

# Economic Situation and Strategy

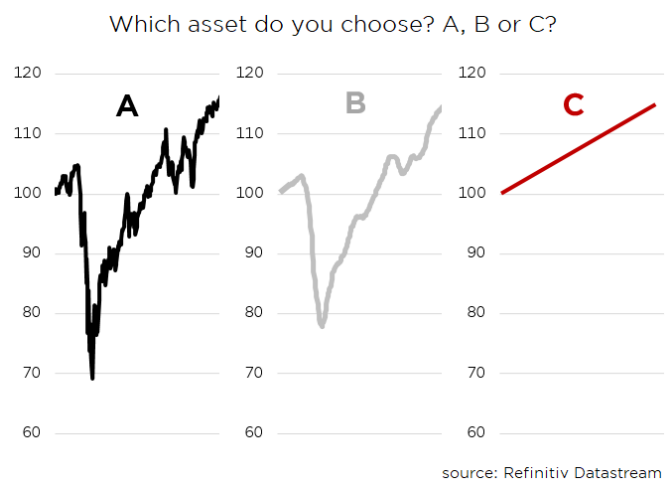
17 November 2023

## Financial markets: Understand and interpret volatility correctly

No pain, no gain - you probably know this saying. Similarly, the conflict applies to the financial markets: without risk, there is no return. If you are promised a risk-free investment opportunity with fantastic returns, it is time to listen up and move away as quickly as possible. Because (unfortunately) high returns cannot be achieved on the financial markets without risk. In fact, price fluctuations on the financial markets are as certain as Amen in church. Volatility is typically used as a synonym for the risk of a security. This is in turn calculated from the standard deviation of the (daily) returns and records the negative and positive deviations from the mean. Securities with a more volatile price development are then considered relatively risky and require a higher willingness to take risks on the part of the investor. In this issue of “Economic Situation and Strategy” you will find out what pitfalls you need to be aware of when classifying the risk of various investment options and how to correctly interpret volatility.

## What a thought experiment reveals about risk perception

A thought experiment based on an article by fund manager Simon Evan-Cook serves as an introduction to the topic of risk on the financial markets<sup>1</sup>: Imagine that the three investment options A, B and C are available (cf. illustration). Which option do you choose?



Of course, you choose option C. Because all three investment options ultimately record exactly the same increase in value. However, the options differ in terms of their price fluctuations. While option A has a very volatile price development, the price development of option C is linear without fluctuations and thus implies a safe investment option. You have certainly noticed the suggestive undertone of the question, because all three options cover the price development of the S&P 500 Index in the pandemic year 2020. The price developments only differ in the representation of the frequency: investment option A shows the S&P 500 based on daily data, option B is based on weekly data and the last option shows annual data. Despite the identical index and time period, we classify the risk of the three options differently.

<sup>1</sup> source: <https://simonevan-cook.medium.com/volatility-forget-it-c3fa9281bd5b>, November 16, 2023 2 pm.

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The first insight is: In reality, risk perception depends heavily on how often we look at the portfolio. If you had looked at the price of the S&P 500 every day during 2020, you would certainly have gone through an emotional rollercoaster. You might have pulled the emergency brake in the meantime and either sold the S&P 500 completely or reduced the position. Subsequently, perfectly anticipating the lower turning point in real time and increasing the position at the right moment would have been an almost impossible task. Looking back, there was a high risk of selling at the worst possible time and getting back in too late. In this case, the buy-and-hold strategy would have paid off. Then you would have been happy about the positive performance and probably not even noticed the extremely high price fluctuations over the course of the year. Of course, one should not conclude from this that one should not regularly monitor the financial markets and make tactical adjustments. However, in times of higher volatility, it pays not to panic and sell and buy out of pure activism.

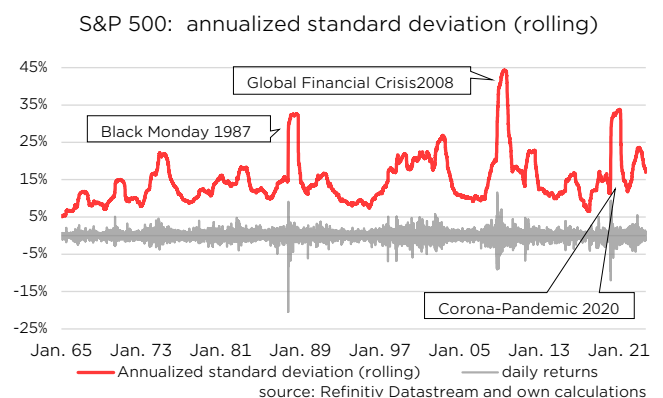
## How volatility can be artificially reduced

