Description of the Risk and Rate of Return on Investment Products

There are very many different investment opportunities and most people are engaged in investment to a larger or lesser extent. For example each citizen working in the Republic of Estonia can choose between different pension funds deciding in which of these to invest the assets being collected for their retirement years. This choice also qualifies as an investment decision, although usually this is not perceived in that manner. People do not often realise the fact that our life in the future will largely depend on the investment decisions that we make today, i.e. the choice of the pension plan made today will also determine the nature of the future retirement years. Therefore, investment decisions must be made as carefully as we make any other important decisions in our lives.

Product Range of AS SEB Pank

The investment products of SEB have been divided into risk classes with a view to assessing the suitability thereof for the client using the model based on probability theory taking account of the historical product risk parameters. This model has been built up on the premises that the rate of return on investment varies in terms of years on the basis of normal distribution around its arithmetic mean. Depending on the properties of the normal distribution, the range within which the indicator values will fall at a certain probability can be found on the basis of the arithmetic mean of the rate of return on an investment product and its standard deviation.

Upon the determination of risk classes, in particular the usual market conditions shall be defined, for which there is a 95% probability that the rate of return on the investment exceeds the range characterised by the risk class within one year (see figure 4). According to the probabilities calculated in this manner different investment products can be divided into risk groups.

The temporal dimension with regard to the division of risk groups has been specified additionally, as generally the investor assumes that its investment will yield profit at the end of the investment period. This assumes, however, that the period for the selection of the investment is long enough in order to compensate for all possible negative deviations from the arithmetic mean of the rate of return on the investment during the period.

Figure 1 depicts the risk and temporal dimension matrix in order to determine the risk classes of SEB investment products at 95% probability. Such a grouping of investment products between risk classes allows SEB to make individual and suitable personal recommendations to its clients in the selection of investment products.

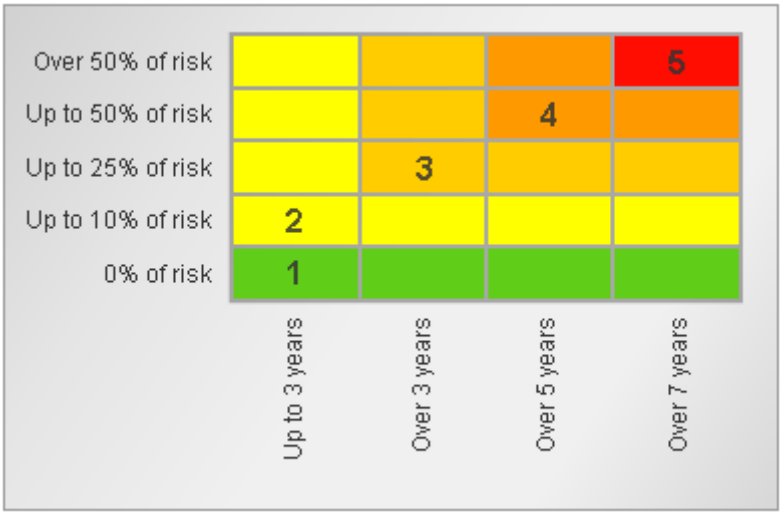

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Figure 1. Classification of SEB products into different risk categories according to their risk level and recommended investment period.

Advice Procedure of AS SEB Pank
SEB advisory service allows SEB to make individual and suitable personal recommendations to its clients regarding the product matrix according to the clients' investment profile. The client's investment profile is found out on the basis of the information provided by the client before the provision of advice. The investment questionnaire can be filled in with a view to receiving a personal recommendation both in an office during the investment advice as well as in the U-Net. In an office, it is possible to make a personally suitable product selection from among the systematically made offers while in the U-Net the decision of the final selection shall be made only by the client itself.

The following is a short description of the investment theory, on the basis of which SEB has categorised its product selection into risk classes in order to make personal recommendations to its clients.

Ratio of the Rate of Return on and the Extent of Risk of an Investment
Like there is no such thing as a free lunch, there are no such things as risk-free investments of high rate of return either – the benefit always costs and in the case of an investment this is the risk that an investor takes with its investment. Generally, a higher rate of return always means higher investment risks with regard thereto. As it can be seen **in figure 2** different investment risk leverages can be selected in a specific market situation in the case of exactly the same investment strategy. Such a choice can be made for example in the case of selecting a pension fund.

