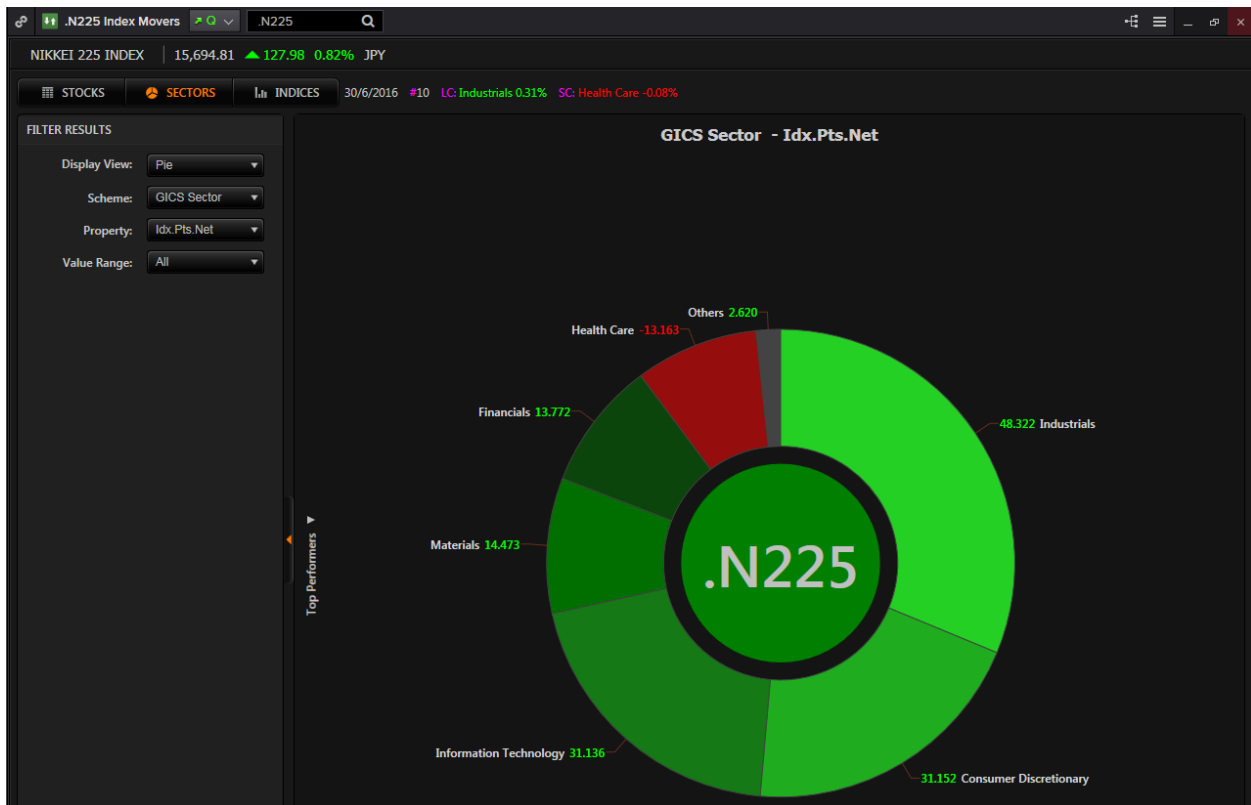
1. STOCKS: users can double-click on an individual stock to see all indices in which it is traded
2. INDICES: Users can double-click on an individual index to see all the companies whose stocks make up that index.

The same analysis can be performed on all indices in which a particular stock is traded worldwide, as well as a summary of the effect certain sectors within an index are having on a whole.

For example, an example of the Stocks, Sectors and Indices pages have been provided.

To arrive at this page, in the Eikon Toolbar, search <IMO>.