Even if the thought game seems contrived at first glance, the relevance becomes clear when semi-liquid or illiquid asset classes such as private equity, private debt or closed real estate funds are taken into account. For these forms of investment, the price is usually not published daily, but only weekly, monthly or even with an even lower frequency. Against the background of our thought experiment, investors in these less liquid asset classes would have to suffer relatively less stress and are, purely “optically”, exposed to lower risk. But do you actually have fewer risky investments in your portfolio? No, the economic risk is not lower compared to classic liquid investments. As common sense suggests, the entrepreneurial risk is not necessarily lower because the company is not listed on the stock exchange and is instead part of a private equity fund. The difference, however, is that supply and demand determine a price for the listed company every second. Although this creates price fluctuations and leads to temporary exaggerations or understatements, it does not affect the underlying entrepreneurial risk. Rather, it can be argued that a stock corporation is an established company that has a mature business model with relatively stable cash flows. However, these considerations are in no way intended to represent a plea against semi- or illiquid asset classes, as they provide access to interesting investment options that are not fully covered

by liquid forms of investment and offer important diversification potential for one's own portfolio. However, it should not be overlooked that the underlying entrepreneurial risk of less liquid asset classes is only lower due to the artificially reduced volatility.

## What does “volatility clustering” mean?

But it is not only the frequency of price availability that plays a role in the risk classification, the period under consideration is also important. A look at the empirical evidence shows very clearly that volatility – measured as the standard deviation of returns – is not constant over time. Volatility increases sharply, especially in times of stress. The following figure plots the rolling annualized standard deviation of the daily returns of the S&P 500 Index. The annualized standard deviation rose significantly in the wake of “Black Monday” in 1987, the global financial crisis in 2008 and the corona pandemic in 2020. In technical jargon, this phenomenon is called “volatility clustering”.



As a result, it makes a serious difference which period is used as a basis for calculating volatility. Why is this even important? In addition to estimating expected returns, risk expectations naturally play a central role in assessing and comparing the attractiveness of several investment options. Historical volatility is often used as a basis, but as shown above, this is not necessarily a good estimate for the future and is particularly distorted by structural breaks.

Finally, it is important to understand that standard deviation (volatility) is a symmetrical measure of risk. Positive and negative deviations from the mean are perceived as equally “bad”. Normally, however, it is only the fluctuations in negative returns that cause concern. In this case, the standard deviation should be supplemented by the so-called downside volatility. Alternatively, the Value at Risk (“How bad can things go?”) and Expected Shortfall

(“If things do go bad, what is the expected loss?”) can be used as further key figures for risk classification.

## What is our conclusion?

Three aspects are crucial: Firstly, the frequency with which we look at the portfolio has an influence on our investment behavior. In the worst case scenario, monitoring the markets too closely leads to unfavorable decisions. Secondly, the economic risk of an investment option is not lower because the price is available with a lower frequency (cf. semi-liquid or illiquid investment classes). Rather, you are to a certain extent “flying blind”

between the publication dates of the courses. However, it is also true that the volatility of listed companies is further increased by market sentiment and that temporary exaggerations and understatements occur. Thirdly, volatility as a risk indicator has its limits and must be interpreted with caution as an estimator of risk expectations. It is important to also use alternative key figures such as downside volatility to classify the risk of an investment option.

