Notes on the FRB-ECB CPIS Sectorization Project

NOTES ON THE FRB-ECB CPIS SECTORIZATION PROJECT
Ruth Judson
September 2017

Introduction

The IMF's required Coordinated Portfolio Investment Survey (CPIS) data include breakdowns of cross-border portfolio holdings by counterpart country, broad security type (equity, long-term debt, short-term debt). In addition, the "encouraged" CPIS reporting covers, in addition to the required breakdowns, additional breakdowns by sector of foreign issuer and by sector of domestic holder. Data are requested for both claims and liabilities, but restrictions on the U.S. data limit the U.S. CPIS to claims (that is, U.S. resident holdings of foreign securities).

Under the guidance of the IMF, the Federal Reserve Board and the European Central Bank have conducted a pilot exercise to compare the sector assignments of securities in their respective databases. This brief note reviews the results of this exercise from the U.S. perspective. I review in turn the method and data sources used and the results and problems found, and conclude with suggestions for future work.

Method and Data Sources

First step: Compilation of list of foreign securities held by domestic residents

The U.S. cross-border securities dataset is compiled as part of the Treasury International Capital (TIC) system. Data are collected at the individual security level annually, as of end-June for U.S. liabilities and as of end-December for U.S. claims. "Benchmark" surveys, conducted once every five years, cover all known reporters. "Annual" surveys, conducted in the intervening years, cover the largest 125 to 150 reporters and about 98% of market value. Reporters provide data on many security characteristics, including security type, currency of denomination, issue and maturity dates, issuer name, and security description. Securities positions and characteristics are aggregated and reconciled across reporters to produce the reference security database.[1] Additional data on securities characteristics, including NAICS industry code, coupon type, and dividend and coupon rates, are obtained from a commercial vendor.[2]

---

[1] See https://www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx for more information on the TIC system, including data releases and reporting forms.

[2] NAICS is the North American Industrial Classification System, developed and maintained by the U.S. Bureau of the Census, part of the U.S. Department of Commerce. See https://www.census.gov/eos/www/naics/ for more information.

The data preparation process is extensive, and so the data used in this exercise were from December 2015 for U.S. claims and from June 2016 for U.S. liabilities.

The first step in the data exchange was the preparation of files on foreign securities held by residents. From the U.S. side, we produced a file of about 45,000 securities held by U.S. residents and issued by EU countries as of end-2015. The file contained the U.S. "master" security identifier, CUSIP or ISIN if known, country of issuer, security description, issuer name, and sector assignment, which was based on the NAICS industry code as shown in the table.

Summary of U.S. Sector Assignments Based on NAICS Codes		
CPIS sector	**NAICS Codes**	**Remarks**
S_11: Non-financial	All other	Included
S_122: Depository institutions	5221xx	Included
S_125: Other financial excluding pension and insurance funds	5222xx	Includes S_124, S_126, S_127
S_128: Insurance funds	524xxx	Included
S_13: Government	9xxxxx	Includes S_1311, S_1312, S_1313
Sectors Not Reported in U.S. Data		
CPIS sector	**NAICS Codes**	**Remarks**
S_124: Non-MMMF investment funds		Included in "Other financial" (S_125)
S_126: Financial auxiliaries		Included in "Other financial" (S_125)
S_127: Captive financial institutions		Included in "Other financial" (S_125)
S_129: Pension funds		U.S. holdings of foreign pension funds are minimal and are not broken out separately.
S_1311: Central government		NAICS codes do not allow breakdown between central government (S_1311), local government (S_1312), and local government (S_1313). The vast majority of foreign government securities held by U.S. residents are central government securities.
S_1312: State government		
S_1313: Local government		

There were two major challenges that this data file presented to our ECB counterparts. First, as noted in the table, the NAICS industry code system does not allow separate identification of several sectors. Second, in the U.S. data collection system, reporters provide their own security identifiers. While reporters are encouraged to use standard identifiers, it is not required and some reporters use internal identifiers or incorrectly characterize an identifier as an ISIN or CUSIP. This problem is somewhat

mitigated by additional data obtained from commercial vendors on alternative identifiers, which were provided in our file when available.

