Replication instructions: The Pricing of U.S. Treasury Floating Rate Notes

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March 6, 2024

This document details the replication procedure for *The Pricing of U.S. Treasury Floating Rate Notes*, published in the Journal of Financial Economics. The code used to create the graphs and tables in the paper is written in Matlab 2020a. Computer running time for the entire replication procedure should be about 3 minutes on a standard machine.

1 Statement about Rights

The authors of the manuscript have legitimate access to and permission to use the data used in this manuscript. Some data cannot be made publicly available.

2 Data Sources

We use several sources of data to conduct our empirical analysis, which are summarized in Table 1.

1. `Securities23.xlsx` is FRN auction data from Treasury Direct available at https://www.treasurydirect.gov/auctions/auction-query/. This includes auction dates, pricing and quantities issued. Selected items were downloaded into a .csv file and then saved in excel.

2. `USTcurve_7_23.xlsx` contains daily US governement term structures from Refinitiv Eikon. It includes the following codes corresponding to the zero-coupon yields of different maturities: USGOV1MZ=R, USGOV3MZ=R, USGOV6MZ=R, USGOV9MZ=R,

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USGOV1YZ=R, USGOV2YZ=R, USGOV3YZ=R. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Pseudo data is provided.

3. `OISTB3m23.xlsx` contains three-month rates for OIS, Treasury and LIBOR with codes USD3MOIS=, US3MT=RR, USD3MFSR=X. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Pseudo data is provided.

4. `MERmove23.xlsx` contains MOVE volatility series for different maturities with codes: .MOVE, .MOVE3M,.MOVE6M. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Pseudo data is provided.

5. `OIScurve23.xlsx` contains OIS term structures including the maturities corresponding to the codes: USD1MOIS=, USD2MOIS=, USD3MOIS=, USD4MOIS=, USD5MOIS=, USD6MOIS=, USD7MOIS=, USD8MOIS=, USD9MOIS=, USD10MOIS=, USD11MOIS=, USD1YOIS=, USD2YOIS=. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Pseudo data is provided.

6. `LIBcurve23.xlsx` contains LIBOR rates for maturities corresponding to the codes: USD3MFSR=X, USD6MFSR=X, USD1YFSR=X. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Missing data for 12/26/2018 was entered manually. Pseudo data is provided.

7. `FRNPrices23.xlsx` contains daily market close prices of all FRNs. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Pseudo data is provided. The January 2021 issue was missing in Eikon, it was substituted with data from Bloomberg. Codes are given in the excel file. Pseudo data is provided.

8. `Flint_1.xlsx` ... `Flint_30.xlsx` contains interest paid on all FRNs issues that have matured by April 2023. Data was downloaded from https://www.treasurydirect.gov/auctions/announcements-data-results/frn-daily/frn-daily-detail/?cusip=91282xxxx into .csv files and then saved in excel.

9. `TBMat23.xlsx` contains prices for 3-month T-bills maturing close to FRNs coupon payments. Cusips and codes are provided. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Conversion of yields to prices is done in excel. Pseudo data is provided.

10. `IntIMPvoljul2023.xlsx` contains implied volatilities and zero-coupon yields for the Black, Derman and Toy model. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Codes and pseudo data are provided.

11. `irsTBbsw23.xlsx` contains interest rate swap and T-bill basis swap quotes. With access to Refinitiv Eikon the data was downloaded directly into the excel sheet. Codes and pseudo data are provided.

12. `prebswaps.xlsx` contains T-bill basis swap bid-ask quotes for sample including pre-2008 data from Tullet Prebon on Bloomberg. With access to Bloomberg the data was copied from the clipboard into the excel file. Pseudo data is provided.

13. `MSPD_SumSecty_20010131_20230630.xlsx` contains data on debts outstanding from the US Treasury, downloaded at https://fiscaldata.treasury.gov/datasets/monthly-statement-public-debt/summary-of-treasury-securities-outstanding.

14. `export - 2021-11-10T154155.285notes.xlsx` contains swap transactions with T-bill legs from Clarus Financial Technology. The original datasource is DTCC CFTC.

File	**Source**	**Notes**	**Provided**
`Securities23.xlsx`	Treasury direct	Public	Yes
`USTcurve_7_23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`OISTB3m23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`MERmove23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`OIScurve23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`LIBcurve23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`FRNPrices23.xlsx`	Refinitiv Eikon/Bloomberg	Proprietary	Pseudo data
`Flint_1.xlsx` ...	Treasury direct	Public	Yes
`TBMat23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`IntIMPvoljul2023.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`irsTBbsw23.xlsx`	Refinitiv Eikon	Proprietary	Pseudo data
`prebswaps.xlsx`	Bloomberg	Proprietary	Pseudo data
`MSPD_SumSecty_20...30.xlsx`	US Treasury	Public	Yes
`export - 2021-11-10...tes.xlsx`	Clarus FT / DTCC	Public	Yes

3 Replication procedure

The steps below outline the procedure which needs to be followed to replicate the figures and tables in the paper. **Note: Most of the data included is pseudo data (not the actual data). Therefore, the outputs of these replications do not match the results in the paper. To exactly reproduce the results in the paper, the pseudo data in**

the underlying spreadheets described above must be replaced with data from Refinitiv Eikon and Bloomberg.

1. Create Table 2 by running `RetFRN23.m`. Copy manually RES (matrix with results) into table with labels in `ReplicTables23.xlsx`. RES is saved in `restb23.mat` which is loaded when `PriceFRN23.m` is run.

2. Create Figure 9 and 10 by running `FLgraphs23.m`. Swap spread data is saved in `AppSynFrn.mat` which is loaded when `PriceFRN23.m` is run.

3. Create Figure 1, 3, 4, 5, 7, 8, 11, 12 and 13 and Table 4 by running `PriceFRN23.m`.

4. Create Figure 6 and Table 1 by running `AdjTS23.m`. To produce one row of Table 1, set '`dati=1`' on line 70 and enter inputs for `rbar` and `sigma` manually on line 84 and 85.

5. Figure 2 is created manually in `MSPD_SumSecty_20010131_20230630.xlsx`.

6. Table 3 is created manually in sheet 1 of `export - 2021-11-10T154155.285notes.xlsx` from the raw data in sheet 2.