Notes About Bloomberg CME Future Data

Francis Liu

Humboldt-Universität zu Berlin
IRTG 1792
Ladislaus von Bortkiewicz Professor of Statistics
BRC Blockchain Research Center
Charles University, WISE XMU, NCTU 玉山学者

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Data

```
results.head(10)
```

	Date	PX_LAST	contract_name
0	2021-05-27	38865	BTCM1 Curncy
1	2021-05-26	38610	BTCM1 Curncy
2	2021-05-25	37370	BTCM1 Curncy
3	2021-05-24	39770	BTCM1 Curncy
4	2021-05-21	36190	BTCM1 Curncy
5	2021-05-20	40350	BTCM1 Curncy
6	2021-05-19	39500	BTCM1 Curncy
7	2021-05-18	43240	BTCM1 Curncy
8	2021-05-17	44100	BTCM1 Curncy
9	2021-05-14	50305	BTCM1 Curncy

Data from BBT PX_LAST function (Cleaned)

CME Official Website Chart

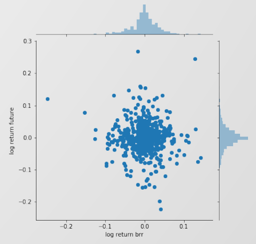
Observation:

The data from Bloomberg PX_LAST is the daily closing price

The time of the CME chart is Central Time

But what is the time of daily closing price is captured?

Month	OPTIONS	CHARTS	LAST	CHANGE	PRIOR SETTLE	OPEN	HIGH	LOW	VOLUME	UPDATED
JUN 2021	OPT		36780	-1935	38715	38840	39330	36300	1,935	03:53:36 CT 04 Jun 2021



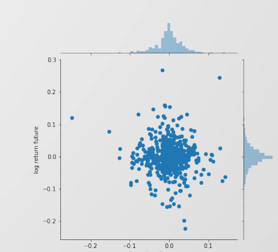
But Daily Closing is NOT Captured at 11:59 pm

27th May 2021 Daily OHLC

O39220 H40565 L37410 C38865

27th May 2021 23:00 Hourly OHLC

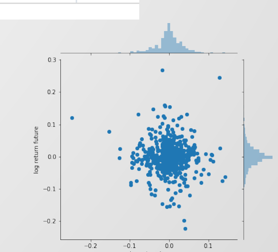
O38200 H38200 L37335 C37420



Data

One possibility: Bloomberg gives the daily settlement price

The settlement price is based on trading activity on CME Globex between 14:59:00 to 15:00:00 Central Time



CME Bitcoin Futures Daily Settlement Procedure

https://www.cmegroup.com/confluence/display/EPICSANDBOX/Bitcoin

The settlement price is based on trading activity on CME Globex between 14:59:00 to 15:00:00 Central Time

Volume adjusted price of all trades during the 60 seconds interval.

27/05/21 14:59

O: 38,890

H: 38,910

L: 38,840

C: 38,845

27/05/21

LAST_PX: 38,865

26/05/21 14:59

O: 38,625

H: 38,650

L: 38,565

C: 38,650

26/05/21

LAST_PX: 38,610

25/05/21 14:59

O: 37,315

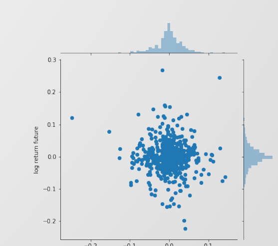
H: 37,415

L: 37,310

C: 37,370

25/05/21

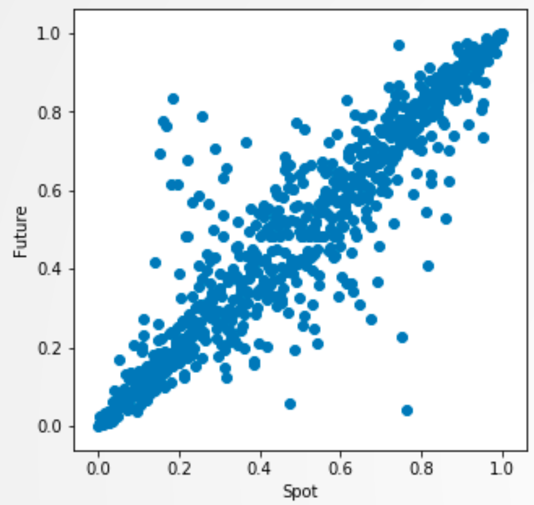
LAST_PX: 37,370



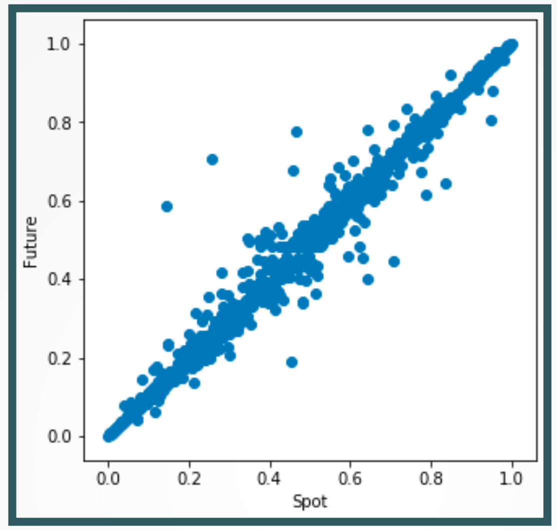
Results

On the x-axis: log return of spot using the opening price of **H hour** price bucket of the day (CET time, daylight saving time adjusted, data from Tiingo)

