

Methodology for Determining Average Prime Offer Rates

The calculation of average prime offer rates (APORs) is based on survey data for eight mortgage products (the eight products): (1) 30-year fixed-rate; (2) 20-year fixed-rate; (3) 15-year fixed-rate; (4) 10-year fixed-rate; (5) 10/6 variable rate; (6) 7/6 variable rate; (7) 5/6 variable rate; and (8) 3/6 variable rate¹. The survey data includes data for “best quality,” 80 percent or less loan-to-value, first-lien loans. All four variable-rate products adjust to an index based on the 30-day Secured Overnight Financing Rate (SOFR) plus a margin and adjust every six months after the initial, fixed-rate period. The Consumer Financial Protection Bureau (CFPB) makes available the survey data used to calculate APORs. This Methodology first describes all the steps necessary to calculate average prime offer rates and then provides a numerical example illustrating each step with data from the week of March 5, 2023.

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The survey data includes nationwide average offer prices each week. For each loan type the average commitment loan rate and points are reported, with the points expressed as percentages of the initial loan balance. For the fixed-rate products, the commitment rate is the contract rate on the loan; for the variable-rate products, it is the initial contract rate. For the variable-rate products, the average fully-indexed rate, which is the index plus margin, is also reported.

The survey data are used to compute an annual percentage rate (APR) for the eight products. See Regulation Z official commentary, 12 CFR part 1026, Supp. I, comment 17(c)(1)-10 (creditors to compute a composite APR where initial rate on variable-rate transaction not determined by reference to index and margin). In computing the APR for the eight products, a fully amortizing loan is assumed, with monthly compounding. A two-percentage-point cap on the annual interest rate adjustments is assumed for the variable-rate products. For the eight products, the APR is calculated using the actuarial method, pursuant to appendix J to Regulation Z. A payment schedule is used that assumes equal monthly payments (even if this entails fractions of cents), assumes each payment due date to be the 1st of the month regardless of the calendar day on which it falls, treats all months as having 30 days, and ignores the occurrence of leap years. See 12 CFR 1026.17(c)(3). The APR calculation also assumes no irregular first period or per diem interest collected.

¹ The “30-year”, “20-year”, “15-year”, and “10-year” fixed-rate product designations refer to those products’ terms to maturity. The “10/6”, “7/6”, “5/6” and “3/6” variable-rate product designations, on the other hand, refer to those products’ initial, fixed-rate periods, and the adjustment frequency. All variable-rate products discussed in this Methodology have 30-year terms to maturity.

The survey data cover fixed-rate loans with terms to maturity of 30, 20, 15, and 10 years and variable-rate mortgages with initial, fixed-rate periods of 10, 7, 5, and 3 years. The CFPB uses interpolation and extrapolation techniques to estimate APRs for seven additional products (2/6 and 1/6 variable-rate loans and 7-, 5-, 3-, 2-, and 1-year fixed-rate loans) to use along with the eight products in the survey data.

The Treasury Department makes available yields on its securities with terms to maturity of, among others, one, two, three, five, seven, and ten years (see <http://www.treas.gov/offices/domestic-finance/debt-management/interest-rate/yield.shtml>). The CFPB uses these data to estimate APRs for 2/6 and 1/6 variable-rate mortgages. These two additional variable-rate products are assumed to have the same terms and features as the 10/6, 7/6, 5/6, and 3/6 variable-rate products in the survey data other than the length of the initial, fixed-rate period.

The fully-indexed rate and points for the 2/6 and 1/6 variable-rate products are set equal to the fully-indexed rate and points for the 3/6 variable-rate product from the survey data. The initial interest rate for the 2/6 and 1/6 variable-rate products is estimated by a two-step process. First, the spread between the initial interest rate on the 3/6 variable-rate product and the three-year Treasury yield is used as the Treasury spread. The second step is to add the Treasury spread to the Treasury yield for the appropriate initial, fixed-rate period. All Treasury yields used in this two-step process are the Monday-Wednesday close-of-business averages, as described above. Thus, for example, for the 2/6 variable-rate product the estimated Treasury spread is added to the average two-year Treasury rate, and for the 1/6 variable-rate product the Treasury spread is added to the average one-year Treasury rate.

Thus estimated, the initial rates, points, and fully-indexed rates are used to construct an APR for the 2/6 and 1/6 variable-rate products. To estimate APRs for 7-, 5-, 3-, 2-, and 1-year fixed-rate loans, respectively, the CFPB uses the initial interest rates and points, but not the fully-indexed rates, of the 7/6, 5/6 3/6, 2/6, and 1/6 variable-rate loan products discussed above.

For any loan for which an APR of the same term to maturity or initial, fixed-rate period, as applicable, (collectively, for purposes of this paragraph, “term”) is not included among the 15 products derived or estimated from the survey data by the calculations above, the comparable transaction is identified by the following assignment rules: For a loan with a shorter term than the shortest applicable term for which an APR is derived or estimated above, the APR of the shortest term is used. For a loan with a longer term than the longest applicable term for which an APR is derived or estimated above, the APR of the longest term is used. For all other loans, the APR of the applicable term closest to the loan’s term is used; if the loan is exactly halfway between two terms, the shorter of the two is used. For example: For a loan with a term of eight years, the applicable (fixed-rate or variable-rate) seven-year APR is used; with a term of six months, the applicable one-year APR is used; with a term of nine years, the applicable ten-year APR is used; with a term of 11 years, the applicable ten-year APR is used; and with a term of four years, the applicable three-year APR is used. For a fixed-rate loan with a term of 16 years, the 15-year fixed-rate APR is used; and with a term of 35 years, the 30-year fixed-rate APR is used.

