

## Leverage

*Leverage* is borrowing to increase the stake of one's investment. For example, if one has \$1,000 to invest and borrows another \$1,000, one can invest twice as much. Any gains and losses are doubled, as the investment has doubled.

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## The 1920's Stock Boom

In the 1920's, one could invest in the stock market by borrowing 90% of one's investment and putting up one's own funds for only the remaining 10%.

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Consider an investor starting with \$1,000. He could then borrow \$9,000 and invest \$10,000. If stock prices double, then his investment is worth \$20,000.

He owes \$9,000, so his equity is now \$11,000 (for simplicity, ignore interest on the loan). He can now increase his borrowing to \$99,000, for a total investment of \$110,000. If stock prices double, then his investment is worth \$220,000.

He owes \$99,000, so his equity is now \$121,000. He can now increase his borrowing to \$1,089,000, for a total investment of \$1,210,000. If stock prices double again, then his investment is worth \$2,420,000.

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## Huge Profit or Loss

With high leverage, the profit or loss can be enormous.

In the example, three doublings of stock prices suffice for an investor with only \$1,000 initially to obtain equity of \$1,331,000!

Conversely, at any point, a drop of only 10% in the stock price would wipe out the investor by eliminating all his equity.

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## Margin

In a leveraged investment in the stock market, the equity of the investor is the *margin*, and the remainder is borrowed.

In contrast to the 1920's, today the Federal Reserve requires that the initial margin on a stock purchase be 50% or more. The purpose is to restrict buying on margin, to limit speculation.

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## Margin Call

If the stock price falls, the investor's margin declines. After a sufficient decline, the broker loaning the money to the investor fears that a further price drop might wipe out the margin completely, and the broker risks non-repayment of the loan.

At some point, the brokerage can demand more margin from the investor (a *margin call*). If the investor fails to do so, the broker has right to sell the stock and to recover its loan from the proceeds.

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### William Crapo Durant

From 1905-1918, William Durant created General Motors, by combining Buick, Oldsmobile, Cadillac, and Chevrolet. Durant was a leader and knew how to make and sell cars. Later Durant was forced out as CEO, but he was wealthy.

During the stock boom of the 1920's, Durant bought heavily on margin. He borrowed large sums simultaneously from different brokerages, while hiding the overall magnitude of his borrowing. When the stock market crashed in 1929, he was ruined financially.

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### Real Estate

Investments in commercial real estate are commonly highly leveraged, with enormous potential for gain or loss. Consequently one reads news reports of real estate moguls who have made and lost several fortunes.

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### The Housing Boom and the Financial Crisis

The recent housing boom culminated in the financial crisis of 2008. The cause of the crisis was excessive leverage in home mortgage lending.

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### Federal Reserve Monetary Policy

To prevent recession, earlier in the decade the Federal Reserve's monetary policy pushed down the short-term interest rate to just 1%, the lowest level for many decades. Long-term interest rates also fell, but much less.

Typically a fall in interest rates sets off a boom in housing, as mortgage loans are cheaper. Indeed a boom occurred: house prices rose, and many new houses were built.

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### Leveraged Speculation

Many speculators saw this situation as a splendid opportunity for leveraged profit. Banks and hedge funds with access to short-term credit borrowed cheaply and invested in long-term debt, especially in home mortgages.

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### Example

Consider a bank or a hedge fund that can borrow short-term at 2% and invest in mortgages at 6%. Suppose that very high leverage—thirty to one—is possible: twenty-nine dollars can be borrowed short-term for every one dollar of equity, and the thirty dollars invested in mortgages.

Per dollar of equity, the cost of borrowed funds is 29 times 2%, namely 58%. The return on the mortgage investment is 30 times 6%, namely 180%. The net profit is 122%, 180% less 58%. The leveraged speculator more than doubles his money each year!

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### Better Than Stock Speculation!

This opportunity is better than stock speculation. For a stock investment, the investor must pick what stock will go up, and stock prices are unpredictable. In contrast, the mortgage speculator makes money as long as the situation is steady. As long as the cost of borrowed funds stays low and the mortgage payments are made by the homeowner, the profit is enormous.

The profit opportunity explains why so many mortgage loans were made. The return seemed easy and huge. The more one bought, the more one profited. Lenders reduced their credit standards for borrowers, to maximize their profit.

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### Legal Restrictions on Leverage

Big commercial and investment banks are extremely highly leveraged, perhaps thirty-to-one for an investment bank and perhaps even higher for a commercial bank. (Smaller banks are much less leveraged.)

Legal restrictions limit leveraged investment by an ordinary person.

One example is the 50% margin requirement for stock investment.

A mutual fund is not legally permitted to make leveraged investment.

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### Hedge Funds

In contrast, a hedge fund—essentially an unregulated mutual fund—can make leveraged investment, and this opportunity is a key attraction to hedge-fund investors.

What makes the hedge fund free of regulation is the legal requirement that each investor be wealthy, a minimum of \$750,000 of assets apart from one's home. The government may soon raise this requirement to \$3 million.

Some complain that it is unfair that a wealthy person can make leveraged investments, whereas an ordinary person cannot.

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