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Deceptive math of subprime mortgage loans ensnares consumers

By Joseph Ganem

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The collapse of some major subprime mortgage lenders has exposed a seamy side of the consumer finance industry. What has not been exposed is the math behind subprime loans and the deceptive transfer of wealth from consumer to lender that results from that math.

Everyone knows that for a given loan amount, higher interest rates result in higher monthly payments. What people do not know is that in the early years of a subprime loan, the fraction of the higher monthly payment that goes toward reducing the debt actually decreases.

A feature of the mathematical formula that determines monthly loan payments is that as the interest rate rises, more of the payment on the loan balance is shifted toward the end of the loan term. Reducing the balance on a 30-year loan is always a slow process, but it slows drastically for subprime interest rates. Paying off 20 percent of the balance on a 30-year mortgage takes 10 years if the interest rate is 5 percent, but it takes 19 years if the interest rate is 14 percent. The financial impact of this mathematical fact is staggering.

Imagine buying a house with a 30-year \$180,000 subprime loan at a 14 percent annual interest rate. After 10 years of mortgage payments, totaling just over a quarter of a million dollars, the lender will have pocketed \$247,500 in interest payments but received only \$8,500 toward the balance on the loan. Even though the homebuyer has paid out more than 30 percent above the original amount owed, he or she is still in debt for \$171,500 - almost the entire amount owed at the beginning. If the consumer defaults after 10 years of payments on the mortgage, the lender receives back from the sale of the house almost all of the money originally loaned.

Subprime lending is a game rigged against the consumer because the finance companies get to have it both ways. As a result of a math formula that few consumers understand, the finance company receives higher monthly payments while at the same time retaining virtually all the equity in the property. The homebuyer works for a decade or more to enrich the lender with no significant reduction in debt during that time.

The sad fact is that anyone who could genuinely afford a subprime mortgage could afford to save money and pay cash for the house. Instead, our laws allow lending practices that are exactly backward. People who can afford to borrow money receive loans at reasonable interest rates. People who cannot afford to borrow money are viewed as prey to be trapped. The debt trap works by using a consumer's inability to pay off a debt as justification for charging higher interest rates on that debt. But as interest rates rise, significant debt reduction shifts further and further into the future. It becomes mathematically almost impossible to get out of debt.

Because consumers do not understand the math, the finance companies win it all - acquiring a legal claim to the consumer's assets and paycheck.

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