RIC	Name	Last	Pct.Chng	Pct.Chng.Bar	Net.Chng	Idx.Pts.Net	Idx.Pts.Pct	Sector
5101.T	YOKOHAMA RUBBER	1,292.000	2.220		28.000	0.554	0.004	Consumer Discretionary
6841.T	YOKOGAWA ELEC	1,167.000	3.090		35.000	1.381	0.009	Information Technology
6506.T	YASKAWA ELEC	1,337.000	-0.070		-1.000	-0.039	-0.000	Information Technology
9064.T	YAMATO HOLDINGS	2,319.500	0.870		20.000	0.787	0.005	Industrials
7951.T	YAMAHA CORP	2,767.000	-3.050		-87.000	-3.448	-0.022	Consumer Discretionary
4689.T	YAHOO JAPAN	452.000	-1.310		-6.000	-0.095	-0.001	Information Technology
9021.T	WEST JAPAN RY	6,436.000	-0.390		-25.000	-0.101	-0.001	Industrials
8270.T	UNY GROUP HLDG	858.000	0.000		0.000	0.000	0.000	Consumer Staples
3103.T	UNITIKA	55.000	-1.790		-1.000	-0.040	-0.000	Consumer Discretionary
4208.T	UBE INDUSTRIES	169.000	-1.170		-2.000	-0.079	-0.001	Materials
4704.T	TREND MICRO	3,655.000	3.100		110.000	4.339	0.028	Information Technology
8015.T	TOYOTA TSUSHO	2,204.000	1.750		38.000	1.495	0.010	Industrials
7203.T	TOYOTA MOTOR CO	5,160.000	0.800		41.000	1.610	0.010	Consumer Discretionary
3101.T	TOYOBO	196.000	1.550		3.000	0.118	0.001	Materials
5901.T	TOYO SEIKAN HLDG	1,951.000	0.360		7.000	0.273	0.002	Materials
5332.T	TOTO	4,055.000	1.760		70.000	1.383	0.009	Industrials
4042.T	TOSOH CORP	471.000	1.070		5.000	0.196	0.001	Materials
6502.T	TOSHIBA CORP	276.400	-0.290		-0.800	-0.032	-0.000	Industrials
3402.T	TORAY INDUSTRIES	878.200	-0.250		-2.200	-0.089	-0.001	Materials
7911.T	TOPPAN PRINTING	882.000	-0.900		-8.000	-0.318	-0.002	Industrials
3289.T	TOKYU FUDOSAN HD	639.000	1.590		10.000	0.394	0.003	Financials
9005.T	TOKYU CORP	892.000	0.340		3.000	0.118	0.001	Industrials
8804.T	TOKYO TATEMONO	1,237.000	1.980		24.000	0.474	0.003	Financials
9531.T	TOKYO GAS	420.400	0.450		1.900	0.074	0.000	Utilities
8035.T	TOKYO ELECTRON	8,669.000	2.870		242.000	9.549	0.061	Information Technology
9501.T	TOKYO ELE PWR HD	425.000	1.430		6.000	0.024	0.000	Utilities
9681.T	TOKYO DOME CORP	459.000	2.910		13.000	0.512	0.003	Consumer Discretionary
4043.T	TOKUYAMA	281.000	0.360		1.000	0.039	0.000	Materials
8766.T	TOKYO MARINE HLD	3,398.000	1.280		43.000	0.846	0.005	Financials
5301.T	TOKAI CARBON	256.000	1.590		4.000	0.158	0.001	Materials
5707.T	TOHO ZINC	304.000	1.000		3.000	0.118	0.001	Materials
9602.T	TOHO	2,832.000	0.390		11.000	0.043	0.000	Consumer Discretionary
9001.T	TOBU RAILWAY	559.000	0.000		0.000	0.000	0.000	Industrials
4543.T	TERUMO CORP	4,390.000	-0.110		-5.000	-0.398	-0.003	Health Care
3401.T	TEIJIN	344.000	-2.270		-8.000	-0.317	-0.002	Materials
6762.T	TDK CORPORATION	5,720.000	0.700		40.000	1.562	0.010	Information Technology
4502.T	TAKEDA PHARM	4,450.000	0.230		10.000	0.396	0.003	Health Care
8233.T	TAKASHIMAYA	740.000	3.790		27.000	1.067	0.007	Consumer Discretionary
2531.T	TAKARA HOLDINGS	938.000	1.520		14.000	0.554	0.004	Consumer Staples
6976.T	TAIYO YUDEN	896.000	1.820		16.000	0.632	0.004	Information Technology
1801.T	TAISEI CORP	844.000	0.720		6.000	0.237	0.002	Industrials
5233.T	TAIHEIYO CEMENT	246.000	4.240		10.000	0.395	0.003	Materials
8795.T	T&D HOLDINGS	869.600	1.100		9.500	0.075	0.000	Financials
7269.T	SUZUKI MOTOR	2,791.000	2.880		78.000	3.085	0.020	Consumer Discretionary
8830.T	SUMITOMO RE&DEV	2,763.500	1.920		52.000	2.054	0.013	Financials
5232.T	SUMITOMO OSAKA	439.000	0.000		0.000	0.000	0.000	Materials
5713.T	SUMITOMO MTL_MIN	1,037.000	1.020		10.500	0.412	0.003	Materials
8309.T	SUMITOMO MITSUI	331.200	1.810		5.900	0.232	0.001	Financials
6302.T	SUMITOMO HWY IND	450.000	2.040		9.000	0.355	0.002	Industrials
8502.T	SUMITOMO ELEC	1,358.500	0.260		3.500	0.137	0.001	Consumer Discretionary



On the Sectors pie chart, search for an equity index and double-click on any section to delve deeper into the sector, (e.g. components of Industrials).