Simon Landt

## Market data

| Stock markets                  | As of               | Change versus         |                        |                         |                       |                   |
|--------------------------------|---------------------|-----------------------|------------------------|-------------------------|-----------------------|-------------------|
|                                | 17.11.2023<br>08:07 | 10.11.2023<br>-1 week | 16.10.2023<br>-1 month | 16.08.2023<br>-3 months | 16.11.2022<br>-1 year | 30.12.2022<br>YTD |
| Dow Jones                      | 34945               | 1,9%                  | 2,8%                   | 0,5%                    | 4,1%                  | 5,4%              |
| S&P 500                        | 4527                | 2,5%                  | 3,5%                   | 2,8%                    | 14,4%                 | 17,9%             |
| Nasdaq                         | 14114               | 2,3%                  | 4,0%                   | 4,7%                    | 26,2%                 | 34,8%             |
| DAX                            | 15787               | 3,6%                  | 3,6%                   | 0,0%                    | 10,9%                 | 13,4%             |
| MDAX                           | 25969               | 2,7%                  | 3,8%                   | -6,6%                   | 1,4%                  | 3,4%              |
| TecDAX                         | 3092                | 3,9%                  | 5,1%                   | -0,8%                   | 0,4%                  | 5,8%              |
| EuroStoxx50                    | 4302                | 2,5%                  | 3,7%                   | 0,4%                    | 10,8%                 | 13,4%             |
| Stoxx 50                       | 3904                | 0,9%                  | -1,0%                  | -0,9%                   | 6,3%                  | 6,9%              |
| SMI (Swiss Market Index)       | 10643               | 0,8%                  | -2,3%                  | -3,2%                   | -2,7%                 | -0,8%             |
| Nikkei 225                     | 33585               | 3,1%                  | 6,1%                   | 5,7%                    | 19,8%                 | 28,7%             |
| Brasilien BOVESPA              | 124639              | 3,4%                  | 7,0%                   | 7,8%                    | 13,1%                 | 13,6%             |
| Russland RTS                   | 1121                | 1,2%                  | 7,0%                   | 10,5%                   | -3,7%                 | 15,5%             |
| Indien BSE 30                  | 65885               | 1,5%                  | -0,4%                  | 0,5%                    | 6,3%                  | 8,3%              |
| China CSI 300                  | 3566                | -0,6%                 | -1,7%                  | -6,6%                   | -7,0%                 | -7,9%             |
| MSCI Welt                      | 2973                | 2,5%                  | 3,0%                   | 1,6%                    | 11,9%                 | 14,2%             |
| MSCI Emerging Markets          | 982                 | 3,6%                  | 3,8%                   | 0,7%                    | 2,9%                  | 2,7%              |
| <b>Bond markets</b>            |                     |                       |                        |                         |                       |                   |
| Bund-Future                    | 131,20              | 138                   | 212                    | 4                       | -918                  | -173              |
| Bobl-Future                    | 116,90              | 66                    | 91                     | 165                     | -304                  | 115               |
| Schatz-Future                  | 105,18              | 17                    | 14                     | 24                      | -161                  | -24               |
| 3 Monats Euribor               | 3,99                | 9                     | 9                      | 34                      | 219                   | 210               |
| 3M Euribor Future, Dec 2023    | 3,98                | 0                     | -2                     | 5                       | 105                   | 38                |
| 3 Monats \$ Labor              | 5,63                | -1                    | -3                     | -1                      | 96                    | 86                |
| Fed Funds Future, Dec 2023     | 5,33                | -1                    | -6                     | -9                      | 83                    | 69                |
| 10 year US Treasuries          | 4,46                | -18                   | -25                    | 18                      | 75                    | 62                |
| 10 year Bunds                  | 2,58                | -9                    | -17                    | -4                      | 58                    | 2                 |
| 10 year JGB                    | 0,76                | -10                   | 3                      | 13                      | 51                    | 34                |
| 10 year Swiss Government       | 1,02                | -11                   | -11                    | -2                      | -2                    | -59               |
| US Treas 10Y Performance       | 570,74              | 1,4%                  | 2,3%                   | -0,5%                   | -2,5%                 | -1,6%             |
| Bund 10Y Performance           | 539,61              | 1,1%                  | 1,9%                   | 1,3%                    | -1,9%                 | 2,7%              |
| REX Performance Index          | 435,22              | 0,0%                  | 0,8%                   | 1,0%                    | -0,5%                 | 0,6%              |
| IBOXX AA, €                    | 3,71                | -16                   | -27                    | -9                      | 51                    | 12                |
| IBOXX BBB, €                   | 4,49                | -19                   | -34                    | -12                     | 4                     | -21               |
| ML US High Yield               | 8,80                | -21                   | -43                    | 21                      | 1                     | -18               |
| Convertible Bonds, Exane 25    | 6620                | 0,0%                  | 0,0%                   | 0,0%                    | -0,5%                 | 0,0%              |
| <b>Commodities</b>             |                     |                       |                        |                         |                       |                   |
| MG Base Metal Index            | 381,26              | 1,6%                  | 2,8%                   | 1,8%                    | -8,1%                 | -8,8%             |
| Crude oil Brent                | 77,47               | -5,0%                 | -13,7%                 | -7,3%                   | -16,7%                | -8,8%             |
| Gold                           | 1983,10             | 1,9%                  | 3,2%                   | 4,2%                    | 11,7%                 | 9,2%              |
| Silver                         | 23,82               | 6,5%                  | 5,1%                   | 5,5%                    | 11,2%                 | 0,3%              |
| Aluminium                      | 2176,70             | -1,2%                 | 1,1%                   | 3,9%                    | -8,8%                 | -7,4%             |
| Copper                         | 8122,00             | 2,1%                  | 2,6%                   | 0,1%                    | -1,7%                 | -2,9%             |
| Iron ore                       | 129,42              | 1,1%                  | 8,5%                   | 23,5%                   | 40,2%                 | 16,3%             |
| Freight rates Baltic Dry Index | 1758                | 7,0%                  | -10,9%                 | 42,6%                   | 36,5%                 | 16,0%             |
| <b>Currencies</b>              |                     |                       |                        |                         |                       |                   |
| EUR/ USD                       | 1,0844              | 1,5%                  | 2,9%                   | -0,7%                   | 4,1%                  | 1,7%              |
| EUR/ GBP                       | 0,8752              | 0,0%                  | 1,1%                   | 2,3%                    | 0,0%                  | -1,4%             |
| EUR/ JPY                       | 163,35              | 1,0%                  | 3,7%                   | 2,7%                    | 12,4%                 | 16,1%             |
| EUR/ CHF                       | 0,9635              | 0,0%                  | 1,4%                   | 0,3%                    | -1,6%                 | -2,2%             |
| USD/ CNY                       | 7,2470              | -0,6%                 | -0,9%                  | -0,7%                   | 2,1%                  | 5,0%              |
| USD/ JPY                       | 150,73              | -0,5%                 | 0,8%                   | 3,0%                    | 8,0%                  | 14,9%             |
| USD/ GBP                       | 0,81                | -1,5%                 | -1,6%                  | 2,9%                    | -4,0%                 | -2,9%             |

Source: Refinitiv Datastream

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