

A Random Walk Down Wall Street

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Remark: These notes are primarily written after reading a book titled "*A Random Walk Down Wall Street*" by *Burton G. Malkiel*. I have also incorporated information from other sources to help me better understand the material. These notes are based on my understanding and they are intended to be used as a summary for me to go back to from time to time. Anyone reading this should not rely on my summary and should always revert back to the original sources.

The **Efficient Market Hypothesis** (EMH) states that asset prices fully reflect all available information. A direct implication is that it is impossible to "beat the market" consistently on a risk-adjusted basis since market prices should only react to new information or changes in discount rates. There are three forms of the hypothesis:

1. In weak-form efficiency, future prices cannot be predicted by analyzing prices from the past. Excess returns cannot be earned in the long run by using investment strategies based on historical share prices or other historical data.
2. In semi-strong-form efficiency, it is implied that share prices adjust to publicly available new information very rapidly and in an unbiased fashion, such that no excess returns can be earned by trading on that information. Semi-strong-form efficiency implies that neither fundamental analysis nor technical analysis techniques will be able to reliably produce excess returns.
3. In strong-form efficiency, share prices reflect all information, public and private, and no one can earn excess returns.

The **random walk hypothesis** is a financial theory stating that stock market prices evolve according to a random walk and thus cannot be predicted. It is consistent with the efficient-market hypothesis.

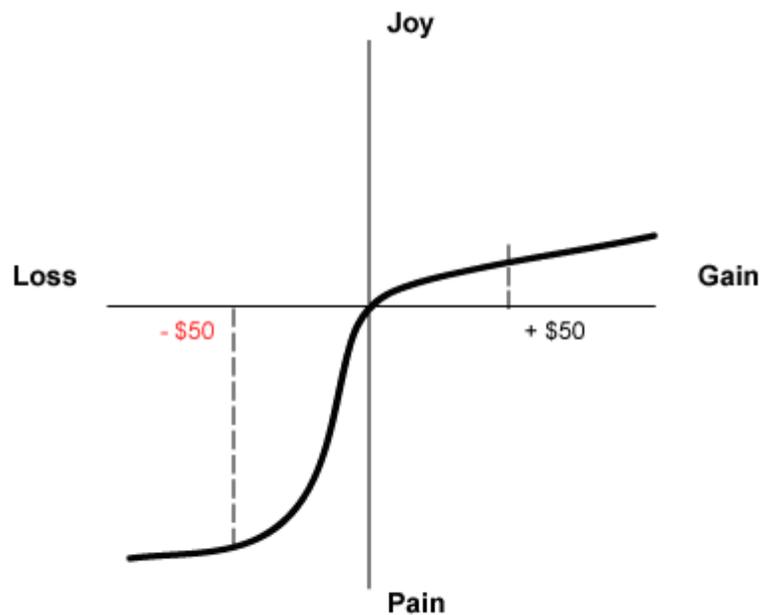
There are 2 main types of stock analysis:

1. **Fundamental Analysis:** A method of evaluating a security that entails attempting to measure its intrinsic value by examining related economic, financial and other qualitative and quantitative factors. Fundamental analysts attempt to study everything that can affect the security's value, including macroeconomic factors (like the overall economy and industry conditions) and company-specific factors (like financial condition and management).
 - 1.1. A rational investor should be willing to pay a higher price for a share the larger the growth rate of dividends and earnings (Corollary → A rational investor should be willing to pay a higher price for a share the longer an extraordinary growth rate is expected to last)
 - 1.2. A rational investor should be willing to pay a higher price for a share, other things being equal, the larger the proportion of a company's earnings that is paid out in cash dividends
 - 1.3. A rational (and risk-averse) investor should be willing to pay a higher price for a share, other things being equal, the less risky the company's stock (e.g., Johnson a& Johnson vs. Cisco).
 - 1.4. A rational investor should be willing to pay a higher price for a share, other things being equal, the lower the interest rates
2. **Technical Analysis:** a security analysis methodology for forecasting the direction of prices through the study of past market data, primarily price and volume. Some technical analysis methods:
 - 2.1. Resistance and support levels
 - 2.2. Patterns (e.g., head and shoulders)

Money Market Fund: An investment whose objective is to earn interest for shareholders while maintaining a net asset value (NAV) of \$1 per share. A money market fund's portfolio is comprised of short-term (less than one year) securities representing high-quality, liquid debt and monetary instruments. They distribute profit in terms of new shares issued to the investor, unlike stock prices that are very volatile and in which a trader makes a profit when selling his equity or by receiving dividends.