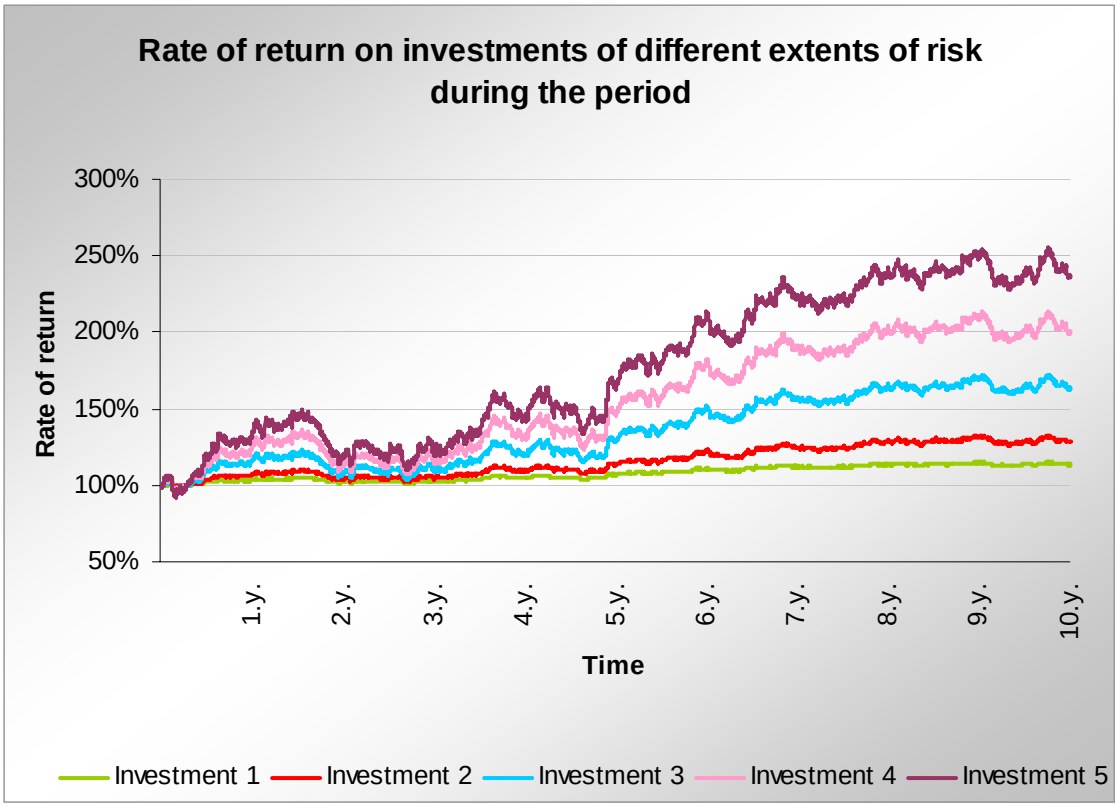

Figure 2. Investments of different rates of return generally contain very different investment risks.

The fund manager regulates the extent of risk of an investment according to the fund rules by regulating, for instance, the relations between the equity and bond investments of the fund. If the

investment portfolio of a fund contains more equities and fewer bonds, a higher rate of return will be expected on the fund than compared to the portfolio which contains more bonds and fewer equities. Such a regulation of the rate of return of the fund generally reveals itself directly in the extent of risk of the fund – a higher rate of return produces higher probability of larger fluctuations in the rate of return of the fund.

Investment Types

The universe of investment possibilities is very wide and diverse. The easiest investment is to purchase shares or bonds issued by companies and retain these with a view to earning profit. A prerequisite for such an investment is that the company in whose shares or bonds investments are made is successful and the value of their shares increases over time, the issuer pays dividends/interest or the company redeems its bonds so that the investor makes profit.

In addition to shares and bonds it is also possible to invest in real estate, purchase raw materials and invest money in currencies, different structured products, life insurance products, investment funds, unique works of art, etc.

