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Regulation on Calculating the Fund's Global Exposure and Risk Exposure to a Counterparty

Issued pursuant to
Paragraph 8[1] of Section 66 and Paragraph seven of Section 78
of the Law on Investment Management Companies

1. General Provisions

1. The Regulation establishes the procedure for calculating the investment fund's (hereinafter referred to as the "fund") global exposure, risk exposure to a counterparty and the concentration risk arising from transactions with an individual issuer or counterparty.

2. The terms used in the Regulation:
2.1. barrier option – an option that, in addition to the strike price therein, includes specific provisions for barrier or trigger levels. If the underlying asset of the option touches the barrier during the lifetime of the option, the option provides for specific consequences (for instance, the activation or deactivation of the option) that depend on the type of the barrier option;
2.2. transaction concentration risk – the amount of potential losses from transactions consisting of the fund's investments in transferable securities and money market instruments, the fund's deposits and transactions in financial derivative instruments (hereinafter referred to as the "FDIs"), whose issuer or guarantor, deposit taker or transaction counterparty is the same person. Commercial companies belonging to one group shall be considered as one person;
2.3. variance swap – a contract that allows to trade the squared volatility (variance) of an underlying asset, such as the exchange rate, the interest rate or a financial index;
2.4. event risk – a risk that the value of a financial instrument changes in an abrupt or sudden way when compared with the general market and the change in value notably exceeds the normal range of fluctuations in value. The event risk is associated with an issuer of particular securities, including the risk that the interest rates for debt securities will change or the risk that the prices of equity securities will change significantly or fluctuate sharply;

2.5. warrant – the rights entitling the holder of securities that are usually issued along with bonds or preferred stock to buy a specific amount of securities at a specific price, usually above the market price at the time of issuance, for a specified or unspecified period. If the price of a security exceeds the warrant's exercise price set in the contract (the established bid price), the investor can buy the security at the warrant's exercise price and sell it for a profit. Otherwise, the warrant expires or remains unused;

2.6. idiosyncratic risk – a risk that the value of a financial instrument changes more or less than the market in general, but not in an abrupt or sudden way;

2.7. risk exposure to a counterparty – the amount of potential losses incurred by default of a counterparty on transactions in over-the-counter (OTC) FDIs;

2.8. specific market risk – a risk covering both the idiosyncratic risk and the event risk;

2.9. leverage – transactions in FDIs and financial instruments with embedded FDIs as well as transactions for ensuring an efficient management of the fund's investment portfolio which result in an increased fund's exposure;

2.10. right – the rights of the shareholders of a commercial company to subscribe for a new issue of common stock before it is offered to the public;

2.11. general market risk – a risk that the price of a security will change due to the factors attributed to interest rate changes (in case of debt securities) or broad capital market movements (in case of equity securities) unrelated to a particular issuer of securities.

3. The Regulation is binding on an investment management company registered in the Republic of Latvia (hereinafter referred to as the "company") when calculating the fund's global exposure, risk exposure to a counterparty and transaction concentration risk.

2. Calculating the Fund's Global Exposure

4. The company shall calculate the fund's global exposure referred to in Paragraph seven of Section 66 of the Law on Investment Management Companies in accordance with one of the following methods:

4.1. as the total commitment, established according to the commitment approach pursuant to the requirements referred to in Section 3 of this Regulation, of the FDIs, including the FDIs embedded in the financial instruments, that are part of the fund's investment portfolio and of the transactions for ensuring an efficient management of the fund's investment portfolio, which may not exceed the fund's net asset value;

4.2. as the market risk of the fund's investment portfolio, measuring the maximum potential losses stemming from the market risk of the fund's investment portfolio at a given confidence interval within a specific time period according to the value at risk (hereinafter referred to as the "VaR") approach pursuant to the requirements referred to in Section 4 of this Regulation.

5. To establish the fund's global exposure in accordance with the VaR approach, the company may use the relative VaR approach or the absolute VaR approach pursuant to the quantitative and qualitative requirements for the use of the respective method referred to in Section 4 of this Regulation. The selected method (the relative or absolute VaR approach) shall be used consistently in the future.

