



***SURF Feed***  
***Supporting Information***

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# **Generic Definitions**

## ***Spot Foreign Exchange***

The rate at which one currency can simultaneously be exchanged for another on the spot value date. Rates are displayed bid-ask (low-high) in reference to the first currency shown. Market Makers will buy the first currency specified at the low rate and sell at the high. The rate is the value of 1 unit of the first currency expressed in terms of the second currency e.g. USD/DEM; 1 US\$=1.4830 DMK.

## ***Forward Foreign Exchange***

The simultaneous exchange of currencies on a start date (normally spot) at a spot rate with a contract to reverse the exchange at an agreed forward rate (forward outright) on the maturity date. The rates are expressed as the points difference between the exchange rate at the maturity of the contract and the rate at the start, multiplied by 10 to the power n, where n is the number of decimal places that the spot rate is conventionally quoted to. Market Makers will sell the first currency spot and buy it at the forward maturity at the low rate and buy and sell the first currency at the high rate.

## ***Non-Deliverable Forwards***

Conceptually similar to a Forward Foreign Exchange transaction. A notional principal amount, forward exchange rate and forward date are all agreed at the deal's inception. The difference is that there is no physical transfer of the principal amount in an NDF transaction. The deal is agreed on the basis that net settlement will be made in US\$, or another fully convertible currency, to reflect any differential between the agreed forward rate and the actual rate on the agreed forward date. The rates can be expressed as a points difference, a yield or as an outright.

## ***Cash Deposits***

The placement or taking of a loan for a fixed time period from a start date to a maturity date. Compensation in the form of interest is calculated at the agreed rate and paid or received in addition to the principal amount at maturity. If the term of the deposit is over one year, interest will normally be paid on each anniversary of the deposit. Market Makers will lend funds at the high rate and borrow funds at the low rate.

## ***Forward Rate Agreements***

A FRA is a hedge against movements in interest rates. Periods for prices are quoted as a forward start date against a forward end date e.g. 3 months versus 6 months. When time elapses and the forward start date becomes the spot value, the difference between the reference market rate of interest (Interbank Offered Rate) and the rate originally struck for the FRA contract is calculated. The interest rate differential is then paid and received by the counter parties (if the Interbank Offered Rate is higher than the rate sold by the seller of the FRA, compensation must be paid to the buyer and vice versa). As with other off balance sheet instruments there is no commitment to borrow or lend the underlying principal amount.. If the number of days is not a standard monthly run there must be prior agreement on the settlement calculation when the FRA is executed. Market Makers will buy the interest differential at the low rate and sell at the high.

## ***Interest Rate Swaps***

An agreement to exchange a series of cash flows (interest payments) for a stated period of time. For vanilla swaps there is no exchange of principal amounts. The notional principal remains constant throughout the life of the swap and the floating side has a specific index e.g. 6 month LIBOR. Market makers will agree to receive fixed rate payments and pay floating rate payments at the high rate and pay fixed rate payments and receive floating rate payments at the low rate.

## ***Basis Swap***

A basis swap locks in the spread existing at the time of the agreement between two indices. Basis swaps are quoted as a spread over the primary index with the other index quoted flat; e.g. in a EUR/USD basis swap the Market Maker will receive the EUR index i.e. EURIBOR plus the high spread and pay the US LIBOR flat or pay the EURIBOR plus the low spread and receive US LIBOR flat.

### ***Interest Rate Option Volatilities***

In a cap transaction the seller contracts to reimburse the buyer should a chosen reference rate exceed the cap level. To compensate the seller for taking this risk the buyer pays a premium. With a floor the seller agrees to compensate the buyer should the reference rate fall below the strike price. The premium is priced from a string of European style options; puts (caps) or calls (floors). From these strings the upfront premium is calculated using a Black - Scholes based option model. Volatility is a key component in this pricing, the level of the implied volatility quoted is that which will calculate a fair value equal to the current trading option price. The volatilities are quoted for strike prices “at the money”.

### ***Swaption Volatilities***

A Swaption is the right but not the obligation to enter an Interest Rate Swap as the payer or receiver of the fixed side of the swap. The implied volatility quoted is that which will calculate a fair value equal to the current trading option price. As with other options, the higher the volatility the greater chance there is of a movement in the underlying instrument, leading to a greater chance that the option will be exercised and therefore a more expensive premium. The volatilities are quoted for strike prices “at the money”.

# **Tullett Prebon Specific Data**

## ***Interest Rate Swap Data***

Tullett Prebon output varying forms of Interest Rates Swaps on the SURF feed. This section will briefly explain the differences.

