Interest Calculation Methods

Dissecting 30/360, Actual/360 and Other Interest Calculation Methods

An email arrives. It's a Form 1098 mortgage interest statement that you just received from your lender. How is it possible that the total interest does not match your records? Chances are that the lender is calculating interest differently than you are. You come to the realization that you've just paid an extra 5-6 days of interest last year. Just as bad, you realize that you agreed to it when you signed on the dotted line. That's when you remember that your loan is calculated on an Actual/360 basis.

It's ironic that the English language includes the word "interest" within the word "interesting" when in fact there is nothing interesting about interest. Yet showing some interest in the way we calculate interest can make a big difference – interested? In today's environment, a rate is negotiated down to the last basis point. Understanding the impact of the way interest is calculated by lenders can be very beneficial to you when selecting a lender. Not asking *how* the interest will be calculated can be a big mistake.

There are 4 ways that commercial real estate lenders typically calculate interest: Actual/Actual, 30/360, Actual/365, and Actual/360. Let's take a closer look at these 4 methods:

Actual/Actual: Under this method, the annual interest rate is divided by the actual number of days in the year (normally 365; leap years 366), then the quotient is multiplied by the actual number of days in the month (February normally has 28 days; 29 in leap years) to determine monthly interest. Unfortunately, this is not a common method in CRE finance.

Positives:

1. This is the fairest method in that the borrower pays the actual stated interest rate based on the actual number of days that the money has been outstanding, even in leap years.

2. This is the most precise method because it takes into account the extra day during a leap year.

Negatives:

1. None.

30/360: This is the simplest way a lender calculates interest. Because there are 365 days in a normal year, and 365 cannot conveniently be divided by 12 months into a whole number, the lender simply assumes that there are 12 equal, 30-day months (or a 360-day year).

Positives:

1. This method is simple in that it assumes 12 equal 30-day months.

2. Because you are paying $1/12^{th}$ of the annual rate each month, this is a very fair way to calculate the interest.

Negatives:

1. This method does not recognize that the actual number of days in February is less than 30 days. However, this is easily offset by the 7 months which have more than 30 days.

Actual/365: The Actual/365 method takes the annual rate of interest, divides it by 365 days (even in leap years), then multiplies the quotient by the actual number of days in any given month (including 29 days for February leap years).

Positives: 1. Mostly fair for the borrower (except in a leap year).

Negatives: 1. The borrow pays one extra day of interest in a leap year.

Actual/360: The first time I remember hearing about "Actual/360" interest calculation (occasionally referred to as "365/360") was in the early 1990's, when the "conduits" (CMBS lenders) emerged and grew to be a legitimate funding source. I suspect it existed before this time, but during the 1990's it definitely grew to be a more common way for lenders to calculate interest on commercial real estate debt. This interest calculation method takes the annual interest rate and (inexplicably) divides it by 360, then multiplies the quotient by the actual number of days in a month. Therefore, the result is that you pay an extra 5 days of interest each year (6 days in leap years). Although borrowers have challenged this method in courts across the USA, it was judged to be legal so long as this method is disclosed in the loan documents. The Wisconsin Legislature even went as far as passing a statute which explicitly declared that Actual/360 is in fact legal if disclosed. Heck, why not use 350 or 340 if you can get away with it? The fact is, it's easier to divide 365 by 365 than it is to divide by 360 yet many lenders continue to insist on this method even though it is arguably misleading, deceitful, and nefarious. Nevertheless, commercial real estate borrowers are expected to know what they are doing, so borrower beware! If you are unsure whether or not your loan has Actual/360 interest, please reach out to me at jeffc@jscoats.com and we will help you.

Positives: 1. None really. However, if you negotiate a deal with a lender with your eyes wide open and the Actual/360 deal is still the best net result, then go for it.

Negatives: 1. The pretense of a 360 devisor has nothing to do with anything other than it is there to benefit the lender (if you work the math, the *real* interest rate you are paying is anywhere from 5bp – 10bp higher than what is stated, depending upon the magnitude of the interest rate).

The effect of each interest calculation method can be seen in the chart below. In this example, we are assuming a $10,000,000 loan, which carries an annual fixed rate of interest of 4% over a 10-Year loan term, and a 25-year amortization (note that a rate higher than 4% produces a more dramatic effect):

Loan Amount	Stated Rate	Amort.	Loan Term (Balloon)	Interest Calculation Method	Real Rate	Extra $ Interest Over 4% Paid Over Loan Term (10 Yrs)
$10,000,000	4.00%	25 Yrs	10 Yrs	Actual/Actual	4.000%	$0
$10,000,000	4.00%	25 Yrs	10 Yrs	30/360	4.000%	$729
$10,000,000	4.00%	25 Yrs	10 Yrs	Actual/365	4.003%	$2,856
$10,000,000	4.00%	25 Yrs	10 Yrs	Actual/360	4.058%	$62,865

The Real Rate/extra interest paid varies depending on how many leap years occur during the 10-year loan term.

I'd be interested in your thoughts. What do you think? Do you have any questions about the way lenders calculate interest, or are there any other questions you have related to commercial real estate finance? Any one of our Loan Officers are available to answer your questions.

The summary above is written by Jeff Coats. The views, thoughts, and opinions expressed herein belong exclusively to the author and are not necessarily those shared by all lenders or other mortgage bankers or brokers in the industry. Mr. Coats is the owner of JS Coats Capital, LLC and has 30 years of experience in commercial real estate finance.

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