

Methodology
ABS Principal Repayment Estimates
November 15, 2012

Background

Transactions in long-term securities between U.S. and foreign residents are reported on the Treasury International Capital (TIC) Form S. The primary reporters of these data are U.S.-resident securities brokers and dealers, U.S. resident institutional investors, and U.S. resident issuers of long-term securities. Interest and dividend payments and the periodic repayment of principal to holders of asset-backed securities (ABS) are not reported on the TIC S. Because foreign holdings of U.S. ABS are significant, the omissions of ABS principal repayments overstate the net ABS flows. To remedy this situation, estimates of the amounts of ABS principal repayments are available on the TIC website, monthly, beginning with estimates for July 2002.

Methodology

The bases for these estimates are the security-by-security positions data that underlie the Report of Foreign Holdings of U.S. Securities (TIC benchmark/annual forms SHL/SHLA). These data are reported by U.S.-resident organizations that hold U.S. securities in custody for foreign residents and by U.S.-resident issuers of securities that have issued securities held directly (i.e., without a U.S. custodian) by foreign residents. The security-by-security U.S. ABS positions are split into four subgroups: (1) agency ABS issued by the Federal Home Loan Mortgage Corporation (FHLMC); (2) all other agency ABS; (3) corporate mortgage-backed securities (MBS); and (4) corporate ABS that are not MBS.

A monthly ABS principal repayment rate is estimated for each subgroup. The principal repayment rates for agency ABS issued by FHLMC are calculated from FHLMC's Monthly Volume Summary Report at <http://www.freddiemac.com/investors/>. The ABS principal repayment rates applied to all other agency ABS (primarily Federal National Mortgage Association (FNMA) securities) are calculated from FNMA's Monthly Volume Report, at <http://www.fanniemae.com/ir/monthly/index.jhtml?s=Monthly+Summary>. (In theory, the rate received by foreign residents could differ from the average rate paid by FNMA. Therefore, the principal repayment rates calculated from FNMA's published data for the period April 2000 through December 2000 were compared to the average principal repayment rates for a sample of the agency ABS with the largest foreign holdings. Only small discrepancies were found between the two repayment series.) The corporate ABS principal repayment rates are calculated separately for the corporate MBS and the corporate ABS that are not MBS by the Federal Reserve Bank of New York. For each group, a select number of securities (in terms of the face value of foreign holdings) in the Form SHL/SHLA report are chosen for use as the base sample group. For each security, the remaining principal held by foreign-residents and the factor value are used to calculate the original face value. In each subsequent month, the factor value (obtained on-line through Bloomberg Data Services) is multiplied by the original face value to provide an estimate of that security's remaining principal held by foreign residents. The month-to-month changes in remaining principal held by foreign residents are then aggregated and divided by the total remaining principal held by foreign residents in the previous month for that subgroup to calculate the estimated ABS principal repayment rate for that subgroup.

When a security is fully paid down, (i.e., the factor value goes to zero), two adjustments must be made. First, the change must be excluded from the sample, because redemptions are captured by the TIC Form S report. Second, a replacement ABS must be added to preserve the sample size and to ensure that recently-issued securities are included in the estimates. The replacement security is chosen judgmentally from the universe of large, recently issued securities.

The calculated principal repayment rates for each of the four categories of ABS are then multiplied by the estimated aggregate remaining face value amounts of ABS held by foreign residents for that type of security in the previous month. In the first month of the process, aggregate remaining face value is obtained from the Form SHL/SHLA report. To calculate the total amounts held in months after the Form SHL/SHLA report date, a sequential process is used. Each month, the subgroup amounts from the previous month are individually adjusted by TIC Form S purchase and sales data, based upon the most recent Form SHL/SHLA ratio of that ABS category to total holdings, and by the estimated amount of principal repayments in that month. If foreign residents are to maintain their ratio of ABS debt securities holdings to total (ABS plus non-ABS) debt securities holdings for a security issuer type, their purchases of ABS securities relative to their total purchases of securities must be greater than their holdings of ABS securities relative to their total holdings of securities (because non-redemption principle repayments affect ABS securities almost exclusively). Therefore the estimation methodology uses an adjustment factor, by security issuer type on TIC Form S purchases to allow for replacement purchases. The four estimated ABS principal repayment amounts are then aggregated into two categories, (i.e., agency securities, and corporate and other securities), to be consistent with TIC Form S reporting categories.

Revisions as of January 2012

Beginning with the January 2012 data, the above methodology for agency ABS was changed in two ways to incorporate the more-current position information provided by the Aggregate Holdings of Long-Term Securities by U.S. and Foreign Residents ((TIC Form SLT).

The bases for these estimates are now the TIC SLT data on foreign holdings of agency ABS. These data are reported by U.S.-resident organizations that hold U.S. securities in custody for foreign residents.

A monthly ABS principal repayment rate is estimated for agency ABS as a weighted average of repayment rates from FNMA (Fannie Mae), FHLMC (Freddie Mac), and Government National Mortgage Association (GNMA, or Ginnie Mae). The principal repayment rates for agency ABS issued by GNMA are calculated from GNMA's Monthly Issuance and Remaining Principal Balance Reports at <http://www.ginniemae.gov/media/reports.asp?Section=Media>. GNMA's rates were added to the calculation because GNMA securities have comprised an increasingly large share of agency ABS held by foreign residents. The weights are calculated from the 2011 SHL data and will be adjusted annually.

As in the previous methodology, the calculated principal repayment rates for agency ABS are then multiplied by the amounts of agency ABS held by foreign residents in the previous month as reported on the TIC SLT.