Thereby different investments act in a very different manner. For example, an investment in an instrument related to corn prices and tradable in the US (provided that the demand for corn increases and the corn prices rise) acts very differently from an investment in bonds of the Republic of Estonia.

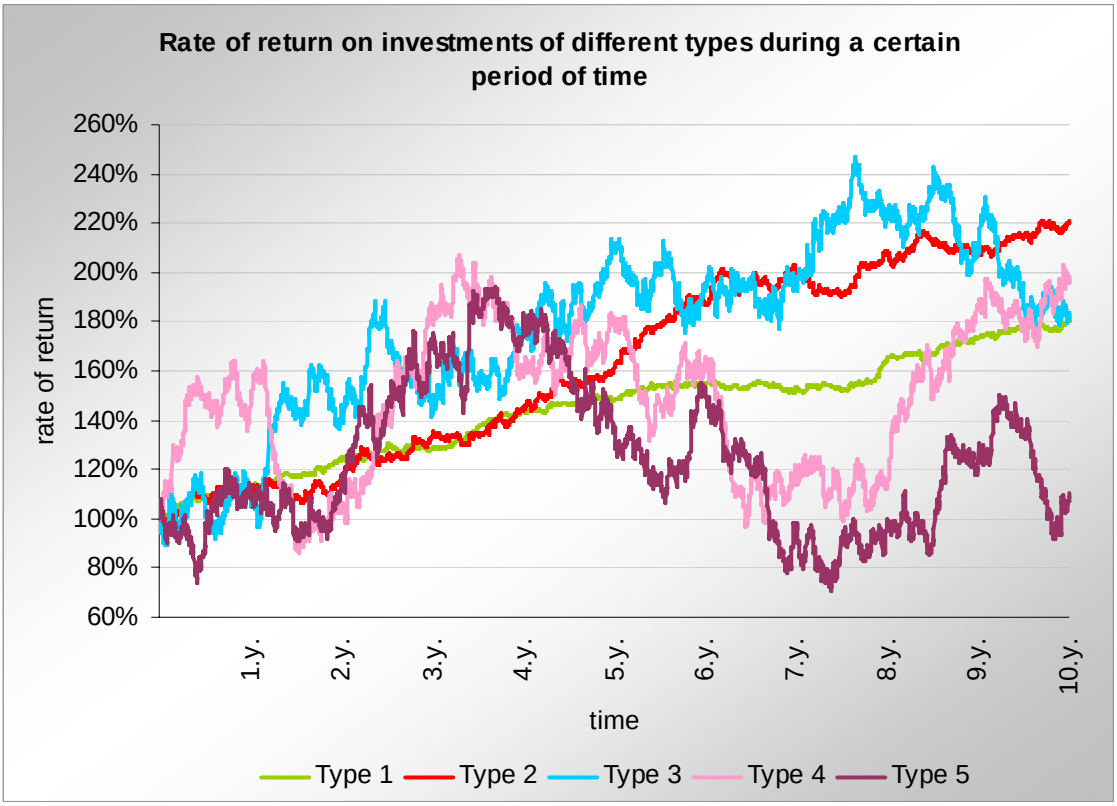

Figure 3. Rate of return on different types of investments may be very different during a certain period.

Similarly, the extent of risk of such investments is also very different. The success of the US corn futures depends on such circumstances like for example the weather in the central part of the US, where most of the corn is grown, demand for corn, transportation possibilities inside the US (e.g. water level in the Mississippi River), fertiliser prices, etc. At the same time, the success of an investment in the bonds of the government of the Republic of Estonia depends mainly on the government policy and

the political environment around the Republic of Estonia. It is absolutely clear that there is practically nothing in common between the formation of corn prices and the prices of Estonian bonds.

Rate of Return on Investment during Different Periods
In addition to the fact that different investments act in a very different manner, one and the same investment also acts very differently during different periods of time.
If the investment consists of a share of a company, the success of the company is different in different periods of time. At the time when the demand for the goods produced by the company is very high, the company is probably successful and this reveals itself in the price movements of the shares of the company. During another period of time the demand for the goods produced by the company need not be so high and this also reveals itself in the success of the company and in the price formation of its share. An example here could be the success of a company producing summer clothes in a climate where the weather is very cold and stormy for six months a year – it is probable that the demand for summer clothes during the period is low.