6. The company shall assess which method (the commitment approach or the VaR approach, absolute or relative) for calculating the global exposure is appropriate for the risk profile of the respective fund, taking into account the investment policy, investment strategy, types and complexity of the used FDIs as well as the share of transactions in FDIs in the fund's investment portfolio, perform a self-assessment and, on its basis, take a decision on the selection of the method. The company shall document the decision and

the underlying motivation indicating all considerations for the selection of the respective method. The selected method shall be indicated in the fund's prospectus.

7. The company may start to use the VaR approach for calculating the fund's global exposure 30 days after submitting the information referred to in Subsection 4.10 of this Regulation to Latvijas Banka, if Latvijas Banka has not during this time requested the company to clarify, supplement or amend the submitted documentation.

8. The company shall use the VaR approach to calculate the fund's global exposure pursuant to the requirements referred to in Section 4 of this Regulation, if the self-assessment related to the selection of the method for calculating the global exposure suggests that:
8.1. the fund will employ complex investment strategies representing more than a negligible part of its investment policy;
8.2. the amount of risk inherent in transactions in exotic FDIs will be more than insignificant;
8.3. the global exposure calculated according to the commitment approach will not properly reflect the market risk of the fund's investment portfolio.

9. When using the absolute VaR approach, the calculated VaR shall not exceed 20% of the fund's net asset value.

10. When using the relative VaR approach, the VaR of the investment portfolio shall not be greater than twice the VaR of the reference investment portfolio referred to in Subsection 4.1 of this Regulation.

11. The company shall calculate the fund's global exposure at least once a day and, taking into account the fund's investment strategy, shall assess the need to make multiple calculations per day to ensure continuous hedging of the fund's global exposure.

3. Using the Commitment Approach to Establish the Fund's Global Exposure

3.1. General Requirements

12. Using the commitment approach to calculate the fund's global exposure, the company shall apply the methodology referred to in this Section to all positions of transactions in FDIs, including the FDIs embedded in transferable securities and money market instruments, regardless of whether the conclusion of transactions is aimed at gaining profit according to the fund's investment policy, hedging or efficient management of the fund's investment portfolio and regardless of whether the carrying amount of the FDI is positive or negative.

13. When calculating the fund's global exposure, the company may take account of netting and hedging arrangements pursuant to the requirements referred to in Subsection 3.5 of this Regulation provided that the application of these arrangements results in an unquestionable reduction in the respective risk exposure and obvious and material risks are considered.

14. Where the use of FDIs does not generate incremental exposure for the fund, it need not be included in the calculation of the fund's global exposure done via the commitment approach provided that the requirements referred to in Subsection 3.7 of this Regulation are observed.

15. The calculation of the fund's global exposure done via the commitment approach shall not include loans taken on the fund's account with a maturity of up to three months.

3.2. Establishing the Commitment of Standard FDIs

16. The application of the commitment approach to establish the commitment of standard FDIs allows for the equation thereof with the market value of the respective underlying asset. It may be replaced by the notional value or the price of the futures contract traded on a regulated market where this is more conservative. For non-standard FDIs, where it is not possible to establish their commitment as the market value or notional value of the equivalent underlying asset, an alternative approach pursuant to Subsection 3.4 of this Regulation shall be used provided that such FDIs represent a negligible share in the fund's investment portfolio.

17. The company shall calculate the fund's global exposure according to the commitment approach in compliance with the following requirements:
17.1. calculate the commitment of each individual FDI, each embedded FDI and transaction for ensuring an efficient management of the fund's investment portfolio;
17.2. pursuant to Subsection 3.5 of this Regulation, identify the possibilities for applying netting and hedging arrangements to calculate the net commitment following the application of netting and hedging arrangements, taking into account that:
17.2.1. the gross commitment is equal to the sum of the commitment of each individual FDI, including embedded FDIs, after applying netting arrangements;
17.2.2. the market value of a financial asset in the fund's investment portfolio may be used to reduce the gross commitment of the FDIs pursuant to the requirements referred to in Subsection 3.5 of this Regulation;
17.2.3. according to Paragraph 17.2.2 of this Regulation, the adjusted absolute value of the gross commitment is equal to the net commitment;
17.3. calculate the global exposure equal to the sum of the following components:
17.3.1. the absolute value of the commitment of each FDI not involved in netting or hedging arrangements;
17.3.2. the absolute value of the net commitment of FDIs;
17.3.3. the commitment of each transaction for ensuring an efficient management of the fund's investment portfolio calculated pursuant to Subsection 3.6 of this Regulation.

