Investing: Four misconceptions on risk

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Risk is measured by volatility

Risk is a fuzzy concept. It is often equated with volatility, i.e. the tendency of the value of an investment to swing wildly: going from gains to losses and back again. But this cannot be a satisfactory definition: if you were promised that your investment would have a certain value on the day of your retirement, you would not care whether the value has gone up and down in the mean time. Moreover, not knowing whether you will end with $500 000 or a million is clearly better than the certainty of having $400 000. The real risk is: not having enough money when you retire.

Figure 1 shows that over thirty years a portfolio with 50% stocks and 50% bonds has only a 5% probability of gaining *less* than $50 000 out of an initial investment of $100 000 (the median gain is nearly $300 000, i.e. a quadrupling of one's money). With a savings account, there is a 5% probability of gaining *more* than $48 000. In other words, what is a worst-case scenario for the stock–bond portfolio is a best-case scenario with cash. The portfolio is more volatile, but the savings account is the risky investment.

Savings accounts cannot lose money

If inflation is at 2%, what costs $1 000 now will cost $1 020 in a year. With $1 000 on a savings account yielding 0.5% p.a., you will have only $1 005 in your account in a year, so you will no longer be able to afford what you can now buy: you are losing purchasing power. The nominal rate of interest is +0.5% p.a. but the *real* rate is −1.5%. Accounts yielding less than the inflation rate (which includes all current accounts) reduce your purchasing power.

Savings accounts may seem the safest place for your money because you cannot lose the principal: worse come to worse you will simply not get any richer but you do not grow poorer by keeping your money in the bank. In actuality, the capital is not safe in real terms (i.e. when inflation is taken into account): your purchasing power may shrink with time. There is a genuine risk of losing money in a savings account (and with current accounts, this is not a risk but a certainty).

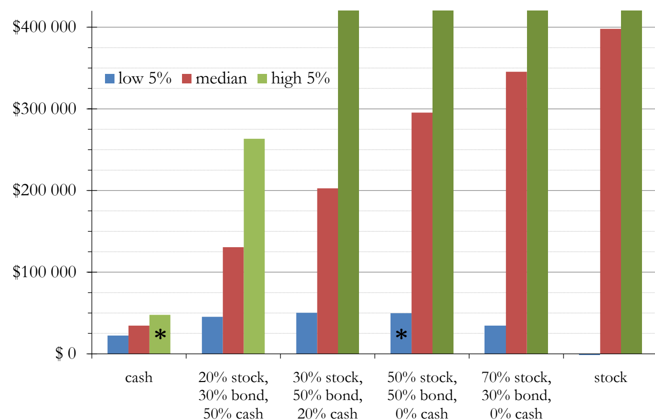

FIG. 1: The median and the top and bottom 5% of gains (after inflation) over $100 000 invested for 30 years. (Darker green bars have been truncated.)

Risk taking is just a matter of personality

Risk taking is generally seen as essentially a matter of psychology: are you conservative or adventurous? Consider three thirty-year olds investing for retirement. One holds only stocks whereas another has 25% of bonds. The latter is simply more risk averse, this is just a matter of personality. But if the third were to keep all his money in a savings account for decades, this would not be conservative but downright stupid (see above).

How much risk you take depends on several criteria, and personality is just one of them:

- how much risk you can *afford* to take: e.g. if you will retire in one year then a market crash in the coming year would be horrible, but if you will not retire for decades it is much less problematic because there is ample time for markets to recover these losses;
- how much risk you *need* to take: if you started saving late and need a real return of 7% a year to retire then you cannot make do with a low-risk portfolio;
- how much volatility you can *psychologically* withstand: stock markets can collapse by a third from peak to trough — how well would you sleep if your portfolio fell this much? Pure equity portfolios may be best for long-term investors in theory but few people can stomach them in reality.

The stock market is just like a casino

When markets crash, many investors anonymous swear never to touch a share again. Too dangerous, too unfathomable, too random. Investing is no different from playing roulette in the best cases, if not Russian roulette.

There is one very substantial difference though: for every $100 in bets, a casino may return $95 in wins, so that the more you play the more likely you are to lose. This is well known to casino managers: how to handle winners? Get them to keep on playing. The stock market, on the other hand, has an average return of 6–7% after inflation. The longer you participate, the more likely you are to win. The odd casino win does not cancel the fact that on average players lose. Conversely, market crashes do not cancel the fact that on average investors win.