

## RISK IN FINANCE

### It's all about Volatility ...

**In daily life, risk is often perceived negatively and associated with potential losses. – In finance, however, risk is viewed from a more balanced perspective: It is about the unknown and the uncertainty of potential gains or losses. Risk is ultimately about the volatility of possible outcomes.**

Human beings are in essence conservative and risk-averse. They neither like unpredictability nor uncertainty. This is also the reason why people are reluctant to change, especially if this change is a big one and the eventual outcome unknown. – Usually, people associate risk with potential losses. Therefore, frequently they take steps to avoid such, for example by taking insurance coverage.

Now, whilst risk naturally goes along with a certain degree of uncertainty, there are times when people intentionally take risks: When they hope to win or to make a profit. That's why people sometimes play lottery or go to a casino, even though everyone is well aware to certainly lose out on the long run. Otherwise casinos would not make money.

When investing in shares one certainly takes a risk: Dividends may be paid or not. Stock prices may go up or come down. Such risk assumed may be lower, if – for example – one invests in a large, established and reputable food manufacturer which has been around for decades. Operating all over the world, this firm will be well diversified across products and regions and can therefore easily compensate for a possible weakness in a product or region. – But, most important: Most people do actually eat a couple of times a day. And this adds predictability to the firm's business model. Therefore, one would expect such company regularly paying dividends and its share price – reflecting the firm's stable performance - not fluctuating much day by day, especially over longer periods: This firm's share price chart is expected to look pretty smooth, maybe even a bit boring.

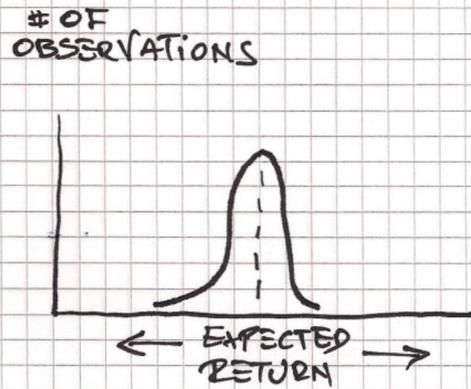
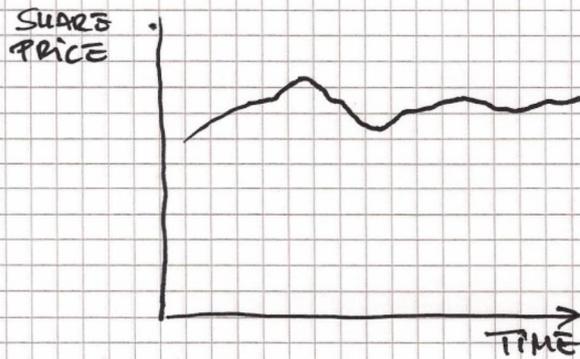
If one took the effort and calculated - on a daily basis - the relative share price changes of this mature firm – alas: its ups and downs -, clustered these changes into smaller and larger ones and added them up, one would almost certainly observe many more smaller daily share price changes than larger ones. And if one then plotted these clusters of relative share price changes, the resulting curve would have a steep slope. It would be narrowly concentrated around its center, the average daily change.

On the other hand, if – for example – one invested in shares of a high-end, luxury handbag manufacturer, then one may quite likely assume a substantially higher risk: Such a company and its share price will probably only do well, if the overall economy is also doing very well (and - especially - women have plenty of income available and also spend it). However, if the economy slowed down, consumers may conclude that an ordinary handbag – not necessarily a plastic bag - would also do just fine. Larger share price changes - up or down - will almost certainly be more frequent in this case compared to the previously assessed food manufacturer. The plot of daily share price changes will therefore fluctuate significantly wider around an average and the shape of the curve would be much flatter.

Hence, in essence the following holds true: In a Corporate Finance context, risk can be defined as the volatility of the performance - or the return - of an asset. In the case of a stock, this refers to the predictability of a firm's share price momentum as well as the stability of its dividend payouts. – In finance, standard deviation is commonly used as a measure of the dispersion of a data set from a security's expected return. If the data points are further from the mean - the expected return - then there is a higher deviation within the data set. A higher volatility – represented through a higher standard deviation – is an indication for lower predictability of outcomes. Steep gains as well as losses will occur more often, also relatively wider and more frequent swings measured against a benchmark or the average return.

Whether or not eventually investing in more or less volatile stocks or other securities, is eventually entirely depending on an investor's preference, his risk appetite or aversion.

LOW VOLATILITY = LOW STANDARD DEVIATION



HIGH VOLATILITY = HIGH STANDARD DEVIATION