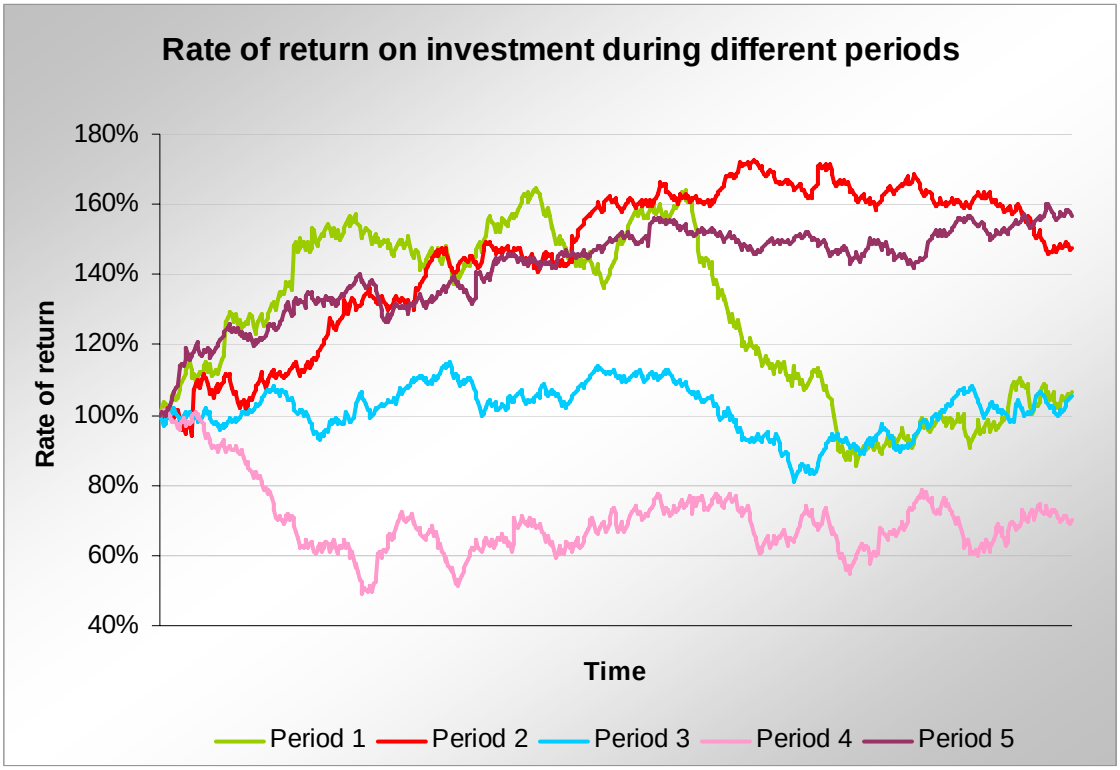

Figure 4. An investment of the same extent of risk may act very differently in different periods of time.

It is also clear that if somebody says that at some moment of time he/she invested his/her money in something very usefully and successfully, the result of making the same investment today would not be too similar. As it is not possible to guarantee the arrival of a certain event in the future, it is also not possible to ensure the rate of return on a specific investment in the future as well. It is not possible to guarantee the future; one can only do one's best in order to prepare oneself for the future as well as possible, taking account of the general properties and risks of different investments and making the respective investments.

Description of the Rate of Return on Investment
Statistically it is possible to describe the rate of return on an investment through probabilities. The specific price level of an investment cannot be foreseen, but the probability of fluctuation in the prices thereof can be determined, i.e. it can be said approximately what the probable price range is within which the value of the investment falls at a certain moment of time. See also the chart below.