### **Interest Rate Swaps**

The basic IRS is a single currency instrument where counterparty 'swaps' a fixed rate interest rate liability for a floating rate.

### **Cross Currency Interest Rate Swaps (a.k.a. Currency Swaps)**

A cross currency IRS is an instrument involving two currencies where a counterparty swaps the fixed rate interest rate liability of the primary currency for the floating rate liability of the secondary currency.

### **Overnight Index Swaps**

An OIS is merely a standard IRS where the floating rate is fixed against the overnight index rate (e.g. SONIA or EONIA) rather than the historically more usual 3 month or 6 month LIBOR rate.

### **Interest Rate Currency Basis Swaps**

An interest rate currency basis swap is an instrument involving two currencies where a counterparty swaps the floating rate liability of the primary currency for the floating rate liability of the secondary currency. Whilst at all times Tullett Prebon strive to ensure the accuracy of this data please be aware that the majority of the prices supplied are supplied on an 'on-demand' basis – therefore there may be a considerable period of time elapsing between updates on certain currency pairs/periods

### **Interest Rate LIBOR Swaps**

An interest rate LIBOR swap is an instrument involving a single currency where a counterparty swaps the floating rate liability of the first LIBOR against the floating rate liability of the second LIBOR (e.g. USD 3m Libor vs. USD 6m Libor).

## Interest Rate Basis Swaps

An interest rate basis swap is an instrument involving a single currency where a counterparty swaps the floating rate liability of one basis against the floating rate liability of another. The Interest Rate LIBOR Swaps defined above are indeed basis swaps but T&TL also supply basis swaps between the primary US indices such as the Fed Fund, Commercial paper and Treasury Bill rates against LIBOR. (see below).

### *Commercial Paper / LIBOR*

Uses the daily average of the 30 day commercial paper (quoted on a Bank Discount Basis) taken from the H15 Federal Reserve Statistical Report and averaged for the month. The monthly average is converted to a money market basis, adjusted by the spread and compounded at the succeeding monthly average rate. Interest is settled on a net basis against 3 month LIBOR.

### *Fed Funds / LIBOR*

Uses the daily average of the effective rate from the H15 Statistical Report (quoted on a money market basis) averaged for the month. If interest is paid quarterly the market convention is to take a simple average over 3 months, adjust by the spread and settle on a net basis against 3 month LIBOR.

### *Prime / LIBOR*

Uses the average rate of the daily Prime rate from the H15 Statistical Report (quoted on a money market basis) usually for 3 month period, adjusted by the spread and settled against 3 month LIBOR.

### *Treasury Bills / LIBOR*

Uses the average of the weekly auction rate of the 90 day Bills off the H15 Federal Reserve Statistical report (quoted on a Bank Discount Basis) converted to a money market basis, adjusted by the spread and settled on a net basis against 3 month LIBOR.

### *Bankers Acceptance / LIBOR*

A short-term credit investment (similar to a Treasury Bill) created by a non-financial firm and guaranteed by a bank to make payment. Acceptances are traded at discounts from face value in the secondary market.

## **Currency Foreign Exchange Options**

Tullett Prebon output varying forms of Currency Foreign Exchange Options. Whilst at all times Tullett Prebon strive to ensure the accuracy of this data please be aware that the majority of the prices supplied are supplied on an 'on-demand' basis – therefore there may be a considerable period of time elapsing between updates on certain currency pairs/periods. If a currency pair/period does not have a current rate, the records published will contain either a 0(Zero) or blank.