Index	RIC	Last	Net.Chng	Pct.Chng	Idx.Pts.Net	Idx.Pts.Pct	Rel.Pct.Chng	Wght.Pct	Live.Wght.Pct
Dow Jones Global Titans 50 Index	.DJGTE	282.480	-0.450	-0.160	--	--	--	--	--
Dow Jones Global Titans Index	.DJGT	234.390	-0.230	-0.100	--	--	--	--	--
Dow Jones U.S. Financials Index	.DJUSEF	421.420	9.060	2.200	--	--	--	--	--
NYSE Arca Institutional Index	.XII	N/A	N/A	N/A	--	--	--	NP	--
NYSE Composite Index	.NYA	N/A	N/A	N/A	--	--	--	NP	--
S&P 100 Index	.OEXA	916.820	14.460	1.600	--	--	--	NP	--
S&P 500 Banks (Industry)	.SPLRCBKS	289.380	7.570	2.690	--	--	--	NP	--
S&P 500 Banks Index (Industry Group)	.SPXBK	202.550	5.300	2.690	--	--	--	NP	--
S&P 500 Diversified Banks (Sub Ind)	.SPLRCBANK	347.830	9.600	2.840	--	--	--	NP	--
S&P 500 Financial (Sector)	.SPSY	303.630	6.860	2.310	--	--	--	NP	--
S&P 500 Index	.SPX	2,070.770	34.680	1.700	--	--	--	NP	--
S&P 500 Value Index	.IVX	904.100	16.240	1.830	--	--	--	NP	--
S&P 900 Index	.SPLGMID	4,724.170	79.380	1.710	--	--	--	NP	--
S&P Composite 1500 Banks (Industry Group)	.SPCOMBK	216.690	5.710	2.700	--	--	--	NP	--
S&P Composite 1500 Banks (Industry)	.SPCOMBKS	301.890	8.000	2.720	--	--	--	NP	--
S&P Composite 1500 Diversified Banks (Sub Ind)	.SPCOMRBANK	363.170	10.030	2.840	--	--	--	NP	--
S&P Composite 1500 Financials (Sector)	.SPCOMF	338.060	7.440	2.250	--	--	--	NP	--
S&P Composite 1500 Index	.SPSUP	478.630	8.100	1.720	--	--	--	NP	--
STOXX Global 150 EUR Price Index	.SX150P	3,254.660	-5.670	-0.170	--	--	--	NP	--
Thomson Reuters Americas Index	.TRXFLDAAPU	102.050	1.820	1.820	--	--	--	--	--
Thomson Reuters Americas Total Return Local Currency Index	.TRXFLDAATL	199.580	3.450	1.760	--	--	--	--	--
Thomson Reuters CRI US Large Cap Environmental Index (EUR)	.TRENVUSE1	1,843.150	0.330	0.020	--	--	--	--	--
Thomson Reuters CRI US Large Cap Environmental Index (USD)	.TRENVUS1	1,404.780	0.000	0.000	0.000	0.000	--	--	--
Thomson Reuters CRI US Large Cap ESG Index (EUR)	.TRESGUSE1	1,851.760	0.330	0.020	--	--	--	--	--
Thomson Reuters CRI US Large Cap ESG Index (USD)	.TRESGUS1	1,411.380	0.000	0.000	0.000	0.000	--	--	--

On the Indices page, search for a stock in order to view on which indexes it is included in as well as the impact it had on the price of that equity index.

Signal <SIGNAL>

Signal monitors a list of securities real-time against one or more technical criteria and immediately alerts you in the signal panel when a security meets one or more of the conditions.

In the Eikon toolbar, search <SIGNAL> to open the application.



After opening the application, there are certain steps you have to take in order to set up your signal application.

1. Click the icon next to the “Add symbol or portfolio” option in order to customise which Portfolios, Chain RICs or Individual RICs you are interested in.
2. Click the icon and the “Add signal” option in order to customise the type of signal you want to monitor.

Symbol List Manager

Add symbol or portfolio...

