

Matlab files for Monthly File

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The procedure for creating the monthly file, “Gilmore_Hayashi_monthly_FX_file.xls” is described in Appendix A of “Emerging Market Currency Excess Returns” by Stephen Gilmore and Fumio Hayashi (January 2011 version). This document identifies Matlab.m files used for executing the procedure.

The Three Excel Files Holding Raw Data

There are three files, all in Excel form, used as raw data.

- Delivery Date File (so called in the appendix). It gives the delivery dates of spot and forward contracts for all weekdays between January 1980 and December 2011 for a large number of currencies including EM20 (the 20 emerging market currencies) and G9 (the 9 major currencies) listed in Table 1 of the paper and legacy currencies DEM, FRF, ITL. For each currency, it is a matrix consisting of 5 columns (observation date, delivery dates for spot, 1-month, 2-month, and 3-month contracts).
- AIG-FP daily data on EM20. Daily data on mid rates on the spot, 1-, 2-, and 3-month forward rates prepared by AIG Financial Products. The earliest observation is May 31, 1996 and the last observation is April 19, 2010. For each currency, it has 5 columns (observation date, spot rate, and 3 forward rates). The set of observation dates differs across currencies, first because the first date of data availability is different, and second because some weekdays can be missing.
- WM/Reuters daily data on a large number of currencies (including EM20 and majors). Daily data on the mid, bid, and offer rates on the spot and 3 forward rates. The earliest date is December 31, 1996 (WM/Reuters has spot rates but not forward rates from earlier periods, but we won't use them). It covers all weekdays to the present. For each currency, it has 13 columns (observation date, mid, bid, and offer values of the spot and 3 forward rates). The set of observation dates differs across currencies only because the first date of data availability differs across currencies.

Matlab Programs Used to Map the Three Excel Files into the Monthly File

The table on the next page lists the seven Matlab .m files of Matlab programs used for the mapping. Those programs use some user-defined functions. The names of .m files of those functions are listed below.

eom_f,
matching_dates_f,
merge_f,
z_and_dates_f.

Table: Mapping from Raw Data to the Monthly File “Gilmore_Hayashi_monthly_FX_File.xls”

Matlab .m File Name	Input Files	Output Files (besides log file)	What Program Does
Delivery_dates_save_in_MAT_file	the Delivery Date Excel file described above	“Delivery_dates.mat”	- converts to a 3 dimensional array (3rd dimension is the currency) and a vector of the names of constituent currencies
convert_prices_to_MAT_file	the two Excel files by AIG and WM/Reuters described above	- “AIG_EM20_Matlab_data.mat” - “WM_Reuters_Matlab_data.mat” (Each of these is a collection of matrixes, one for each constituent currency, and one matrix holding the names of those currencies.)	- converts to Matlab .mat format - enforces offer>bid (described in the first footnote of the appendix (Appendix A of the paper)) - drops observations after March 1999 for legacies (DEM, FRF, ITL) - includes observations only since Dec. 31, 1998 for EUR
create_Price_File	“AIG_EM20_Matlab_data.mat” “WM_Reuters_Matlab_data.mat”	- “Price_File.mat” (It has 6 arrays, 3 for AIG and 3 for WM. The three arrays are: a vector of weekdays, a vector of currency names, and a 3-dimensional array of daily observations (3rd dimension is the currency). This 3-dimensional array is what is referred to as the Price File in Section 1 of the appendix.)	- drops repeated observations - imports daily data from WM/Reuters file for EM20 if desired
date_alignment	“Delivery_dates.mat” “Price_File.mat”	- “EM20_and_Gx.mat”. (It has 4 arrays, 2 for AIG and 2 for WM. The first of the two is the vector of currency names, and the second is a 3-dimensional array. This 3-dimensional array is what is referred to as “A Matrix of Daily Observations” in Section 2 of the appendix.)	- does the date alignment described in Section 2 of the appendix
EM20_and_Gx_from_Daily_to_Monthly	“EM20_and_Gx.mat”	- “Gilmore_Hayashi_monthly_FX_file.xls” (The Excel file fully documented in Section 5 of the appendix) - “EM20_and_Gx_monthly.mat” (.mat version of the above Excel file) - “obs_dates.xls” and “problem_months.xls” (These are two Excel files accompanying the monthly file. They are documented in Section 5 of the appendix.)	-selects from the daily file “EM20_and_Gx” those observations, one for each month, pertaining to end/end deals - for each month, determines the “signal observation day” (defined in Section 4 of the appendix) - obtain spot and forward rates on the signal observation days - obtains spot and forward rates on the last available observation day of each month
unscramble_EM20_and_Gx_monthly	“EM20_and_Gx.mat”	- “WM_Reuters_Historic_Rates.xls” (has raw data	- extracts data directly from WM/Reuters, place

	"Price_File.mat"	directly from WM/Reuters - "EM20_monthly_FX_file_without_WM.xls" (has monthly data on EM20 derived from AIG-FP data)	them in a file, and place the remaining data in a separate file.
Reassemble_monthly	"WM_Reuters_Historic_Rates.xls" "EM20_monthly_FX_file_without_WM.xls"	- "Gilmore_Hayashi_monthly_FX_file.xls"	- reassembles "Gilmore_Hayashi_monthly_FX_file.xls"