The Federal Reserve's Role in the Collection and Dissemination of Information on Interest Rates

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Abstract

The Federal Reserve System collects a great number of interest rate series and publishes most of them. For only a small subset of these rate series is the Federal Reserve the primary or original compiler. This paper describes how the Fed disseminates data on interest rates and some of the practical issues that arise when publishing information collected by others. For the data where the Fed is the primary source, we describe how the data are collected.

Key Words: FRBNY, FRED, Treasuries, Fed Funds

Introduction

Although the Federal Reserve System collects a great number of interest rate series, for only a small subset of these is the Federal Reserve the primary or original compiler. In large part this reflects the structure and size of the U.S. financial markets.

In terms of structure, compared to most other economies, the U.S. credit markets are relatively more market-based rather than bank-based. This means that a large share of the borrowing/lending transactions occur in venues, or on platforms, where there is a readily reportable price or interest rate.

The large size of the U.S. markets means there is a critical mass to support industry groups that can collect and aggregate data from members and that there is sufficient demand for rate information to support private firms that monitor financial market transactions and then sell this information. As a result, for a significant share of U.S. credit market transactions, entities other than the Federal Reserve collecting and disseminate rate information.

Of course, not all borrowing and lending in the United States occurs in transparent markets with clear reporting. Bank lending markets are still very important and not all securities transactions are conducted on a venue or platform with clear reporting. In these cases there is still a role for the Federal Reserve to act as the primary compiler of interest rate data.

The Federal Reserve also plays a significant role in the public dissemination of interest rate data. This is of course necessary for the series where the Fed is the primary compiler. But there is also a role for the Fed in organizing data collected by others and making it available to a wide audience in a format that is useful for the public. Publishing information collected by others raises some practical issues, especially when the information is purchased.

The rest of the paper is organized as follows: Section two describes how the Fed disseminates information on interest rates. It includes some discussion of the arrangements needed to republish data that is purchased from others. Section three describes the major series for which the Fed is the primary compiler.

Public Dissemination

The Federal Reserve Board relies exclusively on electronic means (mostly the internet) to disseminate regularly released statistical data, including those on interest rates[1]. The Board's primary, or flagship, publication for interest rate information is the "H.15-Selected Interest Rates" (available at http://www.federalreserve.gov/releases/h15/current/default.htm). This is a weekly release that is also updated each business day. It currently contains 48 series covering a variety of maturities for both traded securities such as Treasuries, corporates, and state and local government bonds as well as other types of lending such as mortgage rates and the Fed Funds effective rate.

Two other releases are worth noting here: The "G.19-Consumer Credit" (http://www.federalreserve.gov/releases/g19/current/default.htm) and the "E.2-Survey of Terms of Business Lending" (http://www.federalreserve.gov/releases/e2/Current/default.htm). The G.19 is released monthly and, at a quarterly frequency, reports data on interest rates paid on various types of consumer credit such as personal loans, car loans and credit cards. The E.2 is a quarterly release that includes the weighted average effective loan rates for commercial and industrial loans made by commercial banks. These loan rates are tabulated (or cross tabulated) by bank characteristic (large, small, domestic, foreign) and various loan characteristics such as size, maturity, risk, and repricing interval.

All three of these releases (H.15, G.19, and E.2) are integrated with the Board's web-based Data Download Program (DDP). The DDP is the primary dissemination vehicle for Federal Reserve Board statistical data and provides the timeliest access to Board data anywhere. All of the Board's major statistical releases provide data through the program as soon as the data are published. The DDP provides quick downloads for predefined sets of time series and also allows users to build custom data sets based on their criteria, which can be saved for future use. Once a package of data is either selected or constructed, users can define the time horizon, file layout, and output format (CSV, Excel, or XML) for downloading the data. In addition, the DDP provides interactive charting capabilities where users can explore dynamic charts of Board data or create graphic files to be used in documents or web pages.

As a final note on public dissemination, we direct the reader to the Federal Reserve Economic Data (FRED) system developed by the Federal Reserve Bank of St. Louis (http://research.stlouisfed.org/fred2/). FRED contains roughly 73,000 U.S. and international time series with more than 550 relating to interest rates alone, including those contained in the releases described above. Fully describing FRED would take us well outside the bounds of this paper. Here we simply note that it is much more than a plotting and downloading tool. For example, its application programming interface (API) has been made widely available and there are now specific applications to interface with it from statistical software such as R, STATA, MatLab, and Eviews as well as applications for Apple and Android based smartphones.

Importantly, FRED's cataloguing structure has moved from being just "category-based" to including "tags." This makes it much easier to find series that are related

[1] Paper copies of the Statistical Supplement to the Federal Reserve Bulletin and the standard statistical releases were discontinued entirely several years ago.

along several dimensions. We highly recommend FRED as the first place someone should go when looking for time series data on U.S. interest rates and suspect that other central banks may find features there that they will want to incorporate into their own dissemination systems.

Data Originally Compiled by Others

As noted earlier, the size and structure of the U.S. financial markets means that most series on U.S. interest rates are collected not by the Federal Reserve System, but rather by industry groups or private firms which then either post the data for the public or provide it to their members/clients as part of their general business model. For some data that are posted for the public, the Federal Reserve simply "scrapes" the data off the web and incorporates them into standard releases, being careful to give full attribution to the original source.

For data that are not freely posted to the public by the original compilers, the Federal Reserve must reach an agreement, or find an accommodation, with the source compiler wherein the Fed can provide the data to the public without significantly reducing the data's commercial value to the compiler. In this regard, the Fed is treated like any other client. We start with a commercial contract to acquire the data and then work out an arrangement for what we can publish.