Second step: review of domestic (U.S.) securities file provided by ECB counterparts

In this step, the U.S. received an extract from the ECB's Central Securities Database (CSDB) listing ISIN security identifiers, issuer name, and SNA sector for about 124,000 securities issued in the United States. This list of securities included all securities known to the ECB, whether or not EU residents actually hold them. We proceeded to match the securities to the information in our reference security database based on the ISIN, which in the U.S. database could be either the "master" security identifier or an alternative identifier. This process was, of course, complicated by the fact that the U.S. "master" identifiers can be from any system or from a reporter's internal system.

Notwithstanding the difficulties with identifiers, the matching process was fairly successful, with matches found for about 45,000 securities accounting for about $13.3 trillion of the approximately $17 trillion in U.S. cross-border securities liabilities as of end-June 2016. An additional $1.5 trillion were Treasury securities that were not matched because of the mismatch between the effective date for the ECB's dataset (early 2017) and of the Federal Reserve's dataset (mid-2016), and a further $0.5 trillion (at least) were identified by internal identifiers. For the rest, totaling about $1.7 trillion, we would recommend a followup review of perhaps 100 to 200 securities of greatest interest.

Once the securities were matched, we compared sector identification. In general, the matching was quite good, subject to the limitations imposed by the U.S. use of NAICS industry codes. However, we also found that it is possible to provide or confirm sector identification for a large number of securities simply based on issuer name, which we illustrate with some examples.

Example 1. U.S. Treasury and Agency-Issued securities: Even when the U.S. database did not hold a match, it was possible to confirm the sector assignment based on the issuer name.

Example 2. State and local government securities: A number of these securities were correctly classified as government securities, but the level of government (state or local) was often incorrectly classified. Even when these securities are not in the U.S. database, visual inspection of issuer name is sufficient. In such cases, it is important to note that "home" country reviewers are usually the best equipped to make theses assessments based on simple inspection. For example, it is extremely easy for a U.S. reviewer to identify which securities are state-issued versus city or county-issued.

Example 3. Financing arms of nonfinancial firms: It can be difficult to determine these assignments, and in some cases the U.S. and ECB assessments differed. As above, it is probably beneficial to have the "home" country reviewer make the examination.

Final step: review of findings of ECB counterparts for foreign securities held by U.S. residents

We have yet to fully complete this step on the U.S. side, but we anticipate that the problems will be the same as evident in the first two steps, which are summarized in the next section.

Results and Lessons Learned

For a first effort, the U.S. assessment is that this type of exercise is productive and helpful. We found (and expect that others will find) that sector assignment by home-country reviewers is easier than for external reviewers on both sides. As for obstacles, our view is that there are three primary sets of obstacles, which are, in decreasing order of importance: legal / administrative, security identification, and interpretation. First, the legal and administrative obstacles are significant. Many countries' data collections are controlled by one or more government entities and are also governed by contracts with commercial data providers. Second, the use of common security identifiers eases the work significantly and, conversely, use of multiple or nonstandard identifiers makes the work either difficult or impossible. Third, the implementation of sectoral assignments requires a certain amount of judgment and can stlll be imperfect or inconsistent.

Going forward, we would recommend as a next step that other members be surveyed about their ability and willingness to participate in a wider pilot exercise, perhaps with questions along the following lines:

1. Does your country collect security-level data on cross-border holdings?

2. To what extent can information on the sector of a particular security be shared? (Positions need not be revealed)

3. What type of security identifiers are used? What percentage of positions are reporting using a CUSIP or ISIN?

4. How would the sectoral assignment be carried out?

We would further support a repetition of the Federal Reserve – ECB pilot, perhaps with a more targeted set of securities and closer focus on use of the same reporting dates.