BrokerTec Historical Data

This page describes the types of BrokerTec data available from CME DataMine.

BrokerTec facilitates the majority share of daily US Treasury electronic trading volumes, allowing access to the most liquid and comprehensive US Treasury data. BrokerTec data is available for six different maturities (2-yr, 3-yr, 5-yr, 7-yr, 10-yr, 20-yr, 30-yr) in three different formats (Top of Book, Depth of Book, and Full Order Book).

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Dates Available

Full Order Book data is available from July 2000 to present day. Depth of Book and Top of Book data is available from December 2014 to present.

By Dataset

Dataset	Tenor	Start Date	End Date
Full Order Book	2 Year	6/29/2000	Present
Full Order Book	3 Year	5/7/2003	Present
Full Order Book	5 Year	6/29/2000	Present
Full Order Book	7 Year	3/2/2009	Present
Full Order Book	10 Year	6/29/2000	Present
Full Order Book	20 Year	5/21/2020	Present
Full Order Book	30 Year	6/29/2000	Present
Depth of Book	2yr, 3yr, 5yr, 7yr, 10yr, 30yr	12/1/2014	Present
Depth of Book	20 year	5/21/2020	Present
Top of Book	2yr, 3yr, 5yr, 7yr, 10yr, 30yr	12/1/2014	Present
Top of Book	20 year	5/21/2020	Present

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Sample Files

Dataset	Sample File
Full Order Book- Work UP	2 Year- 1/8/2018
Full Order Book- Orders	2 Year- 1/8/2018
Full Order Book- Trades	2 Year- 1/8/2018
Depth of Book	2 Year- 1/8/2018
Top of Book	2 Year- 1/8/2018

***Please note there are three files per day included in the Full Order Book dataset. These are the Work Up file, Trades file, and Orders file.**
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FAQ

What format is the file delivered in?

Data is provided in .csv format (comma separated values) for the Top of Book, Depth of Book & Full Order Book files.

Are files compressed?

Yes, the files are compressed into zip files.

What is the precision level for timestamping for these datasets?

The Top of Book and Depth of Book datasets have millisecond precision.

The Full Order Book dataset has microsecond precision.

Does Full Order Book come from the same source as Top of Book and Depth of Book?

Full Order Book is an extract directly from the BTEC Platform.

Top of Book and Depth of Book is an output from the Market Data feed.

What tenors are available for purchase?

2 Year, 3 Year, 5 Year, 7 Year, 10 Year, 20 Year & 30 Year US Treasury tenors are available for purchase.

How many files are available per day?

Top of Book – 6 individual files are available daily (each file consists of one benchmark tenor)

Depth of Book – 6 individual files are available daily (each file consists of one benchmark tenor)

Full Order Book – 18 individual files are available daily (3 files per benchmark tenor)

How far back do you maintain these records?

Full Order Book data is available from July 2000 to present day.

Depth of Book and Top of Book data is available from July 2014 to present.

How many levels of depth are available?

Top of Book is the best bid and offer price (BBO) of a tenors order book.

Depth of Book is 5 levels deep for the bid and ask of a tenors order book.

Full Order Book is all bid and asks in a tenors order book

Do you have sample files available?

Yes, see Sample Files section above.

Are there any anomalies in the the data?

Yes, at times tenors have been temporarily discontinued and then reintroduced. These periods have been noted below:

Year	Event
2000	10-year note issuance was changed. Original issues (OI) were offered in February and August, and were later reopened in May and November.
2002	May 2002: Discontinuance of regular re-openings of 5-year notes. Previously OI 5-year notes were issued May and November with re-openings in August and February. With this change, 5-year notes continued to be issued quarterly, but all as OIs.
2002	August 2002: Discontinuance of regular re-openings of 10-year notes. Previously OI 10-year notes were issued February and August with re-openings in May and November. With this change, 10-year notes continued to be issued quarterly, but all as OIs.
2003	February 2003: 3-year note reintroduced. These securities were offered with every quarterly refunding.

2003	February 2003: Regular re-openings of 5-year notes reintroduced. Original issue auctions would take place every quarter and the re-openings would take place one month afterwards.
2003	August 2003: 5-year notes began a monthly issuance cycle. All 5-year notes were issued mid-month as original issue securities.
2003	August 2003: Intra-quarterly re-openings of the 10-year note introduced. Before this change, the 10-year note was being issued on a quarterly basis as an OI. After the change, 10-year notes were auctioned every quarter with a reopening of each security taking place one month after the original issue.
2006	February 2006: 5-year note issuance moved from middle of the month to end of the month.
2007	May 2007: 3-year note discontinued after May issuance.
2008	November 2007: 3-year note reintroduced with issuance occurring on a monthly basis.
2008	November 2008: A second reopening of the 10-year note was introduced. 10-year notes were issued as OIs every quarter with the each security being reopened the first time a month after the OI and a second reopening taking place two months after the OI issue.
2009	February 2009: 7-year note reintroduced. First auction took place February 26, 2009.
2020	May 2020: 20-year note introduced. First auction took place May 20, 2020

When are these files delivered?

