PACE UNIVERSITY

Lubin School of Business

ADVANCED FINANCIAL ANALYSIS FIN-320
CASE 1

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Here is a mini case on time value of money. As we learned in class that the rule of thumb for making down payment is: if your bank account pays lower rate than the loan, than use your money in the band account as down payment. The following article from *Log Angeles Times* clearly does NOT agree with us. Read the article, verify its computation, analyze its logic, and write a report to rebuke it in the most convincing way possible. Imagine that you are to send this report to the author of this article, who does not know finance very well.

Should you pay cash for a new car?

By S.J. Diamond, Reprinted in the NEWS-SUN, Saturday/Sunday, September 28-29, 1985

AT FIRST, psychology Professor Geoffrey Keppel of Berkeley, Calif., rejected out of hand his Toyota dealer's offer of financing: He had saved up the price of a new Corolla and, like many people, didn't want a loan because "that's the way I'd been brought up." The dealer even told him he could earn more on the same $8,300 in an 8 percent certificate of deposit than he'd pay out on a 14.2 percent car loan, "but you just don't believe it," he says. "It's counter-intuitive: Anyone can see 14 is bigger than 8."

He's not unusual. Many people who spend their adult lives avoiding debt have heard from (usually richer) friends that it's generally better to spend borrowed money than savings, but they can never clearly see why, particularly when loan rates are higher than investment yields. What's more, Keppel says, "when you've just spent several hours nickel-and-diming with the auto dealer, you're not inclined to jump when they say they have another good deal for you."

That night, however, Keppel awoke and went to his computer to "work it out for myself, month by month." Calculating different investment yields and weighing them against the total interest that he'd pay on the 14.2% loan, he saw that he'd break even with only a 7 percent investment, and, if he could earn 10 percent, he'd make almost $1,500.

A COUPLE of points must be interjected here. First of all, this seems a rather exclusive quandary, the concern only of affluent people who have the option of paying outright for their car. But it really isn't. According to J.D. Power & Associates, an automotive market research firm, one-third of the people who buy cars do pay cash and some of the two-thirds who don't probably could.

Second, it's a quandary only today's affluent can easily solve: Yesterday's consumers didn't have the calculators and personal computers for such analysis, and it's laborious to work out by hand.

They might otherwise have seen the advantage in borrowing without taking anyone's word for it. Keppel, for example, calculated that 48 months of interest on a 14.2 percent loan of $8,239.05 would be $2,607.62, while the same principal invested at 8 percent, compounded monthly would earn interest of $3,095.06 --- a profit of $487.44.

Tracing both transactions month by month, he could also see that the reason it worked to his advantage was that "the 14 percent is applied to a declining balance and the 8 percent is on an increasing balance." Indeed, over four years, the average outstanding balance of the loan --- the average amount on which he'd be paying interest --- was only about half the total amount borrowed. His investment, on the other hand, would earn interest on his full deposited principal, plus continually compounded interest throughout the term.

GENERALLY SPEAKING, "an easy rule of thumb is if you can earn an interest rate equivalent to half the interest rate on your loan, you'll come out ahead," says Frank Sperling, vice president at Security Pacific National Bank.

This formula, admittedly rough, doesn't take into account the tax advantage of a loan --- all those deductible interest payments --- and rightly so, because it's balanced by the tax liability on the interest earned. If one earns more interest than one pays out, of course, income taxes would cut the gross advantage (unless one found a tax-free investment), but it would remain an advantage.

Moreover, the principle at work here does assume certain factors. The consumer doesn't have to be in any particular tax bracket, but he does, Sperling say, "have to be in a position to itemize his taxes," or the tax on earnings wouldn't be balanced by any deductions for loan interest. More fundamental, he must really have the money for that car, and it must actually be put aside and invested. It's the old rule, Sperling says, that "you have to have money to make money."

The same analysis, including the same assumptions could probably be applied to any consumer loan, with Sperling's Rule a good guide to potential consumer advantage. Certain other items, however, may deserve consideration.

A home equity loan, for example could look good by Sperling's Rule, given fixed interest rates similar to regular auto loan rates, but such loans are essentially mortgages and may levy extra charges for property appraisals, document work and title searches.

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