18. The calculation of the gross and net commitment shall be based on an exact conversion of the FDI position into the market value of the underlying asset of that FDI.

19. The commitment of each FDI and each transaction for ensuring an efficient management of the fund's investment portfolio shall be converted to the fund's currency using the spot rate.

20. Where none of the currencies involved in the transaction in the currency FDI is the fund's currency, the commitment derived from the conversion of both currencies into the fund's currency shall be taken into account when calculating the commitment of the FDI.

21. The commitment of the futures contract traded on a regulated market shall be established as follows:
21.1. for bond futures – the number of contracts is multiplied by the notional contract size and the market price of the cheapest-to-deliver reference bond;
21.2. for interest rate futures – the number of contracts is multiplied by the notional contract size;

21.3. for currency futures – the number of contracts is multiplied by the notional contract size;

21.4. for equity futures – the number of contracts is multiplied by the notional contract size and the market price of the respective underlying asset;

21.5. for index futures – the number of contracts is multiplied by the notional contract size and the respective index value.

22. The commitment of the plain vanilla options (bought or sold puts and calls) shall be established as follows:

22.1. for plain vanilla bond options – the notional contract value is multiplied by the market value of the underlying reference bond and delta which shows the amount by which an option's value changes with the change in the price of the underlying asset (hereinafter referred to as "delta");

22.2. for plain vanilla equity options – the number of contracts is multiplied by the notional contract size, the market value of the respective underlying asset and delta;

22.3. for plain vanilla interest rate options and currency options – the notional contract value is multiplied by delta;

22.4. for plain vanilla index options – the number of contracts is multiplied by the notional contract value, the value of the respective index and delta;

22.5. for plain vanilla options on futures – the number of contracts is multiplied by the notional contract value, the market value of the respective underlying asset and delta;

22.6. for plain vanilla swaptions – the commitment of the respective swap is multiplied by delta;

22.7. for warrants and rights – the number of shares or bonds is multiplied by the market value of the respective underlying asset and delta.

23. The commitment of swaps shall be established as follows:

23.1. for plain vanilla fixed or floating rate interest rate and inflation swaps – the market value of the underlying asset (the notional principal amount of the contract's fixed interest rate may also be applied);

23.2. for currency swaps – the notional value or the sum of notional values (of each currency) where none of the currencies involved in the transaction is the fund's currency;

23.3. for cross-currency interest rate swaps – the notional value or the sum of notional values (of each currency) where none of the currencies involved in the transaction is the fund's currency;

23.4. for basic total return swaps – the market value of the underlying reference asset (assets). A basic total return swap is a bilateral contract between a total return payer and a total return receiver whereby the total return payer pays the total return of a reference asset specified in the contract and receives from the receiver of the total rate of return, in principle, a floating rate payment (e.g. LIBOR) plus a spread;

23.5. for non-basic total return swaps – the cumulative market value of the underlying reference assets forming the calculation of return underlying the amount due and receivable. A non-basic total return swap is a basic total return swap where, instead of the floating rate payment, a fixed rate payment or a payment based on the total return of another reference asset is envisaged;

23.6. for single name credit default swaps:

23.6.1. for the protection seller – the highest of the following values: the market value of the underlying reference asset or the notional value of the credit default swap;

23.6.2. for the protection buyer – the market value of the underlying reference asset;

23.7. for contracts for differences – the number of shares or bonds multiplied by the market value of the underlying asset.

24. The commitment of forwards shall be established as follows:

24.1. for FX forwards – the notional value or the sum of notional values (of each currency) where none of the currencies involved in the transaction is the fund's currency;
24.2. for forward rate agreements – the notional value.

3.3. Establishing the Commitment of the FDIs Embedded in Transferable Securities and Money Market Instruments

25. The commitment of the FDIs embedded in financial instruments shall be established as follows:
25.1. for convertible bonds – the number of reference shares is multiplied by the market value of underlying shares and delta;
25.2. for credit linked notes – the market value of the underlying reference asset (assets);
25.3. for partly paid securities (securities for which the outstanding sum is paid only when it is established by the issuer of the security) – the number of shares or bonds is multiplied by the market value of the underlying reference asset;
25.4. for warrants and rights – the number of shares or bonds is multiplied by the market value of the underlying reference asset and delta.