SYMBOLS

- 005930.KS Samsung Electronics Co Ltd
- AAPLO Apple Inc
- GOOGL.O Alphabet Inc
- IBM International Business Machines Corp
- MSFT.O Microsoft Corp

Signal Manager

Select the Signal(s) you want to monitor

All Signals

Search

- Custom Signals
- Bands
- Complex Oscillators
- Moving Average Crosses
- Moving Averages
- Overbought/Oversold
- Reversals

Bollinger Pinch:120D

Bollinger Pinch:250D

Bollinger Pinch:50D

Bollinger Pinch:60D

Bollinger Pinch:90D

Reversal Sell

21D-34D EMA XOver

Description

Strategy

Formula

Move Left Move Right Remove All

Close Above 14D SMA 1 Day Reversal Buy Reversal Sell

Aggregate <AGGR>

Aggregate gives users access to the Aggregates matrix which provides a useful way to analyze a metric across both sectors/industries and regions/countries at a glance.

In order to utilize this application,

1. In the Eikon Toolbar, search <AGGR>

2. In the leftmost column adjust the following parameters

- All active equities
- Geography
- Business Classification
- Market Cap
- Layout of the report

3. After pressing update. You could sort the rows by the different parameters you have selected. (E.g. here, we have sorted it by the Price to Cash Flow Per Share from the lowest value to the highest value)

The screenshot displays the 'Aggregates Report' interface. The top navigation bar shows filters for Universe (All Active Equities), Geography (Countries (Singapore)), Business Classification (All), and Market Cap (All). The main table lists industry groups with columns for P/E, Enterprise Value to EBITDA, Enterprise Value to Sales, Price to Cash Flow Per Share (sorted), Price to Book Value Per Share, and Dividend Yield. The 'Price to Cash Flow Per Share' column is highlighted in red, indicating it is the current sort order, and values range from 0.67 to 3.98.

Industry Group	P/E (Daily Time Series Ratio)	Enterprise Value To EBITDA (Daily Time Series Ratio)	Enterprise Value To Sales (Daily Time Series Ratio)	Price To Cash Flow Per Share (Daily Time Series Ratio)	Price To Book Value Per Share (Daily Time Series Ratio)	Dividend Yield, Percent, LFY
All	16.61	13.55	2.19	15.62	1.18	3.59%
Insurance (3)	15.06	7.14	6.23	4.09	1.50	2.62%
Diversified Financials (16)	17.40	11.50	5.26	6.43	1.85	3.93%
Energy (28)		12.83	1.00	6.51	0.88	7.62%
Technology Hardware & Equipment (15)	16.54	7.55	0.36	6.90	1.69	5.47%
Transportation (20)	23.75	10.94	1.29	7.12	1.28	4.46%
Household & Personal Products (2)	21.84	5.51	0.53	7.15	1.26	2.90%
Materials (16)	29.27	11.21	1.10	7.39	0.79	3.17%
Retailing (19)	15.43	8.79	1.13	7.42	1.54	3.68%
Real Estate (72)	11.04	20.59	7.00	8.88	0.78	4.40%
Consumer Services (20)	29.70	12.86	3.59	9.66	0.77	2.59%
Food, Beverage & Tobacco (17)	19.67	12.07	0.82	10.34	1.09	2.39%
Telecommunication Services (4)	16.19	13.37	3.98	12.88	2.73	4.69%
Utilities (4)	26.14	13.58	3.66	13.48	0.89	3.43%
Automobiles & Components (1)	16.06	10.72	2.74	13.68	3.90	2.42%
Commercial & Professional Services (20)	29.52	12.31	1.44	16.07	1.81	3.15%
Software & Services (7)	17.58	10.83	2.57	16.43	3.10	6.61%
Consumer Durables & Apparel (1)	108.37	26.74	0.67	22.63		1.75
Pharmaceuticals, Biotechnology & Life Sci...	12.63	868.35	3.36	25.41	1.08	2.34%
Semiconductors & Semiconductor Equipm...		28.71	7.90	25.56	2.90	0.73%
Health Care Equipment & Services (13)	46.60	23.62	5.23	30.59	2.67	2.17%
Media (4)	18.27	14.86	6.34	36.05	1.55	14.20%
Capital Goods (60)	20.36	17.07	1.37		1.02	6.34%
Food & Staples Retailing (5)	122.66	16.67	0.84		1.23	2.89%
Banks (3)	9.39	7.33	3.83		0.96	2.98%

Monitor Application <MON>

In Eikon, users are able to utilise the Monitor application in order to track different instruments such as single RICs, equity indexes etc. Here you can specify the different columns you wish to view as well as to choose which specific instruments you are interested in.