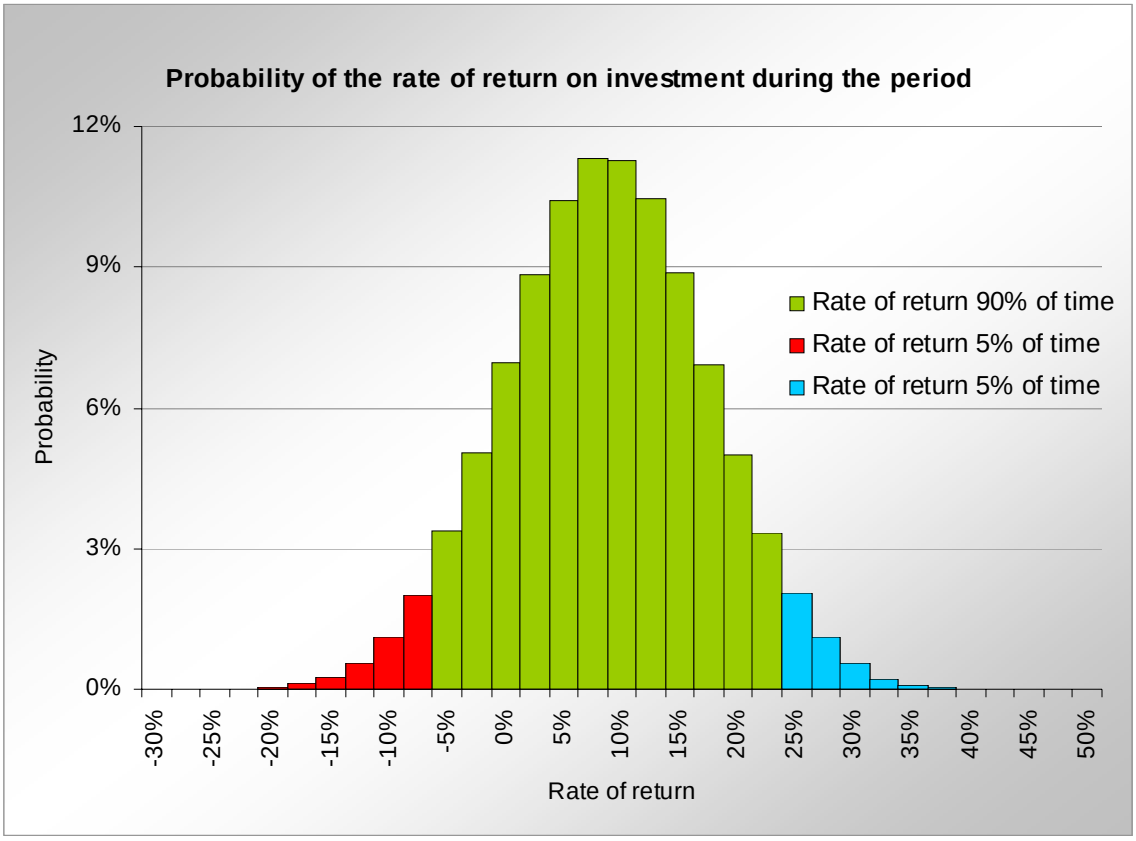

Figure 5. The rate of return on one and the same investment during a certain period of time depends on a lot of factors – the overall economic environment, political factors, etc.

The probability of the rate of return on an investment can be determined on the basis of the past rate of return on this investment or similar investments. For example, the basis may be the history of the Dow Jones index and the range of probable index values at a certain moment of time in the future can be determined in accordance with that.

For example, the value of the investment presented in figure 4 falls at a certain moment in future with a 90% probability within the range of –5%–25%; with a 5% probability below –5% and with a 5% probability more than 25%. Thereby the investment behaviour model is the normal distribution. Thus, it can be said that with a 95% probability the value of the investment will not fall at a certain moment in future more than –5%.

Investments Entailing Different Risks

Generally, the applicable rule is that a higher rate of return at a certain period of time also entails a higher risk at the same period of time. This means that for the sake of a higher probability rate of return at the end of an investment period the investor must also be ready for a higher probability risk at the same period of time. **Figure 5 explains how the situation is revealed in statistical terms.**

In figure 6 the common denominator in case of all the three investment charts is the normal distribution, which determines the behaviour of the rate of return on an investment. In the case of different charts the location of the arithmetic mean of the distributions on the chart as well as the distribution widths are different. In this context the arithmetic mean of the distribution indicates the average rate of return on the investment at a certain period of time and the distribution width indicates the size of the possible deviations of the rate of return on the investment. It is clear that in ideal conditions the average rate of return on an investment is as high as possible and at the same time with as few deviations from the arithmetic mean of the rate of return. However, higher average rate of

return also entails a higher risk, i.e. more significant deviations from the average rate of return during a certain period of time.

