Can Artificial Intelligence help investors make investment decisions? As a test, we decided to ask ChatGPT—a large language model that was developed by OpenAI—a question that comes up frequently in the lead-up to tax season.

Here is what we asked, along with the model's response:

**Question:** I have a tax bill coming up. Should I sell from my portfolio, or take out a loan?

**Answer:** The decision to sell investments or take out a loan to pay taxes depends on your personal financial situation and goals. Here are a few things to consider:

1. **Investment performance:** If you sell investments to pay the tax bill, you could be triggering capital gains tax and reducing the overall value of your portfolio. Additionally, if you sell at a time when the market is down, you may not recover your losses.

2. **Loan terms:** If you decide to take out a loan, it's important to consider the interest rate, repayment terms, and other fees associated with the loan. Make sure you understand how these will impact your overall financial situation and whether you'll be able to repay the loan in a timely manner.

3. **Emergency funds:** If you have sufficient emergency funds, it might be a good idea to use those instead of taking out a loan or selling investments. This way, you can keep your investments intact and avoid paying additional interest on a loan.

4. **Tax implications:** Consider the tax implications of both options. Interest paid on a loan may be tax-deductible, but you may have to pay capital gains tax if you sell investments.

Ultimately, the best option for you will depend on your individual circumstances and financial goals. I would suggest consulting a financial advisor to help you weigh the pros and cons and make an informed decision.
Like other large language models, ChatGPT is designed to develop a human-like response to questions based on the information that OpenAI used during the training process: Wikipedia articles, news stories, and other internet-based sources of information.

As it stands, the technology is quite good at providing human-like responses—providing insights that are similar to browsing a few search results—but it doesn’t always give a complete or accurate answer. Moreover, the AI’s response can often be based on less-than-reputable sources. Last, but not least, ChatGPT has limited knowledge of events that occurred after 2021, so it’s not able to factor in the fact that interest rates have gone up significantly.

**Our thoughts on the AI response**

In this case, the AI’s response is a good start, but stops short of providing historical or statistical analysis. Moreover, the AI response overlooks a few additional considerations that we think are important:

1. **Risk tolerance:** Adding leverage to your portfolio can amplify its volatility, especially when you look at the change in the market value divided by your net investment amount (gross portfolio value minus the outstanding loan). To take advantage of the potential benefits of a loan, you need to brace for volatility and stay invested long enough for markets to recover.

2. **Expected cash flow:** Your decision to take a loan or sell investments could have long-term implications on your financial stability. If you anticipate income from outside your portfolio, it could help you to pay down the loan balance. On the other hand, if you have further cash flow needs in the next few years, adding portfolio leverage could increase the risk that you will eventually be forced to sell investments—possibly at a lower price—to pay down your loan balance.

3. **Interest rate outlook:** If you take out a variable interest rate loan, your borrowing cost will fluctuate with interest rates. A fixed rate loan could help you reduce the risk that your borrowing costs will rise, but it could be more expensive if interest rates end up falling more quickly than the market expects.

4. **Time horizon:** Over a short-term holding period, investment returns are highly uncertain, and you are more likely to have a negative return. All things being equal, if you can invest with a longer time horizon you will increase your probability of outperforming the cost of a loan and benefit from deferring capital gains taxes.

5. **Investment strategy:** A portfolio of risk-free bonds will be unlikely to outpace the borrowing cost of a loan. And while an allocation to risk assets like stocks and high-yield bonds is helpful for beating the borrowing cost of a loan, risk asset returns are also highly unpredictable. Therefore, to have the highest chance of beating the interest cost of a loan, it’s important that you are invested in a balanced, well-diversified portfolio of global stocks and bonds.

6. **Liquidity:** The liquidity of your investment strategy can be important. If you own alternative investments, they may not be eligible to be used as collateral for a loan, and you may not be able to access these funds on demand to meet your loan payments. Retirement accounts are also generally ineligible to be included as loan collateral, and you could be subject to taxes and early withdrawal penalties if you need to access these funds for loan payments.

**Can my portfolio outperform the borrowing cost?**

When we look at historical returns, we find that a holding period of 1-4 years would have resulted in the highest probability that a portfolio would have outperformed its borrowing cost. Historically, the portfolio’s average excess return would have tended to be higher for investors who were in a position to maintain the loan for longer holding periods.

**How do higher interest rates impact the value of a borrowing strategy?**

On the one hand, higher interest rates increase the borrowing cost for taking out a loan. On the other hand, higher interest rates indicate higher bond returns going forward. These factors tend to balance one another when we look at historical market performance.

**How do I factor taxes into my decision?**

Taxes are another crucial factor in deciding whether to borrow or to raise cash for spending needs. If borrowing would allow you to defer realizing capital gains, you may want to consider this factor as an offset to the borrowing cost.

Another important consideration is that you may be able to deduct the interest expense from your taxable investment income. If your financial advisor and your tax advisor determine that you can deduct interest expense, it’s a good idea to work with them to evaluate the after-tax cost of the loan and compare it to the after-tax expected return on your portfolio.

**Conclusion**

If you need cash from your portfolio for spending—tax bill or otherwise—it may make sense to borrow instead of selling your assets. Borrowing strategies may be more attractive if you have a well-diversified portfolio, significant unrealized capital gains, or expected income that will help you to pay down the loan balance in the next few years. Nevertheless, we
will agree with ChatGPT on at least one point: you should talk with your financial advisor to make an informed decision based on your personal circumstances.

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