3.4. Establishing the Commitment of Non-standard FDIs

26. The commitment of the following FDIs shall be established according to the commitment approach as follows:

26.1. for a variance swap, according to the market practice, the strike price and the variance notional are expressed in terms of volatility, thus:

$$variance\ notional = \frac{vega\ notional}{2 \times strike}.$$

The vega notional provides a theoretical measure of the profit or loss resulting from a 1% change in volatility.
As realised volatility cannot be less than zero, a long swap has a known maximum potential loss. The maximum potential loss on a short swap is often limited by the inclusion of a cap on volatility. Without a cap, a short swap's potential losses are unlimited.
The conversion methodology used for a given contract at time t is:

variance notional multiplied by (current) variance$_t$ (without volatility cap);

variance notional multiplied by the lowest of the following: (current) variance$_t$ or volatility cap squared (with volatility cap),where: (current) variance$_t$ is a function of the squared realised and implied volatility, i.e.:

$$(current)\ variance_t = \frac{t}{T} \times realised\ volatility\ (0,t)^2 + \frac{T-t}{T} \times implied\ volatility\ (t,T)^2;$$

26.2. by analogy with the variance swaps, the commitment of volatility swaps shall be established by multiplying vega notional by (current) volatility$_t$, without volatility cap in the contract. The commitment of the volatility swaps with volatility cap shall be established by multiplying vega notional by the lowest of the following: (current) volatility$_t$ or volatility cap, where (current) volatility$_t$ is a function of the realised and implied volatility;
26.3. for barrier options – the number of contracts is multiplied by the notional contract size, the market value of the underlying asset and maximum delta. The maximum delta is equal to the highest (if positive) or lowest (if negative) value that the delta of the option may attain taking into account all possible market scenarios.

3.5. Netting and Hedging Arrangements

27. The fund's global exposure may be reduced by determining the net commitment that is established by taking into account the netting and hedging arrangements set out in this Subsection and the procedure developed by the company for the application of those arrangements.

28. Netting arrangements are combinations of trades on FDIs or transferable securities in the fund's investment portfolio which refer to the same underlying asset, irrespective – in the case of FDIs – of the contract's due date, ensuring that the sole aim of concluding the transaction agreement is to eliminate the risks linked to the respective instruments.

29. Long and short positions of the FDIs may be netted provided that both instruments refer to the same underlying asset, irrespective of the contract's due date.

30. Long and short positions of the FDI and of the respective financial instrument in the fund's investment portfolio may be netted provided that the underlying asset of the FDI is the same financial instrument (a transferable security, a money market instrument or a unit of an investment fund).

31. Hedging arrangements are combinations of trades on FDIs or transferable securities in the fund's investment portfolio, ensuring that the sole aim of concluding the transaction agreement is to offset the risks linked to the positions taken through those FDIs or respective financial instruments. The underlying assets of the financial instruments used in transactions may be different.

32. Hedging arrangements may be taken into account only where they offset the risks linked to the respective assets and comply with all of the following criteria:
32.1. the company can prove that hedging arrangements are efficient at the fund's level;
32.2. the risks linked with the FDIs, i.e. the general and the specific, if any, market risks are eliminated;
32.3. hedging arrangements refer to the same type of financial assets;
32.4. hedging arrangements are also efficient in stressed market conditions.

33. Investment strategies that are implemented with an aim to generate a greater return shall not be considered as hedging arrangements.

34. The FDIs used for hedging the exchange rate fluctuations in the fund's investment portfolio that do not add any exposure, shall be considered as hedging arrangements that do not increase global exposure.

35. The company may not unduly reduce the fund's global exposure as a result of applying netting and hedging arrangements. This may happen where, as a result of applying netting and hedging arrangements, the commitment of the FDI that is calculated using the commitment approach is below the commitment of the FDI that is calculated by taking exact account of the contract terms.