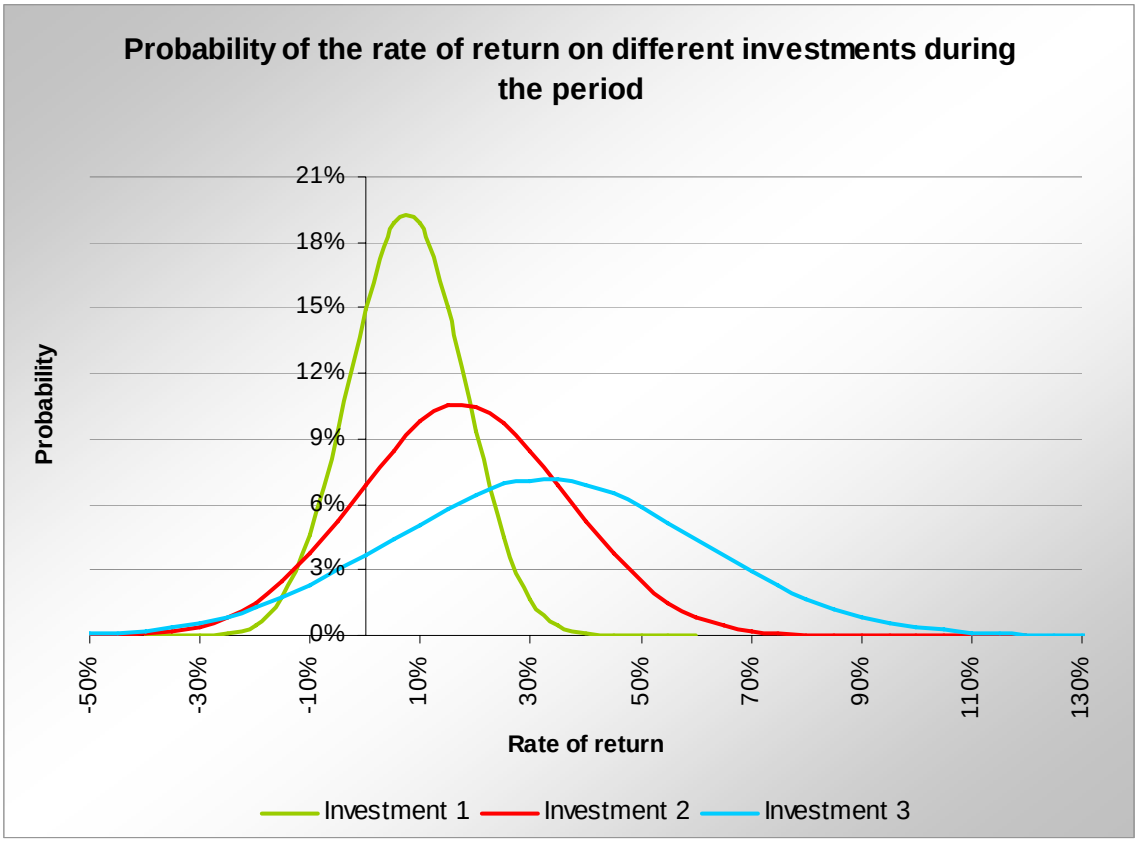

Figure 6. Comparison of probabilities of the rate of return on investments of different rate of return and risk profile during a certain period of time.

It is not possible to predict the future and the same fact is also applicable to financial markets. It is possible to describe the past and project this to the future. Thereby the rate of return on an investment cannot be guaranteed by the same behaviour in the past – one can only hope that the rate of return on the investment in the future is similar to the rate of return thereon in the past and that if an investment is made in a professionally managed fund, fund managers are competent in management of risks.

If AS SEB Pank uses in the materials introducing its investments numerical values for describing the average rate of return on investments or deviations therefrom, the respective values can only be probable scenarios calculated on the basis of the past. AS SEB Pank does not guarantee a rate of return on investments; the rate of return on investments depends on the behaviour of the financial markets and any risks related to investments are always to be borne by the investor. Taking a risk on an investment is the cost for the participation in the rate of return on the investment for the investor.