## SwapMarker™ (German Government Debt)

Quote Browser: Item Address: QSMKR12

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	BOND	BID	ASK	YIELD	SPREAD	MID EUR	MID SWAP TO MATURITY	ASSET SPD Y/Y	
1Y	2.750 06/06	100.49/51	2.165	9.68	2.262	2.239	-7.34	1Y	
2Y	2.000 06/07	99.48/50	2.283	15.10	2.434	2.406	-12.35	2Y	
3Y	4.125 07/08	104.67/69	2.434	15.90	2.594	2.580	-14.50	3Y	
4Y	4.500 07/09	106.94/97	2.602	14.21	2.744	2.731	-12.89	4Y	
5Y	3.250 04/10	102.24/27	2.726	15.85	2.884	2.839	-11.33	5Y	
6Y	5.000 07/11	111.24/27	2.898	11.57	3.013	3.002	-10.44	6Y	
7Y	5.000 07/12	112.07/11	3.032	10.33	3.135	3.125	-9.27	7Y	
8Y	3.750 07/13	104.10/14	3.152	9.35	3.245	3.236	-8.38	8Y	
9Y	4.250 07/14	107.56/61	3.255	9.01	3.345	3.336	-8.14	9Y	
10Y	3.250 07/15	99.27/32	3.333	9.77	3.431	3.423	-9.02	10Y	
15Y	6.000 06/16	123.48/54	3.378	34.12	3.719	3.495	-11.79	15Y	
20Y	6.250 01/24	133.76/82	3.687	17.47	3.862	3.816	-12.94	20Y	
25Y	5.500 01/31	127.31/39	3.801	12.87	3.930	3.932	-13.10	25Y	
30Y	4.000 01/37	103.29/36	3.816	14.12	3.957	3.961	-14.50	30Y	
ACTIVE ISSUES - SUBJECT TO CHANGE DURING TRADING HOURS									
5Y	3.500 10/09	103.30/33	2.647	23.75	2.884	2.769	-12.25	5Y	
10Y	3.750 01/15	103.59/64	3.295	13.57	3.431	3.380	-8.55	10Y	
30Y	4.750 07/34	116.09/17	3.819	13.77	3.957	3.951	-13.18	30Y	

In column one we can see the period this is contained in records of stub ASDE-. The description in column two comes from field no 1665. The third and fourth columns show the bid/offer and mid yield prices, which are found in fields 22, 25 & 35 respectively. This is then followed by the mid swap spread which comes from field 2289. This is then followed by the Mid Euro IRS which comes from field 134. This is then followed by the Mid Swap to Maturity which comes from field 1033. This is then followed by the Mid Yield/Yield which comes from field 2289.

## SwapMarker™ (US Government Debt)

	Price		Mid Yield	Swap Spread		IRS		When Issued
	Bid	Ask		Bid	Ask	Semi-Bond	Ann-Actual	
2Y	99.22+	99.23+	4.023	36.00	40.00	4.383-423	4.371-411	2Y
3Y	99.04+	99.05+	4.073	39.75	43.75	4.470-510	4.454-494	3Y
4Y			4.109	41.75	45.75	4.526-566	4.511-552	5Y
5Y	98.252	98.262	4.144	42.50	46.50	4.569-609	4.556-596	10Y
6Y			4.180	43.00	47.00	4.610-650	4.597-637	30Y
7Y			4.215	43.00	47.00	4.645-685	4.631-671	
8Y			4.250	43.25	47.25	4.682-722	4.669-709	
9Y			4.285	43.00	47.00	4.715-755	4.702-743	
10Y	98.140	98.150	4.320	42.75	46.75	4.748-787	4.735-776	
11Y			4.331	45.00	49.00	4.781-821	4.768-809	Spread to 10Y
12Y			4.342	46.75	50.75	4.810-850	4.798-838	Bid Ask
13Y			4.353	48.50	52.50	4.838-878	4.827-867	46.11 50.11
14Y			4.364	50.00	54.00	4.864-904	4.853-893	48.96 52.96
15Y			4.375	51.25	55.25	4.888-928	4.876-916	51.81 55.81
20Y			4.430	53.00	57.00	4.960-000	4.950-990	54.41 58.41
25Y			4.486	50.50	54.50	4.991-031	4.980-021	56.77 60.77
30Y	112.16+	112.17+	4.541	46.25	50.25	5.003-043	4.993-034	64.04 68.04
40Y			4.541	47.00	51.00	5.011-051	5.001-041	67.05 71.05

In column one we can see the period this is contained in records of stub ASUS-. The description in column two comes from field no 1665. The third and fourth columns show the bid/offer and mid bond prices, which are found in fields 23, 26 & 35 respectively. This is then followed by the spread bid and offer, which come from fields 1029 & 1030. The IRS data displayed in the last four columns are found in fields 996, 997, 998 & 999 respectively.

### Mortgage Backed Data

US Debt Instrument with underlying collateral consisting of retail home mortgages. Bid/Ask dollar pricing is quoted for security classes that convey the issuer, coupon, mortgage type, mortgage maturity type, and settlement month.

An example record would be MBFNM8.000F18002

MB= Mortgage Backed

FNM = Issuing Agencies - choices are FNMA (Fannie Mae), GNMA (Ginnie Mae) or FHLMC (Freddie Mac)

8.000 = Coupon

F = Mortgage Type – choices are F=Fixed Rate, A= ARMS, B=Balloon and G=Gold A-ARMS-Adjustable Rate Mortgage are also known as GNMA II.

180= Maturity group by number of months to maturity. Choices are

360=30yr, 240=20yr, 180=15yr, 084=7yr, 060=5yr

02 = Settlement month. Pricing is provided up to 4 months out to reflect impending issuance.