

How Does Negative Amortization on a Mortgage Work?

Negative amortization arises when the payment made by the borrower is less than the **interest due** and the difference is added to the loan balance.

Negative Amortization and Related Concepts

Ordinarily, the **mortgage payment** you make to the lender has two parts: interest due the lender for the month, and amortization of principal. Amortization means reduction in the loan balance -- the amount you still owe the lender.

For example, the monthly mortgage payment on a level payment 30-year fixed-rate loan of \$100,000 at 6% is \$600. (For convenience, I am leaving out the pennies). In the first month, the interest due the lender is \$500, which leaves \$100 for amortization. The balance at the end of month one would be \$99,900.

Because a payment of \$600 a month maintained over 30 years would just pay off the balance, assuming no change in the interest rate, it is said to be the **fully amortizing payment**. A payment greater than \$600 would pay off the loan before 30 years. A payment less than \$600 would leave a balance at the end of 30 years.

Suppose you made a payment of \$550, for example. Then only \$50 would be available to reduce the balance. Amortization would still occur, but it would be smaller and not sufficient to reduce the balance to zero over the term of the loan. \$550 is a partially amortizing payment.

Next, suppose you pay only \$500. Since this just covers the interest, there would be no amortization, and the balance would remain at \$100,000. The monthly payment is interest-only. Back in the 1920s, **interest-only loans** usually ran for the term of the loan, so that the borrower owed as much at the end of the term as at the beginning. Unless the house was sold during the period, the borrower would have to refinance the loan at term.

Today, some loans are interest-only for a period of years at the beginning, but then the payment is raised to the fully-amortizing level. For example, if the loan referred to above was interest-only for the first 5 years, at the end of that period the payment would be raised to \$644. This is the fully-amortizing payment when there are only 25 years left to go. See Interest Only Mortgages.

Finally, suppose that for some reason, your mortgage payment in the first month was only \$400. Then there would be a shortfall in the interest payment, which would be added to the loan balance. At the end of month one you would owe \$100,100. In effect, the lender has made an additional loan of \$100, which is added to the amount you already owe. When the payment does not cover the interest, the resulting increase in the loan balance is negative amortization.

Purposes of Negative Amortization

Historically, the major purpose of negative amortization has been to reduce the mortgage payment at the beginning of the loan contract. It has been used for this purpose on both fixed-rate mortgages (FRMs) and adjustable rate mortgages (ARMs). A second purpose, applicable only to ARMs, has been to reduce the potential for payment shock -- a very large increase in the mortgage payment associated with an increase in the ARM interest rate.

The downside of negative amortization is that the payment must be increased later in the life of the mortgage. The larger the amount of negative amortization and the longer the period over which it occurs, the larger the increase in the payment that will be needed later on to fully amortize the loan.

Negative Amortization on Fixed-Rate Loans

On fixed-rate loans, negative amortization is a tool for reducing the mortgage payment in the early years of a loan, at the cost of raising the payment later on. Instruments that incorporate this feature are called **graduated payment mortgages** or GPMs. See [What Is a Graduated Payment Mortgage?](#)

Negative Amortization and Payment Shock on Graduated Payment Adjustable Rate Mortgages

In the high-interest rate environment of the early 80s, negative amortization on some adjustable rate mortgages (ARMs) served the same purpose as on GPMs -- allowing reduced payments in the early years of the loan. Payments in the early years of these "GPARMs" were deliberately set lower than the interest due the lender, resulting in negative amortization. As with GPMs, the amount of this negative amortization was known in advance.

If interest rates on GPARMs rose from their initial levels, however, it could result in additional negative amortization that was not known in advance. This in turn could result in payment shock. These instruments experienced default rates even higher than those on GPMs, and they soon stopped being offered in the marketplace.

In the late 90s, a new type of negative amortization ARM arose called an "option ARM" or "flexible payment ARM" because the borrower had a choice of making a fully-amortizing payment, an interest-only payment, or a "minimum" payment that did not cover the interest. I wrote a number of pieces about these mortgages in 2005 and 2006.