The eight APRs obtained directly from survey data for the eight products, the seven additional APRs estimated from survey data in the manner described above, and the APRs determined by the foregoing assignment rules are the average prime offer rates for their respective comparable transactions. The [survey data](#) needed for the above calculations generally are made available on Thursday of each week.² APRs representing average prime offer rates derived, estimated, or determined as above are posted in tables on the [FFIEC's rate spread calculator page](#) the following day. Those average prime offer rates are effective beginning the following Monday and until the next posting takes effect.

Numerical Example:

The week of March 5th through March 11th, 2023 is used to illustrate the average prime offer rate calculation methodology. On Thursday March 2nd, the following survey data reflecting national mortgage rate averages for the latest week (each variable is expressed in percentage points) were available:

Product	Rate	Points/Fees	Fully-Indexed Rate
30-year fixed-rate	6.54	1.21	NA
20-year fixed-rate	6.29	0.87	NA
15-year fixed-rate	5.98	1.21	NA
10-year fixed-rate	5.63	1.59	NA
10/6 variable rate	5.84	0.34	7.44
7/6 variable rate	5.74	0.49	7.37
5/6 variable rate	5.62	0.56	7.35
3/6 variable rate	5.74	0.11	7.31

The survey data contract rate and points for the 30-year, 20-year, 15-year, and 10-year fixed-rate mortgages are used to compute APRs for these four products:

Product	APR
30-year fixed-rate	6.66
20-year fixed-rate	6.40
15-year fixed-rate	6.17
10-year fixed-rate	5.98

² If survey data needed to construct APORs are unavailable on Thursday for any given week, the CFPB will republish the APORs from the prior week. Those APORs are effective beginning the following Monday and until the next posting takes effect.

The survey data initial rate, points, and fully-indexed rate are used to compute APRs for the 10/6, 7/6, 5/6, and 3/6 variable-rate products:

Product	APR
10/6 variable-rate	6.42
7/6 variable-rate	6.57
5/6 variable-rate	6.71
3/6 variable-rate	6.91

As a preliminary step in estimating APRs for the 2/6 and 1/6 variable-rate products, average close-of-business Treasury yields for Monday-Wednesday of the latest week are calculated (the three yields summed before dividing by three are the close-of-business yields reported for February 27th, February 28th, and March 1st):

Product	Rate
One-year Treasury	(5.03+5.02+5.06)/3=5.04
Two-year Treasury	(4.78+4.81+4.89)/3=4.83
Three-year Treasury	(4.49+4.51+4.61)/3=4.54

Data for the 2/6 and 1/6 variable-rate products are estimated using the survey data for the 3/6 variable-rate product and yields on the one-, two-, and three-year Treasuries:

Product	Initial Rate	Points/Fees	Fully-Indexed Rate
2/6 variable-rate	(5.74-4.54)+4.83=6.03	0.11	7.31
1/6 variable-rate	(5.74-4.54)+5.04=6.24	0.11	7.31

The foregoing initial rates, points, and fully-indexed rates are used to calculate APRs for the 1/6- and 2/6 variable-rate products:

Product	APR
1/6 variable-rate	7.22
2/6 variable-rate	7.09

The initial rate and points of the variable-rate mortgages calculated above are used to estimate APRs for fixed-rate products with terms to maturity of seven years or less:

Product	Initial Rate	Points/Fees	APR
7-year fixed	5.74	0.49	5.89
5-year fixed	5.62	0.56	5.85
3-year fixed	5.74	0.11	5.81
2-year fixed	6.03	0.11	6.14
1-year fixed	6.24	0.11	6.45

The APRs for the remaining fixed-rate and variable-rate products are determined as follows:

Product	APR
4-year fixed rate	3-year fixed rate
6-year fixed rate	5-year fixed rate
8-year fixed rate	7-year fixed rate
9-year fixed rate	10-year fixed rate
11-year fixed rate	10-year fixed rate
12-year fixed rate	10-year fixed rate
13-year fixed rate	15-year fixed rate
14-year fixed rate	15-year fixed rate
16-year fixed rate	15-year fixed rate
17-year fixed rate	15-year fixed rate
18-year fixed rate	20-year fixed rate
19-year fixed rate	20-year fixed rate
21-year fixed rate	20-year fixed rate
22-year fixed rate	20-year fixed rate
23-year fixed rate	20-year fixed rate
24-year fixed rate	20-year fixed rate
25-year fixed rate	20-year fixed rate
26-year fixed rate	30-year fixed rate
27-year fixed rate	30-year fixed rate
28-year fixed rate	30-year fixed rate
29-year fixed rate	30-year fixed rate
31-year – 50-year fixed rates	30-year fixed rate
4/6 variable rate	3/6 variable rate
6/6 variable rate	5/6 variable rate
8/6 variable rate	7/6 variable rate
9/6 variable rate	10/6 variable rate
11/6 – 50/6 variable rates	10/6 variable rate