On the y-axis: log return of future using PX_LAST function from Bloomberg



H = 14



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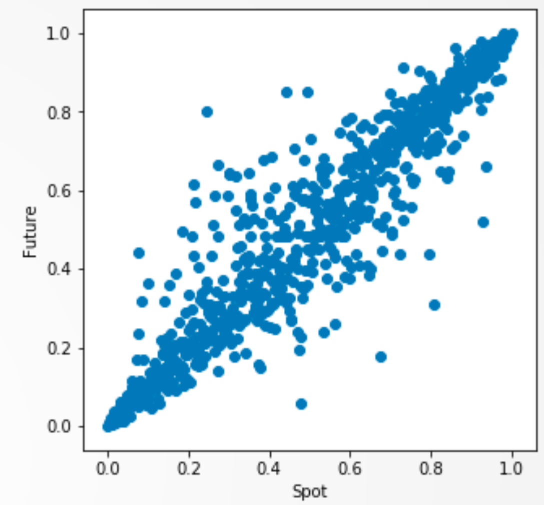
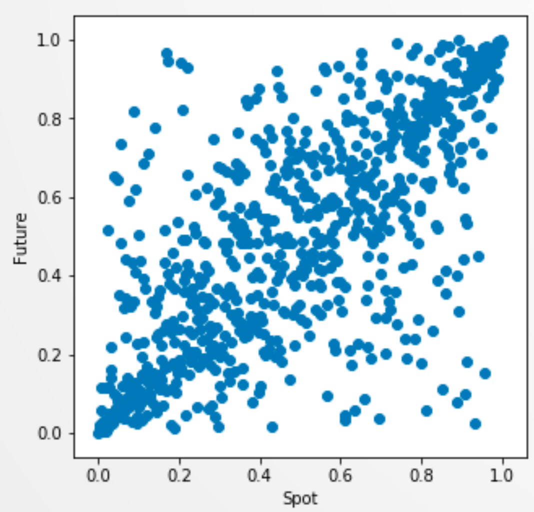
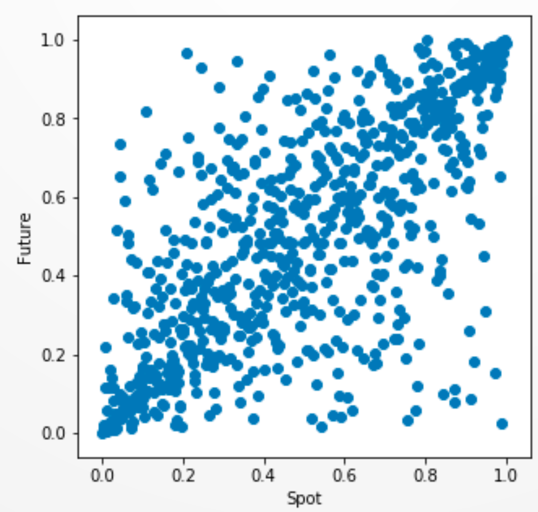


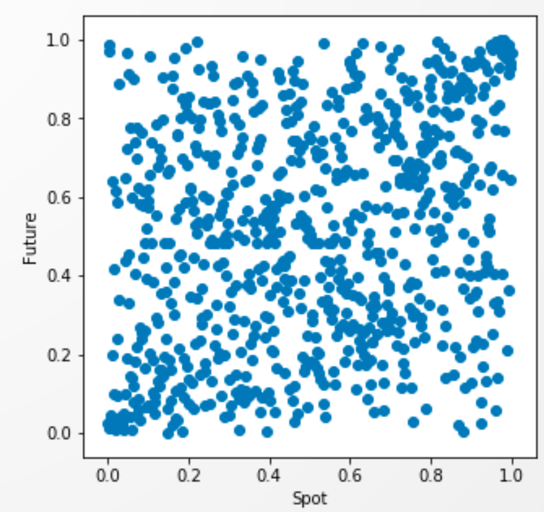
H = 16



H = 23

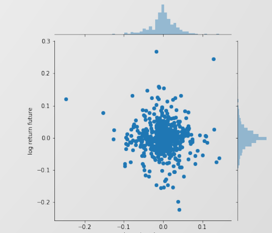


H = 0 D+1



H = 23 D-1

Matching Bloomberg with Tiingo at 1500 CET time seems reasonable



Resources in Repository

Raw Data from Bloomberg:

data/btc future and reference rate/chains of btc future last price.xlsx

Raw Data from Tiingo:

data/btc future and reference rate/tiingo_btc.csv

Cleaned Data:

data/cleaned_data/BBT_Tiingo.csv

Processed Data: (train/test/step 300/5/5)

processed_data/BBT_Tiingo/