Correlation between Investments

If there could not be any relations between the price movements of US corn and the bonds of the Republic of Estonia as the fundamental factors between the price movements thereof are not related to each other, the situation is different in case of the correlation between the bonds of the Republic of Estonia and the bonds of the Republic of Lithuania. As the political, economic and geographical environment in those countries is very similar, a lot of similarities can also be found in the price movements of the bonds of the governments in these countries – for example both of these countries are subject to EU legislation. Upon any major amendments to the legislation affecting the price of the

bonds, it is highly probable that the amendments will also affect price movements of the bonds in both of the countries in the same manner as both Estonia as well as Lithuania are EU Member States.

The same also applies to any other data series – there are data series which are very closely related to one another as well as data series that do not seem to be related to one another. For example, it is obvious in the case of data series depicted **in figure 7** that the behaviour of Series 1 and Series 2 is similar. At the same time, however, neither of the two series seems to behave similarly to Series 3.

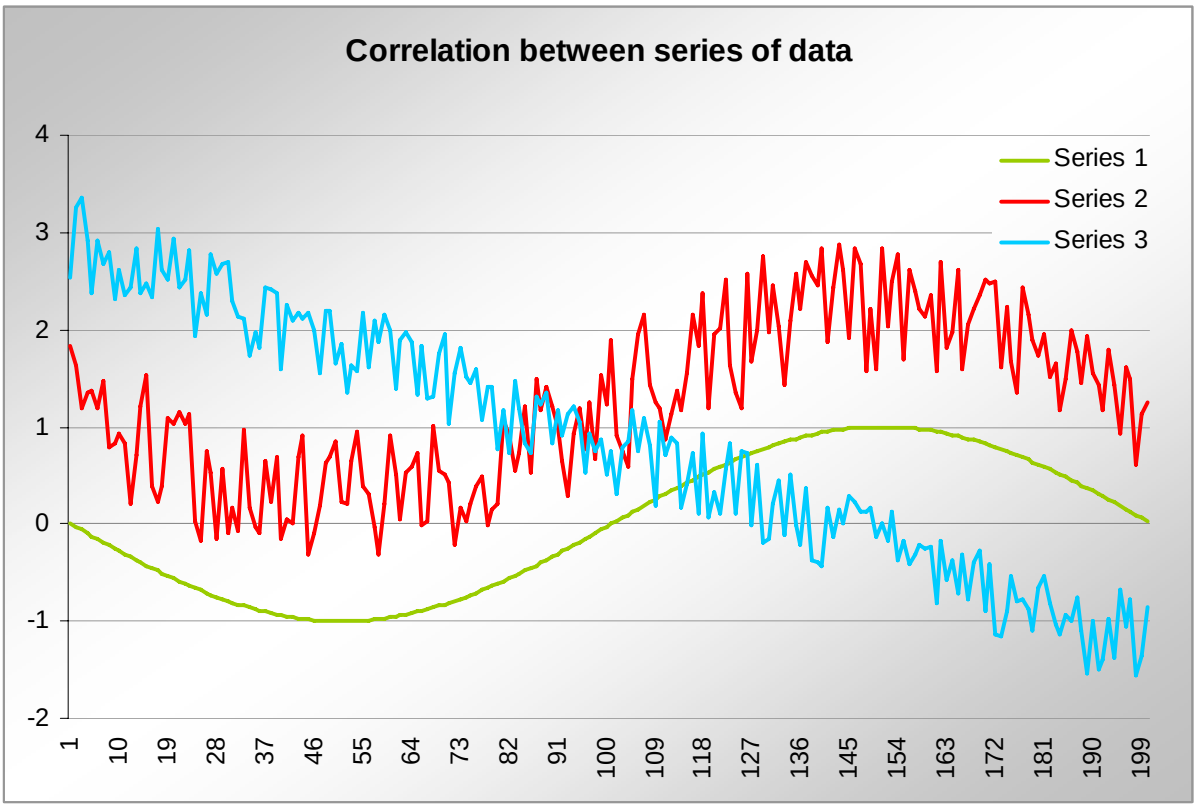

Figure 7. Correlation between data series may be very different.

