Restated Bilateral External Portfolios

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This README file provides documentation for the file "Restated_Bilateral_External_Portfolios" (available in .xlsx and .dta formats), which contains estimated restatements of the U.S. Treasury International Capital (TIC) data and the IMF Coordinated Portfolio Investment Survey (CPIS) data on a nationality basis as well as on a sales-weighted basis. We perform the restatements using the methodology outlined in Coppola, Maggiori, Neiman and Schreger (2021). We refer readers to the paper for full details on the data and methodology underlying our estimates. We request that users of these data acknowledge their source and recommend inclusion of the following sentence:

> "These data are based on the work in Coppola, Maggiori, Neiman and Schreger (2021) and were obtained from: www.globalcapitalallocation.com".

We offer several versions of these restated external bilateral positions: (1) "Tax Haven Only" reallocates only securities that, under residency, are issued by affiliates resident in tax havens; (2) "Full Nationality" applies our reallocation methodology to securities issued by affiliates from all countries; (3) "Sales-Based" restatements link investment in a firm with the geographic distribution of its sales; (4) additional "Ex-Domestic" versions of the "Full Nationality" and "Sales-Based" restatements do not reallocate domestic investments. We provide these restatements using three different estimation methodologies:

a) The "Fund Holdings" methodology uses reallocation matrices constructed using the Morningstar holdings data on mutual fund and exchange traded fund (ETF) positions, as outlined in Coppola, Maggiori, Neiman and Schreger (2021). We provide estimates based on this methodology for nine economies: the United States, European Monetary Union (EMU), Great Britain, Canada, Switzerland, Sweden, Denmark, Norway, and Australia.

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For all methodologies, we only consider the EMU as a block when on the investor side since mutual funds are concentrated in Luxembourg and Ireland, but collect investments from the rest of the countries in the European Union. Individual countries are instead kept as separate entries when on the issuer side.

b) The "Issuance" methodology uses the issuance distribution matrices introduced in Coppola, Maggiori, Neiman and Schreger (2021), constructed using data on global securities outstanding from Dealogic, Factset, and Refinitiv. These estimates are available for all country-year pairs for which complete CPIS data is available.

c) The "Enhanced Fund Holdings" methodology uses reallocation matrices that are constructed by complementing the Morningstar mutual funds and ETF holdings data with data on the holdings of other institutional sectors, where available. We provide estimates using this methodology for two countries: the United States, for which we complement the Morningstar data with data on the holdings of U.S. insurance companies, and Norway, for which we add data on the holdings of the Norwegian sovereign wealth fund. Both of these two additional holdings datasets are described in detail in Coppola, Maggiori, Neiman and Schreger (2021).

This release contains data for the years 2007 to 2017, with a few exceptions (see Section 2). For the United States, we separately report positions in four asset classes: (i) common equities, (ii) corporate bonds, (iii) sovereign, agency, and local government (muni) bonds, and (iv) asset-backed securities. Corporate bond holdings are calculated as private debt minus asset-backed securities. We exclude holdings of non-common equity (fund shares as well as the "preferred and other" category in TIC). In general, the CPIS data do not break down bonds in subcategories, nor do they distinguish fund shares from common equity. For countries other than the United States, therefore, we report positions in two asset classes: (i) equities (including fund shares) and (ii) all bonds.

1 File Structure

Each of the two files has the following fields:

1. Methodology – The methodology underlying the estimates, one of "Fund Holdings", "Issuance", or "Enhanced Fund Holdings"

2. Year – Positions are measured at the end of December of this year

3. Investor_Name – Domicile country of the investors

4. Investor – 3-letter ISO code for the domicile country corresponding to Investor_Name

5. Asset_Class – Asset class of the investments

6. Asset_Class_Code – A code corresponding to the "Asset_Class" field. The codes are the following: (i) "E" for common equities; (ii) "BC" for corporate bonds; (iii) "BG" for sovereign, agency, and local government (muni) bonds; (iv) "BSF" for asset-backed securities; (v) "EF" for all equities (inclusive of fund shares); (vi) "B" for all bonds.