The files are delivered once per business day; at the close of every business day.

Top of Book and Depth of Book daily files are delivered around 6pm EST.

Full Order Book daily files are are delivered around 7pm EST.

If I purchase daily updates of these datasets, will I get historical data as well?

No. When an order is placed for daily updates of these datasets, the first file included will be generated for the start date of the subscription. However, files remain accessible for 30 days after purchase, enabling the customer to reference previous day's data.

How large are these files?

Below you will find the average daily size of each dataset:

Top of Book – 2 to 5 MB per tenor, per day

Depth of Book – 2 to 5 MB per tenor, per day

Full Order Book – 2 to 10 MB per tenor, per day.

What is the file structure for the Top of Book dataset?

Please see the below table to find the file structure for this dataset.

FIELD NAME	CSV COLUMN	EXAMPLE VALUE	SUPPORTED VALUE	DESCRIPTION
Date	A	14/05/2018 19:32:51.501	dd/mm/yyyy hh:mm:ss.sss	Date of update
Currency	B	USD	USD	Currency
Description	C	10YR NOTE	2YR NOTE, 3YR NOTE, 5YR NOTE, 7YR NOTE, 10YR NOTE, 20YR NOTE, 30YR NOTE	Issue Tenor
Producer	D	US_500	US_500	BrokerTec Source
Record	E	10_YEAR	2_YEAR, 3_YEAR, 5_YEAR, 7_YEAR, 10_YEAR, 20_YEAR, 30_YEAR	Instrument Name
Bid	F	98.92188	decimal	Bid Price
Ask	G	98.9375	decimal	Ask Price
Bid Yield %	H	3.001	decimal	Bid Yield in percent
Ask Yield	I	2.999	decimal	Ask Yield in percent
Maturity Date	J	15-May-28	dd-mmm-yy	Date of Maturity
Coupon	K	2.875	decimal	Interest
Last Trade Price	L	98.9375	decimal	Traded Price

Last Trade Size mm	M	7	int64	Quantity of last trade in millions
Mid Yield %	N	2.999	decimal	Mid Yield in percent
Bid Size mm	O	2	int64	Quantity of Bid in millions
Ask Size mm	P	2	int64	Quantity of Ask in millions
Duration	Q	8.529709	decimal	Avg time cash flows are received
Total Volume mm	R	7	int64	Cumulative Volume in millions
Dollar Flow	S	-8	int64	Trade Size relevant to Trade Price being greater than or equal to the previous trade price
Close	T	98.890625	decimal	Closing price for the trading day
High	U	98.9375	decimal	Highest price for the trading day
Low	V	98.9375	decimal	Lowest price for the trading day
Open	W	98.375	decimal	First price for the day

What is the file structure for the Depth of Book dataset?

Please see the below table to find the file structure for this dataset.

FIELD NAME	CSV COLUMN	EXAMPLE VALUE	SUPPORTED VALUE	DESCRIPTION
Date	A	14/05/2018 19:32:51.501	dd/mm/yyyy hh:mm:ss.sss	Date of update
Currency	B	USD	USD	Currency
Description	C	10YR NOTE	2YR NOTE, 3YR NOTE, 5YR NOTE, 7YR NOTE, 10YR NOTE, 20YR NOTE, 30YR NOTE	Issue Tenor
Producer	D	US_500	US_500	BrokerTec Source
Record	E	10_YEAR	2_YEAR, 3_YEAR, 5_YEAR, 7_YEAR, 10_YEAR, 20_YEAR, 30_YEAR	Instrument Name
Bid	F	98.92188	decimal	Bid Price
Ask	G	98.9375	decimal	Ask Price
Bid Yield %	H	3.001	decimal	Bid Yield in percent
Ask Yield	I	2.999	decimal	Ask Yield in percent
Maturity Date	J	15-May-28	dd-mmm-yy	Date of Maturity
Coupon	K	2.875	decimal	Interest
Last Trade Price	L	98.9375	decimal	Traded Price
Last Trade Size mm	M	7	int64	Quantity of last trade in millions
Mid Yield %	N	2.999	decimal	Mid Yield in percent
Bid Size mm	O	2	int64	Quantity of Bid in millions
Ask Size mm	P	2	int64	Quantity of Ask in millions
Duration	Q	8.529709	decimal	Avg time cash flows are received
Total Volume mm	R	7	int64	Cumulative Volume in millions