In some cases, what the Fed wishes to publish does not compete with or directly substitute for what the data provider is selling. An example of this is our series for Moody's seasoned corporate bond rates published in the H.15. We purchase data on prices (interest rates) and Moody's credit ratings for the individual bonds covering a large segment of the market. We then average these interest rates within credit rating buckets to form aggregates which we then publish. Since the aggregates we provide do not substitute for what the data provider is selling, the arrangements to do this are straightforward.

In other cases, the data the Fed wishes to publish are identical to the source data we are purchasing from our vendors. Examples of this are the H.15 series for Eurodollar deposit rates and ISDA swap rates which we obtain from Bloomberg and Thompson Reuters, respectively. In such cases, when necessary, the Fed's posting is lagged by a day, which significantly degrades its value to most of those firms who might subscribe to these services, but does not alter its value for most of the general public.

Data where the Fed is the Primary Compiler

Bank lending to non-banks

For most bank lending to non-banks, the Fed is the original compiler for the related interest rate information[2]. This information is based on surveys of member banks that, importantly, are completed on a voluntary basis. Since the surveys are voluntary and we want to assure that the response rate is high enough to obtain representative readings, every effort is made to keep the reporting burden on respondents as low as possible. This is why the reporting frequency is relatively low—quarterly—for both the G.19's interest rate information on consumer loans and the E.2's data on commercial and industrial (C&I) loans.

Also, the surveys underlying the G.19 and E.2 are designed to be relatively easy for the respondents to complete. For example, for the rates on direct consumer loans, we

[2] The most important exception to this is information on mortgage interest rates which is collected in the weekly Primary Mortgage Market Survey® conducted by Freddie Mac—a U.S. government-sponsored enterprise.

ask for "the most common rate charged during the reporting period." For rates on credit card lending, the form is designed to dovetail with information already in the banks' systems, such as "total finance charges billed in the period" and "total balances on which finance charges are computed." In total for the G.19, there are only nine data cells that respondents fill out each quarter; we estimate that it takes each respondent bank a total of 43 minutes each quarter to both maintain the underlying data and report it.

For the C&I loan data in the E.2, we take a different tack to keep the reporting burden low. Here the survey asks the respondent to provide information on every individual loan (above a threshold) made during the reporting week. In one sense this seems like a significant burden as there may be many loans to report. However, the survey is again designed to dovetail with information already in the banks' information systems and does not ask for anything outside of the standard terms of such a loan.[3] As such, given that the reports are filed electronically, adding more loans to the submission does not increase the reporting burden. We estimate that the all-in burden to each reporter is 4 hours per quarter.

The data reported in the E.2 and the design of its underlying survey illustrate an important lesson regarding data collection and reporting. The E.2 reports average interest rates broken down by many different categories—maturity, loan size, risk category, etc. If we were to ask the banks to compute each of these themselves and then submit the data, the burden on the reporters would be orders of magnitude higher. In addition, the quality of the final data would be much worse as the chances of all banks computing each of these fields on a consistent basis are quite low. Thus, the lesson is if you want to obtain, or report, data that are cross-tabulated or arranged in many ways, it is generally preferable to ask the respondents for individual transaction or loan data and then do the many tabulations yourself.

Securities market and bank-to-bank based transactions

Although most U.S. securities market transactions occur in venues or on platforms where the relevant rate information can be collected by others, there are still a few important markets where the Fed has a hand in the primary data collection. One is the market for U.S. Treasury securities. The Federal Reserve Bank of New York (FRBNY), because of its close contacts with the primary dealer network, is in a unique position to obtain timely and reliable data on Treasury prices. The FRBNY collects closing market bid yields on actively traded Treasury securities in the over-the-counter market and provides this information to the U.S. Treasury Department. The Treasury Department then interpolates the data across the maturity spectrum to construct its "constant maturity" yield series. The Treasury Department then posts these series on its web site and the Fed "scrapes" them to include in its H.15 release.

Another important market where the FRBNY is in a unique position to collect the primary data is the market for federal funds, or fed funds. Fed funds transactions are unsecured loans of U.S. dollars wherein the borrower is a depository institution (DI) operating in the U.S. and the lender is another DI operating in the U.S., a foreign bank, securities dealer, government-sponsored enterprise or other eligible entity. Fed funds transactions can be arranged directly or through brokers. Fed funds brokers voluntarily submit aggregated data to the FRBNY, which uses these data to calculate the federal funds effective rate (FFER), a weighted-average rate of all overnight

[3] The only possible exception is that the form asks banks that assign internal risk weights to their C&I loans to map those weights into one of four risk categories as described in the instructions.

brokered fed funds transactions. The FRBNY publishes the FFER and related summary statistics every business day on its public website.

A Few Final Thoughts

We have noted throughout that a great deal of the important information on U.S. interest rates is available for others to collect because the transactions are relatively transparent. This was not always the case. For example, it was not until 2002 that the National Association of Securities Dealers (NASD) introduced TRACE (Trade Reporting and Compliance Engine), a program which mandated reporting of all secondary market (over the counter) trading in investment grade, high yield, and convertible corporate debt. Further industry and regulatory-led advances in transparency have followed, and more are coming. Of those on the way, perhaps the most significant from the compilers' perspective is the move toward greater use of trade repositories.

The Federal Reserve is actively working with market participants and the trade repositories to work out how the massive amounts of information the repositories will collect can be packaged and disseminated in ways that meet users' needs without compromising needed confidentiality. It is a big challenge, but also an enormous opportunity, and in the end, no matter what role the Federal Reserve will have in the information collection process, the quality and timeliness of the data we publish on interest rates will be even better than it is today.