

LECTURE 26: PERSONAL FINANCE & INVESTMENT

- I. Reaction times
 - a. Suppose some favorable news came out for a company. How long would it take for the stock price to change?
 - i. A few seconds, depending on the nature of the information
 - b. *Efficient market hypothesis* (EMH)—prices of traded assets reflect all publicly available information
 - i. Note this doesn't mean the market is always right. Just that when it's wrong, there's no public information to suggest it's wrong.
 - ii. If every tradable asset is valued fairly at all times, there's little point to trade frequently.
 - c. Why do some people beat the market?
 - i. *Luck*. With so many gambling, by chance you'll get a few that have won many, many, many times over
 - ii. *Insider trading*. US Senators beat the stock market by an average of 12.3 percentage points (if the stock market's value grows by 3%, Senators' portfolio's value grows by 15.3%). House Representatives beat it by 6% and corporate insiders by 7.4%.¹
 - iii. *Psychology*. People panic. They succumb to overconfidence, group think, bubbles, etc. Those who can keep their head can profit.
- II. Picking stocks
 - a. Diversify: buy lots of different kinds of stocks to limit risk to any one area (this is also sometimes referred to as hedging your bet).
 - i. Diversifying means you avoid what's known as *correlated risk*, or bundles of investments that all have the same kind of risk. If you have lots of correlated risk, you're not really diversified.
 1. For example, investing in Apple, Amazon, and Twitter may seem diverse as they cover different sectors (consumer electronics, e-commerce/cloud computing, and social media), but they are all tech stocks and thus all at risk to new regulations that would disproportionately

¹ <http://insidertrading.procon.org/view.answers.php?questionID=001034>

affect the tech sector or disturbances in the supply chain for semiconductors.

- b. Avoid high fees: because stock picking is a fool's game, there's no reason to pay a lot for people to do it. But if you're doubtful of the EMH, maybe it's worth it. Maybe.
 - i. Index funds are very cheap because they are just following the market. And because they are just following the market, they are also quite diversified!
 - ii. Most index funds follow U.S. stocks so don't forget about an international index fund to diversify away from the U.S.
- c. Compound returns build wealth: A 4% annual rate of return means you will earn interest on the interest you earned in previous years. \$100 becomes \$104, then \$108.16, then \$112.49, then 116.99, etc. This supports a buy and hold strategy.
 - i. *Buy and hold*—buying and holding stocks for the long run, regardless of what their short run fluctuations are.
 - ii. *Rule of 70*—Again, the Rule of 70 appears. To estimate how many periods it will take to double your money, divide seventy by your rate of return.
 - iii. At 4% rate of return, you will double your money in 17.5 periods. Without compound interest, it would take 25 periods.
- d. No Return Without Risk: Profit opportunities that are sure things are quickly bought up, reducing the return.
 - i. *Risk-return trade-off*—higher returns come at the price of higher risk.
 - ii. U.S. government bonds are very low risk so they have a very low rate of return. Stocks are higher risk so they have a higher rate of return.
 - iii. As you age, your investment portfolio should reflect differences in risk—lots of stocks when you are young with a greater emphasis on bonds as you age.