RIC	Name		Last	Net Chng	Pct.Chng	Company Market Cap	GICS Sector Name	+
CACT.SI	CAPITALAND TRUST		1.480	+0.025	1.72 %	4284934342.67377	Financials	
CATL.SI	CAPITALAND		3.060	+0.050	1.66 %	12816443782.3915	Financials	
CMDG.SI	COMFORTDELGRO	▲	2.750	+0.060	2.23 %	5776736665.61129	Industrials	
CMLT.SI	CAPITALAND MALL		2.160	-0.020	-0.92 %	7692552953.03049	Financials	
CTDM.SI	CITY DEVT LTD		8.200			7427612018.63863	Financials	
DBSM.SI	DBS GRP HLDGS		15.800	+0.270	1.74 %	39162796630.3072	Financials	
GAGR.SI	GOLDEN AGRI		0.350	+0.015	4.48 %	4284049082.18538	Consumer Staples	
GENS.SI	GENTING SPORE		0.730	+0.025	3.55 %	8493517307.44836	Consumer Discretionary	
GLPL.SI	GLOBAL LOG PROP		1.795	+0.015	0.84 %	8589826888.34883	Financials	
HKLD.SI	HONGKONG LAND	▼	6.060	+0.070	1.17 %	14093312612.2	Financials	
HPHT.SI	HUTCHISON PORT		0.450	+0.015	3.45 %	3789328944.57	Industrials	
JCYC.SI	JARDINE C&C	▼	36.480	+0.980	2.76 %	13976959168.8113	Consumer Discretionary	
KPLM.SI	KEPPEL CORP		5.480	+0.070	1.29 %	9797092721.75346	Industrials	
OCBC.SI	OCBC		8.650	+0.160	1.88 %	35467911997.0088	Financials	
SATS.SI	SATS LTD		4.130	+0.030	0.73 %	4590917016.37353	Industrials	
SCIL.SI	SEMBCORP INDUST		2.840	+0.030	1.07 %	5003702712.95002	Industrials	
SCMN.SI	SEMBCORP MARINE		1.560	+0.015	0.97 %	3216269628.67546	Industrials	
SGXL.SI	SGX		7.640	+0.190	2.55 %	7953049630.77537	Financials	
SIAE.SI	SIA ENGR		3.700	+0.020	0.54 %	4118790306.75292	Industrials	
SIAL.SI	SIA LTD		10.680	+0.140	1.33 %	12597821972.6097	Industrials	
SPRM.SI	SPORE PRESS HLDG		3.950	+0.100	2.60 %	6138812963.58271	Consumer Discretionary	
STAR.SI	STARHUB		3.790	+0.040	1.07 %	6468224623.64486	Telecommunication Services	
STEG.SI	ST ENGRG	▲	3.140	+0.050	1.62 %	9611425191.01221	Industrials	
STEL.SI	SINGTEL		4.130	+0.090	2.23 %	64164167342.7452	Telecommunication Services	
TBEV.SI	THAI BEVERAGE		0.910			22762273464.4098	Consumer Staples	
UOBH.SI	UOB LTD		18.380	+0.420	2.34 %	28975676711.0947	Financials	
UTOS.SI	UOL LTD		5.450	+0.080	1.49 %	4311373325.47923	Financials	
WLIL.SI	WILMAR INTL	▼	3.270	+0.040	1.24 %	20603488547.488	Consumer Staples	
YAZG.SI	YANGZIJANG		0.895	+0.005	0.56 %	3401872657.90598	Industrials	

1. In the Eikon toolbar, search <MON> to open the Monitor application.
2. By default, the RIC, Name, Last Price, Net and Percentage change columns will be displayed. However, you are able to specify any other information available to be displayed.

You are also able to change the format of %Change column into that of a bar for better visual representation, sort by GICS sector and to add headers to separate sectors.

Social Media Monitor <SOCIAL>

The Social Media Monitor <SOCIAL> utilises text mining in order to view what is trending in the markets from a social perspective over the last few days.

You are able to choose different instruments by searching in the in-app search bar as well as choose between a sentiment line and bar chart for you visually view the positivity or negativity about a certain company in the social media network. This would give you an idea about the market sentiment with regards to a certain company and hence can help predict possible stock price movements.



1. In the Eikon Toolbar, search <SOCIAL> to open the social monitor application
2. Select the different instruments and click on the symbol to display it on the sentiment line or bar chart.
3. The leftmost column would display the latest tweets and posts about the company of interest.