Lessons learned from **behavioral finance**:

1. Avoid herd behavior
2. Avoid overtrading
3. If you do trade, sell losers not winners
4. Other lessons:
 - 4.1. Be wary of new issues (i.e., IPOs)
 - 4.2. Stay cool to hot tips
 - 4.3. Distrust fool proof schemes
5. If profit is likeable by one, then loss is hated by 2.5 times (the feeling of a loss is 2.5 times the feeling of a win) (this is derived from prospect theory)



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The Capital Asset Pricing Model (i.e., CAPM)

$$\text{Rate of Expected Return} = \text{Risk free rate} + \beta (\text{rate of return from the market} - \text{rate of risk free return})$$

→ potency of an asset to move with the market (systemic risk)

1. Studies how stocks tend to move with the market
2. To decrease systemic risk, you need to diversify your portfolio (to around 60 stocks at least in the US stock market)
3. If you diversify further using international stocks, you could decrease your risk by 10 percent (note however that the effects of diversification are limited due to globalization)

A set of warmup exercises that will enable you to make sensible financial decisions and increase your after tax investment returns:

1. Gather the necessary supplies (i.e., save)
2. Cover yourself with cash reserves and insurance (especially if other people depend on you as a provider)
3. Let the yield on your cash reserve keep pace with inflation
 - 3.1. Bank certificates of deposit (CDs)
 - 3.2. Internet banks, they have low costs therefore they provide better returns
 - 3.3. Treasury bills
 - 3.4. Tax-exempt money market funds
4. Learn how to dodge the tax collector
 - 4.1. IRA – individual retirement account
 - 4.2. Roth IRA
 - 4.3. Pension plans
5. Understand your investment objectives
6. The sleeping scale of major investments (look for [page 320](#))
7. Renting leads to flabby investment muscles
8. Investigate a promenade through bond country
 - 8.1. Zero coupon bonds
 - 8.2. No-load bond
 - 8.3. Tax-exempt bonds
 - 8.4. TIPS – inflation indexed bonds
9. Tiptoe through commodities
10. Remember that commission costs are not random; some are lower than others
11. Diversify

Five asset allocation principles:

1. History shows that risk and returns are related
2. The risk of investing in common stocks and bonds depends on the length of time the investments are held. The longer an investor's holding period, the lower of likelihood the variation in the asset's returns (look for the chart in [page 363](#))
3. Dollar-cost averaging can be useful, though controversial, technique to reduce the risk of stock and bond investment (to lessen the volatility of the market and investing all your money in one period, plan to invest in equal dollar amounts across extended periods of time)
4. Rebalancing can reduce risk and in some circumstances increase investment returns (for example, rebalancing your investment portfolio to be 60 percent stocks and 40 percent bonds each calendar year)
5. You must distinguish between your attitude towards and your capacity for risk. The risks you can afford to take depend on your total financial situation, including the types and sources of your income exclusive of investment income.

Three guidelines to tailoring a life-cycle investment plan:

1. Specific needs require dedicated specific assets
2. Recognize your tolerance for risk
3. Persistent saving in regular amounts, no matter how small, pays off

The lifecycle investment guide:

1. Look at [page 377](#)
2. There is a thing called a life-cycle fund that adjust automatically

As a sustained retirement strategy, consider the following:

1. Build up your savings / investment portfolio
2. Retire, but still work part time (it provide some income plus it will keep you happier)
3. Take out from your investment portfolio no more than 4 percent annually (you can increase it if needed by 2 percent annually, also when taking money out keep your portfolio balanced)

When investing in an index fund, the S&P 500 is not the only index. Look also for the following:

1. Larger indexes that represent a greater percentage of the market (not only blue chip stock)
2. Diversify in international index funds as well. Although the united states represent 40 percent of the world economy, this does not mean that you should only invest in its stock. Look for emerging markets index funds as well (or an emerging markets index fund)
3. A specific index fund portfolio that can be adjusted based on your age (look for [page 398](#))

Potentially useful stock-pricing rules:

1. Confine stock purchases to companies that appear able to sustain above-average earnings growth for at least five years
2. Never pay more for a stock than can reasonably be justified by a firm foundation of value
3. It helps to buy stocks with the kinds of stories of anticipated growth on which investors can build castles in the air
4. Trade as little as possible

Types of derivatives:

1. Futures / forward contract: a future, or forward, contract involves the obligation to purchase (or deliver) a specified commodity (or financial instrument) at a specified price at some specific future period.
2. Options: a stock option gives the buyer the right (but not the obligation) to buy (call option) or sell (put option) a common stock (or group of stocks) at a specific price on or before a set date.
 - 2.1. Call option: A call option is an agreement that gives an investor the right, but not the obligation, to buy a stock, bond, commodity or other instrument at a specified price within a specific time period. It may help you to remember that a call option gives you the right to call in, or buy, an asset. You profit on a call when the underlying asset increases in price.
 - 2.2. Put option: A put option is an option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security at a specified price within a specified time. This is the opposite of a call option, which gives the holder the right to buy shares.
 - 2.3. Short selling (watch a video titled “basic shorting” by <https://www.khanacademy.org/>) is the sale of a security that is not owned by the seller, or that the seller has borrowed. Short selling is motivated by the belief that a security's price will decline, enabling it to be bought back at a lower price to make a profit. Short selling may be prompted by speculation, or by the desire to hedge the downside risk of a long position in the same security or a related one. Since the risk of loss on a short sale is theoretically infinite, short selling should only be used by experienced traders who are familiar with its risks.

Other useful points:

- Castles in the air make sense, as long as there is a “greater fool”.
- There is a difference between the market value of a stock and the book value of a stock.
- look for growth situations with low price earnings multiples (i.e., P/E ratio). If the growth takes place, there’s often a double bonus – both the earnings and the multiple rise, producing large gains. Beware of very high multiple stocks in which future growth is already discounted. If growth doesn’t materialize, losses are doubly heavy – both the earnings and the multiples drop.
- To properly evaluate stocks, use the P/E ratios as well as the market value to book value ratio
- Long run equity return = initial dividend yield + growth rate