Dollar Flow	S	-8	int64	Trade Size relevant to Trade Price being greater than or equal to the previous trade price
Close	T	98.890625	decimal	Closing price for the trading day
High	U	98.9375	decimal	Highest price for the trading day
Low	V	98.9375	decimal	Lowest price for the trading day
Open	W	98.375	decimal	First price for the day
VWAP	X	98.9375	decimal	Volume Weighted Average Price
VWAY %	Y	2.99879	decimal	Volume Weighted Average Yield
Best Ask Size1	Z	2	int64	Quantity of Shares at top level offer price
Best Ask Size2	AA	11	int64	Quantity of Shares at level 2 offer price
Best Ask Size3	AB	7	int64	Quantity of Shares at level 3 offer price
Best Ask Size4	AC	6	int64	Quantity of Shares at level 4 offer price
Best Ask Size5	AD	4	int64	Quantity of Shares at level 5 offer price
Best Ask 1	AE	98.9375	decimal	Top/Best Offer price
Best Ask2	AF	98.953125	decimal	Level 2 Offer price
Best Ask3	AG	98.96875	decimal	Level 3 Offer price
Best Ask4	AH	98.984375	decimal	Level 4 Offer price
Best Ask5	AI	99	decimal	Level 5 Offer price
Best Bid Size1	AJ	2	int64	Quantity of Shares at top level bid price
Best Bid Size2	AK	14	int64	Quantity of Shares at level 2 bid price
Best Bid Size3	AL	5	int64	Quantity of Shares at level 3 bid price
Best Bid Size4	AM	6	int64	Quantity of Shares at level 4 bid price
Best Bid Size5	AN	6	int64	Quantity of Shares at level 5 bid price
Best Bid1	AO	98.921875	decimal	Top/Best Bid price
Best Bid2	AP	98.90625	decimal	Level 2 Bid price
Best Bid3	AQ	98.890625	decimal	Level 3 Bid price
Best Bid4	AR	98.875	decimal	Level 4 Bid price
Best Bid5	AS	98.859375	decimal	Level 5 Bid price

What is the file structure for the Full Order dataset?

Please see the below table to find the file structure for this dataset.

TRADE	
Timestamp	hh:mm:ss.nnnnnn yyyymmdd
RecordType	TRADE, OB_CHANGE, WORKUP
InstrumentName	Name of security
Premium	Price in OM format (256th's for treasury actives)
Quantity	Notional amount traded (in millions)
DealSource	*
Aggressive	1=yes, 0=no

BidAsk	B=Bid, A=Ask
OrderNumber	OM formatted order number
OB_CHANGE	
Timestamp	hh:mm:ss.nnnnnn yyyymmdd
RecordType	TRADE, OB_CHANGE, WORKUP
InstrumentName	Name of security
Cusip	Cusip for security
ObPosition	Position in the order book
QuantityDiff	Quantity to be applied, positive or negative
ObCommand	ADD, DELETE, ALTER
ChangeReason	**
OrderNumber	OM formatted order number
Premium	Price in OM format (256th's for treasury actives)
Quantity	Notional amount shown (in millions)
BidAsk	B=Bid, A=Ask
TotalVolume	The value in this field will be zero if the order was entered without the ability to hide any size. It will display the same amount in the Quantity field if the order is entered with the potential to hide size.
DisplayQuantity (Not applicable)	Zeroed out
WORKUP	
Timestamp	hh:mm:ss.nnnnnn yyyymmdd
RecordType	TRADE, OB_CHANGE, WORKUP
InstrumentName	Name of security
Cusip	Cusip for security
Premium	Price in OM format (256th's for treasury actives)
WorkupState	0=workup finished, 10=private phase, 11=public phase
WorkupReason	1=changed normally, 2=changed erroneously, 4=trade-thru
AggressiveOrder Number	OM formatted order number for the aggressive side
AggressiveBidAsk	1=Bid, 2=Ask
PassiveOrderNumber	OM formatted order number for the passive side
PassiveBidAsk	1=Bid, 2=Ask
***Deal Source**	
1	outright
8	swap front leg
9	internal outright
10	internal swap front leg
17	swap front leg

19	swap reference leg
20	swap reference leg
**** Change Reason**	
1	the order is deleted
2	the order is stopped
3	the order is matched
4	the order is inactivated
5	the order is altered
6	the order is added
7	N/A
8	N/A
9	deleted by system if the order is deleted by central system
10	deleted by proxy if the order is deleted by proxy transaction
11	order premium recalculated by system
12	stop order activated
13	hidden volume order recalculated
14	deleted by system, locally inactivated
16	passive order converted to aggressive due to locked market
43	Order deleted because trader is not allowed to trade with himself
45	Order deleted by system due to credit limits

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