7. Issuer_Name – Country (residency or nationality) of issuer of bond or stock

8. Issuer – 3-letter ISO code for country (residency or nationality) of issuer of bond or stock corresponding to Issuer_Name

9. Position_Residency – The value of the holdings of "Investor" in securities issued by "Issuer" in "Asset_Class" (in millions of U.S. dollars), on a residency basis.[1]

10. Restatement_TH_Only – The estimated value of the holdings of "Investor" in securities issued by "Issuer" in "Asset_Class" (in millions of U.S. dollars), on a nationality basis using the "Tax Haven Only" treatment

11. Restatement_Full – The estimated value of the holdings of "Investor" in securities issued by "Issuer" in "Asset_Class" (in millions of U.S. dollars), on a nationality basis using the "Full Nationality" treatment

12. Restatement_Ex_Domestic – The same as "Restatement_Full", but does not reallocate domestic positions

13. Restatement_Sales – The estimated value of the exposure of "Investor" to "Issuer" through securities in "Asset_Class" (in millions of U.S. dollars), on a sales-weighted basis

14. Restatement_Sales_Ex_Domestic – The same as "Restatement_Sales", but does not reallocate domestic positions

15. Estimated_Common_Equity – CPIS pools together common equities and fund shares. We therefore estimate the common equity position as detailed in Coppola et al. (2021). We only apply our reallocation matrices to these estimated common equity positions. This

[1]Domestic holdings are estimated, as discussed in Coppola et al. (2021), since these are not directly observed in TIC or CPIS.

field reports our estimated common equity positions. It is only populated for tax haven countries and when "Asset_Class_Code" is equal to EF.[2]

2 Details on the Data

In this section we provide additional details on the data included in the downloadable files.

Restatements for countries without fund data. For countries other than the United States, European Monetary Union (EMU), Great Britain, Canada, Switzerland, Sweden, Denmark, Norway, and Australia, we only report the ex-domestic versions of our restatements. This is because we use the fund holdings data in order to impute domestic holdings, as discussed in Coppola, Maggiori, Neiman and Schreger (2021): in these cases we are therefore unable to estimate domestic positions.

Chronological coverage. We include data for the years 2007 to 2017 for most investing countries. Two notable exceptions are Australia and Norway. For Australia, we only provide data for 2017 due to erratic CPIS reporting in prior years. For Norway, we only report 2014-2017 for reasons discussed below.

June reporting for Australia. All data are measured as of December of the relevant year, with the exception of Australia's positions for 2017, which are measured as of December 2017 when available, and as of June 2017 otherwise.

Missing data. For each investing country, the set of issuing countries with non-zero residency-based positions corresponds to that for which positions are reported in either TIC or CPIS at any point between 2007 and 2017. If an investing country reports a particular bilateral position in certain years but not others, the position reported in the column "Position_Residency" is linearly interpolated (in case bilateral positions are available in both prior and later years) or extrapolated. The extrapolation methodology back-fills the data using the first available position at the beginning of each bilateral time series, and forward-fills the data using the last available position at the end of each bilateral time series. For holdings of asset-backed securities (U.S. only), for parsimony we set missing bilateral positions to zero rather than interpolating or extrapolating them, since all such positions correspond to bilaterals with very small holdings

[2]For the "full nationality" adjustments, we assume that all equity investments in countries that are not tax havens are in common equities.

throughout the sample. These interpolations generally occur only for a few smaller destinations, and we filled in the data in the interest of providing more continuous time series.

EMU data censoring. For positions of the EMU, in cases in which individual EMU member countries censor the respective bilateral positions in CPIS, the EMU position is the sum of all non-censored positions reported by EMU members. The only EMU members states that report censored positions in CPIS in our sample are: Estonia, Finland, Ireland, Malta, and Spain.

EMU equity positions in Luxembourg. We exclude the equity investments of the EMU into Luxembourg (shown as missing values in the file) since these primarily reflect fund shares holdings and are therefore accounted for by the external assets of Luxembourg itself.

Norwegian holdings. In the process of conducting this research, we discovered a mistake in Norway's CPIS reporting of the bilateral composition of the positions of the Norwegian sovereign wealth fund (SWF). We contacted Statistics Norway and they rectified this mistake for the most recent data. We are in ongoing communication with them as they also update the data for 2007-2017. In the meantime, we use an internally constructed amended version of Norway's CPIS tables that replaces the SWF's holdings using the fund's own self-disclosed positions for 2014-2017.

Additional country codes. Our sources list assets issued by supranational organizations and leave a residual category for non-identified issuers so we assign to these entries the codes XSN and OTH, respectively. In addition, we employ the Issuer code KOS for assets issued by the Republic of Kosovo. These 3 codes are not part of the standard 3-letter ISO code list.

References

Coppola, Antonio, Matteo Maggiori, Brent Neiman, and Jesse Schreger, "Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens," *Forthcoming at the Quarterly Journal of Economics*, 2021.