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Should you Leverage your Stock Investments?

By Gil Hanoch, August 1, 2007

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How does stock leverage work? It is very simple: you open a *margin* brokerage account. This type of account lets you borrow from your broker to fund part of your investment. Your investment serves as the collateral, just like your home serves as the collateral for a mortgage loan.

Since stock values tend to be very volatile there are strict rules to limit the losses to your broker (set by the Federal Reserve, the National Association of Securities Dealers (NASD), the New York Stock Exchange (NYSE) and individual brokers). Specifically, you are required to provide at least 50% of the security value when you purchase it, and keep having your investment be at least 25% of it on an ongoing basis. Individual brokers may have more stringent requirements and may change them without prior notice.

If your investment value declines and you don't own enough of your investment your broker may sell some or all of the investment to bring your ownership to the required percentage. The following example demonstrates the financial impact.

Example. You have $500,000 and would like to leverage your investment using your broker's money. You can invest up to $1,000,000, making your ownership 50% of the investment, and the broker finances the other 50%. From now on, you own the investment minus the loan value of $500,000. This amount is required to always be at least 25% of the investment value. The indented text below presents math calculations of the effect of these rules. You can skip it, if you don't care for the details.

> If we denote your investment value by X, we can express the requirement as follows:
>
> $$X - \$500{,}000 > 0.25\,X$$
>
> Let's solve the inequality:
>
> $$0.75\,X > \$500{,}000$$
>
> $$X > \$666{,}667$$
>
> If your investment declines by more than 33% (($1,000,000 - $666,667) / $1,000,000), you should expect the broker to sell some of your investment to bring the ratio to the level required.

As shown above, the requirement of owning at least 25% of the investment is deceiving. In practice, a decline of 33% or more will result in the broker selling some of your investment to cover the excess loan.

Moreover, if your investment goes down to $500,000, you own nothing ($500,000 investment value minus $500,000 loan), your full investment will be sold and the proceeds will be taken by your broker. You will lose your entire investment.

Should you Leverage your Stock Investments? Like any other investment decision, answering this question requires an analysis of the risks and rewards.

Risks. As presented in the previous article "How does Leverage Work?" (Hanoch, June 2007), borrowing to invest can significantly increase the risks of your investments.

1. **Severe decline**: In the example above, if your investment declines by 50% or more, you lose your entire investment. Since the most conservative stock investments (globally diversified,

no stock selection, no market timing) tend to decline by 50%+ in the worst recessions, borrowing 50% of the investment is too aggressive, making bankruptcy a real possibility. You can decrease this risk by borrowing a much lower percentage. There is no way to predict the worst future decline, but since that decline could make you go bankrupt, I would choose a very conservative measure in the range of 5%-20% (withstanding an 80%-95% decline).

2. **Change in broker rules**: Your broker may change its rules without any prior notice and require much higher ownership of your investments up to 100% (all lending to you is cancelled). Unfortunately for you, a change in rules is most likely to happen during a severe recession, when your broker is most concerned about a default on your loan.
3. **Loss of income**: Without leveraging you can use your stock portfolio to supply you with a certain level of income, even during recessions. The amount depends on the specific portfolio, especially how diversified it is. For Long-Term Component, a reasonable withdrawal rate is 4%, growing with inflation. Once you leverage your investment, you may not have the money for withdrawals during recessions. If you depend on any portion of your portfolio for living expenses, you should not consider leveraging.

Rewards. Let's see what your potential reward is if you borrow 20% of your investment – the most I could contemplate borrowing even while being overly aggressive.

- **2% potential gains**: You may be able to achieve investment gains of about 10% above margin rates (say 15% returns for a globally diversified stock investment, with 5% margin interest). This can increase your returns by 10% additional gain on 20% of your investment, or 2% (10% x 20%) additional return on your total investment. This is probably not worth the risk, however remote, of bankruptcy, due to a margin call at the bottom of a major decline.

Summary

Since we cannot know how deep a stock portfolio may decline temporarily and how brokers might decide to change their lending rules during recessions, any margin borrowing imposes some risk of bankruptcy. In addition, you eliminate the ability to use the portfolio for income at all times. With the potential benefit being limited to about 2% increased gains, I conclude that it is not worth borrowing using your stock investments as collateral, even if you are looking for very aggressive ways for making money.