

# the Mortgage Bulletin

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Diversified Capital Funding  
30 Whitney Street  
Los Altos, CA 94022  
Phone: 650-917-6688x215 or 210  
gremberg@divcap.net  
phensley@divcap.net  
www.georgepattyteam.com



George Remsberg  
NMLS273263DRE00367060



Patty Hensley  
NMLS273265DRE01137700



**It's always darkest before the dawn. So if you're going to steal your neighbor's newspaper, that's the time to do it.**  
~Author Unknown

## Explaining the annual percentage rate

As loan originators, we understand the difference between the “note rate” on a mortgage and the “annual percentage rate” (APR), because we deal with these terms every day. We often assume that our clients know the difference, but are frequently reminded that they don't.

Sometimes when we explain how to compute the APR, their eyes glaze over, but still they hate to admit they don't understand even when they don't. So the purpose of this Mortgage Bulletin is to explain, in simple language and figures, exactly how the APR is computed.

The APR is an interesting (no pun intended) figure, but it is not used to determine monthly payments. The note rate, the loan amount and the term determine the monthly payments.

Assume a thirty year fixed rate \$500,000 loan at 5%. Monthly loan payments would be \$2,684.11. Assume the costs for getting the loan are \$3,000.

To compute the APR:

Deduct the costs from the loan amount.  
 $\$500,000 \text{ minus } \$3,000 = \$497,000.$

Next, apply the monthly \$2,684.11 payment to \$497,000 and solve for the interest rate. This gives an APR of (5.053%).

It can be seen that the APR is supposed to give a clearer picture of the total cost of the mortgage by including the costs to get it. Applying the monthly payment determined by the note rate to a loan that is smaller will create a higher rate (the APR).

Let's take it one step further to more clearly demonstrate. Assume the costs for the \$500,000 loan are \$6,000 instead of \$3,000.  $\$500,000 \text{ minus } \$6,000 = \$494,000.$  Use the monthly payment of \$2,684.11 and solve for the interest rate. You get 5.106%. That's the APR and it is slightly higher than it was for the loan that cost \$3,000.

By following these figures you can see that

the APR for 30 year fixed rate loans makes sense. It's logical. But of course, the accuracy of the APR depends entirely on the accuracy of the cost figure.

Whether an APR is more meaningful than a simple comparison of rates and dollar costs to get a loan is debatable, however.

The claim can be made and defended that the APR for adjustable rate (ARM) loans is at best useless and at worst, misleading.

We need only to describe how the APR is figured and you will readily understand why it is unreliable for ARM loans.

Assume an ARM loan, fixed for five years, then converts to an annual adjustable.

The same computations as for the 30 year fixed are used, except: the first five years monthly payments are based on the start rate and the remaining 25 years monthly payments are based on the fully indexed rate. The fully indexed rate is – the index plus the margin. And the assumption is that the index remains flat for the final 25 years of the loan.

The total first five years payments are added to the final 25 years payments. Divide this figure by 360 (30 years). Then solve for the interest rate and that is the APR for an ARM.

What are the odds that the underlying index, and therefore the rate, will remain flat for the final 25 years of the loan? Not very good. Obviously the assumption that the index remains flat is wrong, so how can an APR based on an erroneous assumption be right?

If you still want to find the APR on an ARM loan, (not sure why you would want to, but --) there's a website for that.

<http://www.lenderhomepage.com/calc/>

Hope this week's Bulletin adds to your understanding of the APR figure and how it is determined.



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