3.6. Transactions for Ensuring an Efficient Management of the Fund's Investment Portfolio

36. Where, for the purposes of an efficient investment portfolio management, sale and repurchase transactions or transactions where the fund lends securities against a relevant collateral provided that the borrower will return equal securities on a certain date in the future or at the fund's request (hereinafter referred to as "securities lending transactions")

are provided for in the fund's prospectus and undertaken accordingly, and the received money or collateral is re-invested, thus generating additional leverage (the fund's risk exposure), the commitment of these transactions shall be taken into account when determining the fund's global exposure.

37. The commitment of a concluded sale and repurchase transaction or securities lending transaction is the amount of money received or the market value of the financial instrument received as collateral where the received money or collateral is re-invested in financial assets whose return exceeds the return ensured by an investment in high-quality short-term government bonds with a maturity of up to three months (hereinafter referred to as the "risk-free return").

38. A transaction whereby the received collateral is further used in another sale and repurchase transaction or securities lending transaction shall be included in the calculation of the fund's global exposure pursuant to the procedure set out in Paragraph 37 of this Regulation.

39. The securities received as a result of the concluded sale and repurchase transaction shall not be included when calculating the fund's global exposure where these securities are not further used in the sale and repurchase transaction or securities lending transaction.

3.7. FDIs Excluded from the Calculation of the Fund's Global Exposure

40. When the commitment approach is used, the commitment of the underlying asset need not be included when calculating the fund's global exposure provided that the use of FDIs does not add any exposure to the fund and all of the following criteria are met:
40.1. as a result of the transaction, the return on financial assets in the fund's investment portfolio is swapped for the return on other reference financial assets;
40.2. an FDI totally offsets the market risk of the financial assets in the fund's investment portfolio that are used in the transaction so that the fluctuations of the value of these assets do not affect the return on the fund;
40.3. the contract does not provide for any additional optional features or conditions that may generate leverage or any other risks in addition to the risks linked to the holding of the reference financial assets.

41. An FDI need not be included when calculating the fund's global exposure provided that both of the following requirements are met:
41.1. it is ensured that the combined fund's investment in risk-free assets and transaction in an FDI is equivalent to a direct investment in the respective underlying asset. Risk-free assets are investments in assets that ensure risk-free return;
41.2. the contract does not contain provisions that generate any incremental exposure, leverage or market risk.

3.8. Applying the Commitment Approach to Certain Types of Structured Funds

42. A structured fund is a fund that meets all the following criteria:
42.1. the fund's investment portfolio is passively managed and structured so that to achieve, within a particular time, pre-defined payoff to the fund's investors and the fund's assets are continuously invested in assets that ensure a pre-defined profit;

42.2. the fund's investments are made on the basis of a formula set by the company and the pre-defined payoff to the fund's investors may be divided into several separate scenarios (each with a respective payoff scheme) that depend on the changes in the value of assets in the investment portfolio and offer different payoffs to the fund's investors;

42.3. at any time during the fund's entire operation cycle only one type of a payoff scheme applies to a fund's investor;

42.4. to calculate the fund's global exposure, the commitment approach is applied to each separate scenario in line with the requirements referred to in this Regulation;

42.5. the operation period of the fund does not exceed nine years;

42.6. the fund suspends the issue of units following the expiration of the initial unit placement term;

42.7. the maximum potential loss at the time when a payoff scheme to the fund's investors is changed does not exceed 100% of the initial investment value;

42.8. the effect of the return on the asset in the fund's investment portfolio on the payoff scheme when a scenario is changed complies with the investment limits set out in the Law on Investment Management Companies. The effect of a single asset is determined as the share of the carrying amount of that asset in the initial fund's value.

43. The global exposure of a structured fund shall be calculated using the commitment approach, taking into account the following conditions:

43.1. pursuant to the fund's investment strategy that is implemented in accordance with the formula defined by the company, each pre-defined payoff is broken down into individual payoff scenarios;

43.2. the company shall assess whether the transactions in FDIs implemented under each scenario are to be included in the calculation of the fund's global exposure or they need not be included in accordance with the requirements referred to in Subsection 3.7 of this Regulation;

43.3. the global exposure calculated for each scenario may not exceed 100% of the net asset value.

