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Loan Amortization

Paying Off That Dream House

When Evelyn and Paul Peters were “house hunting” five years ago, the mortgage rates were pretty high. The fixed rate on a 30-year mortgage was 8.75% while the 15-year fixed rate was at 8%. After walking through many homes, they finally reached a consensus and decided to buy a \$200,000 two-story house in an up and coming suburban neighborhood in the Midwest. To avoid prepaid mortgage insurance (PMI) the couple had to borrow from family members and come up with the 20% down payment and the additional required closing costs. Since Evelyn and Paul had already accumulated significant credit card debt and were still paying off their college loans, they decided to opt for lower monthly payments by taking on a 30-year mortgage, despite its higher interest rate.

Currently, due to a worsening of economic conditions, mortgage rates have come down significantly and the “refinancing” frenzy is under way. Evelyn and Paul have seen 15-year fixed rates (with no closing

costs) advertised at 5% and 30-year rates at 5.75%. Evelyn and Paul realize that refinancing is quite a hassle due to all the paperwork involved but with rates being down to 30-year lows, they don’t want to let this opportunity pass them by. About 2 years ago, rates were down to similar levels but they had procrastinated, and had missed the boat. This time, however, the couple called their mortgage officer at the Uptown Bank and locked in the 5%, 15-year rate. Nothing was going to stop them from reducing the costs of paying off their dream house this time!

Questions:

1. What is Evelyn and Paul’s monthly mortgage payment prior to the refinancing?
2. During the first 5 years of owning their dream home, how much money has the couple paid towards the mortgage? What proportion of this has been applied towards interest?
3. Had the couple opted for the original 15-year mortgage proposal (15 year, 8%), how much higher would their monthly payment have been?
4. Under the original 15-year, 8% mortgage option, how much total interest would have been paid over the life of the loan? How does this compare with the total interest that would be paid on the 30-year, 8.75% mortgage?
5. If the Peters had chosen the original 15-year, 8% mortgage proposal, how much tax shelter would they have lost (over the last five years) as compared to the 30-year, 8.75% mortgage? Assume the Peters’ tax rate is 30%.
6. If the house is currently worth \$245,000 and most lenders are willing to lend up to 90% of home value, how much excess equity can the Peters cash out?
7. Should Evelyn and Paul cash out the excess equity that they have built up? Assume money market rates are 4%.

8. If the Peters had increased each payment by one twelfth (since the beginning of the loan), what would their current loan balance amount to?
9. Using the assumption in question 8, how many total years would it take for the Peters to pay off the existing loan? Demonstrate your answer with an amortization schedule.
10. Should Evelyn and Paul go ahead and close the 5%, 15 year mortgage? Explain your answer with suitable calculations.

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Time Value of Money

Wake Up and Smell the Coffee!

"Wake Up And Smell The Coffee!" was the latest slogan that Dan Roth had used in his advertising campaign to make people aware of their need for financial planning, budgeting, and saving for retirement. Dan's financial consulting business had blossomed over the past few years because of such slogans and because Dan strongly believed in and preached the benefits of financial freedom. "A debtor is a slave to the lender," he always said when asked whether it made sense to borrow at low rates of interest. "The only way to financial independence is to be debt-free," he advised.

Marty & Laura Hall, who lived in the same town where Dan ran his consulting business, came across the advertisement in a local newspaper and it certainly caught their attention. The Halls had "tied the knot" about three years ago and were enjoying a fairly comfortable lifestyle.