Correlation means mutual dependency of data series and the strength thereof can be measured by the correlation index. It comes out upon the calculation of correlation between the data series presented in figure 7 that the correlation between Series 1 and Series 2 is strong, while there is almost no correlation of data series 1 and 2 with data series 3.

Improvement of the Rate of Return on Investment

It has been described above that the rate of return on an investment cannot be predicted and that the rate of return on one and the same investment is very different in different periods of time. It has also been pointed out that there are very different reasons behind the behaviour of different investments and due to that the results of different investments may either be in correlation with one another or not. On the basis of all the aforementioned facts a very simple technique for the improvement of the investment quality – the investment distribution – can be established.

The investment distribution means the method of distributing an investment between different investments that are preferably not in correlation with one another. The distribution will result in a situation where some investment components may yield a better rate of return at a certain period of time than other components, but the whole investment in its entirety produces a relatively good rate of return.

An investment can be distributed for example instead of investing in individual shares by investing in an equity fund. Better distribution is even achieved if an investment is made in a fund which distributes investments between different regions of the world, sectors of the economy or investment types.

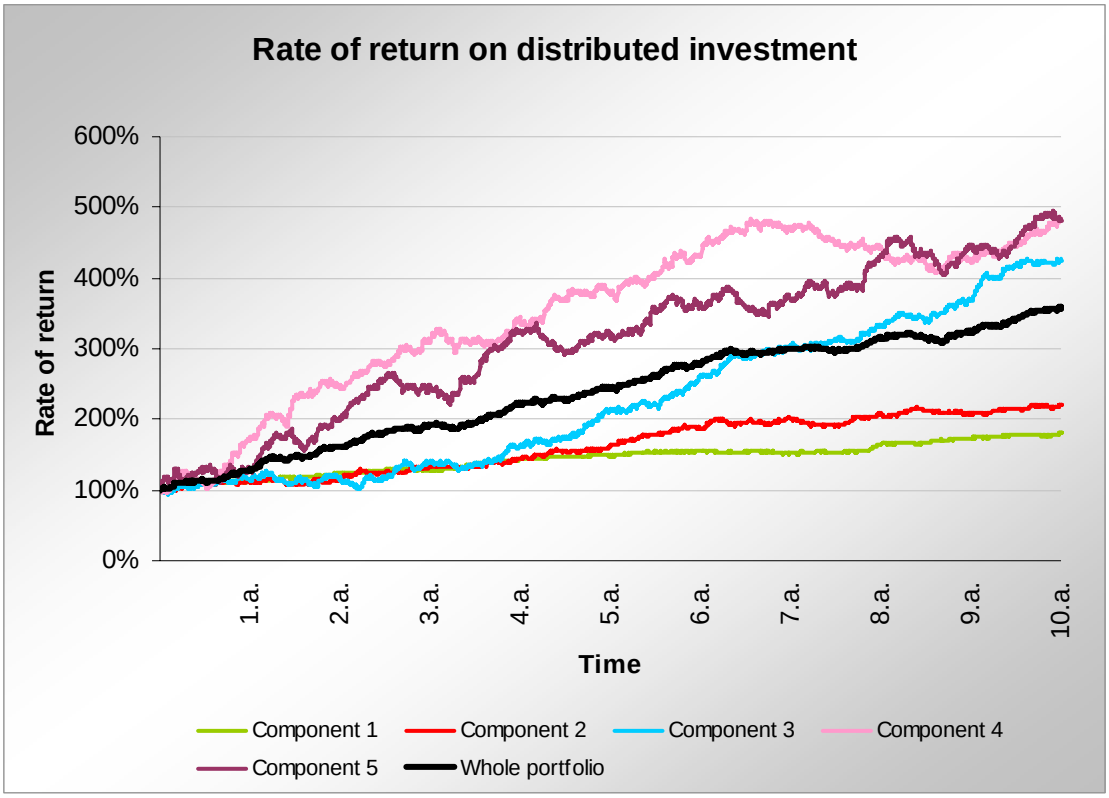

Figure 8. The easiest and the most widespread way to manage risks is to distribute the invested assets between different investments.

The SEB product range is diverse and each investor will find a suitable investment opportunity – either in a more or less distributed manner.