4. Using the VaR Approach to Establish the Fund's Global Exposure

4.1. General Requirements

44. The VaR approach shall be used to measure the maximum potential losses deriving from the market risk of the fund's investment portfolio at a given confidence interval (probability) within a specific time period under normal (unstressed) market conditions.

45. The establishment of the fund's global exposure using the VaR approach shall cover all positions in the fund's investment portfolio.

46. The company shall determine the maximum VaR limit in accordance with the defined risk profile of the fund.

47. When determining the fund's maximum VaR limit, the company shall comply with the internal limits established for each risk profile of the fund under the risk management process. The company shall develop, implement and maintain a documented procedure for ensuring the update of and compliance with these limits and their control.

48. To ensure consistency between the VaR limit and the defined risk profile, the company shall adhere to the principle of prudence by establishing the fund's VaR limit below the maximum amount specified in this Regulation.

49. The company shall document the VaR approach and its application process in the legal acts.

50. The company shall ensure that the risk stemming from transactions for ensuring an efficient management of the fund's investment portfolio is also included in the calculation of the VaR and in the internal VaR limits.

4.2. Relative VaR Approach

51. According to the relative VaR approach, the fund's global exposure is calculated as follows:
51.1. calculate the VaR of the fund's investment portfolio which includes FDIs;
51.2. calculate the VaR of the reference investment portfolio.

52. The company shall verify if the VaR of the investment portfolio is not greater than twice the VaR of the reference investment portfolio using the following formula:

$$\frac{VaR\ of\ the\ investment\ portfolio - VaR\ of\ the\ reference\ portfolio}{VaR\ of\ the\ reference\ portfolio} \times 100 \le 100\%.$$

53. When determining the VaR of the reference investment portfolio, the following conditions shall apply:
53.1. the reference investment portfolio shall be unleveraged and not contain FDIs. The following exceptions may apply:
53.1.1. a fund that uses a long or short position investment strategy may select the reference investment portfolio with FDIs that are used to enable gaining short exposures;
53.1.2. a fund that provides for a currency hedged investment portfolio in its prospectus may also include a currency hedged index in the reference investment portfolio;
53.2. the risk profile of the reference investment portfolio shall correspond to the fund's investment objective, investment policy and investment limits;
53.3. the company shall, in the legal acts governing the risk management framework, document the procedures for establishing and updating, including determining the composition, of the reference investment portfolio and the application processes thereof.

54. Where the risk or return profile frequently changes or it is impossible to consistently define the composition of the reference investment portfolio, the relative VaR approach shall not be used.

4.3. Absolute VaR Approach

55. The absolute VaR is the fund's VaR expressed as a percentage of the net asset value.

56. The use of the absolute VaR approach limits the maximum VaR the fund can have relative to its net asset value.

4.4. Minimum Quantitative Requirements for Using the VaR Approach

57. The company shall calculate the absolute and relative VaR in accordance with the following minimum quantitative parameters:
57.1. one-tailed confidence interval of 99% is applied;
57.2. the holding period of the positions is equivalent to 1 month (20 business days);
57.3. an observation period (history) of risk factors is at least 1 year (250 business days) unless a shorter observation period is justified by a significant change in price volatility (e.g. extreme market conditions);

57.4. the complete data set is updated at least quarterly (or more frequently when there is significant price volatility);

57.5. VaR is calculated at least once every business day.

58. The confidence interval or the holding period of the positions may differ from those referred to in Paragraphs 57.1 and 57.2 of this Regulation but may not fall below 95% or exceed 1 month (20 business days) respectively.

59. Where the fund uses the absolute VaR approach and uses calculation parameters other than those referred to in Paragraph 57 of this Regulation, it shall rescale the maximum absolute VaR referred to in Paragraph 9 of this Regulation (20%). Rescaling may only be done under the assumption of a normal distribution with an independent and identical distribution of the risk factor return by referring to the quantiles of the normal distribution and the square root of time rule.

60. The maximum absolute VaR shall be rescaled to another confidence interval and a different holding period in line with the following requirements:

60.1. when using another confidence interval, the following quantiles of the normal distribution shall be taken into account:

Confidence level (%)	Coefficient normal distribution
99.0	2.326
97.5	1.96
95.0	1.645

Assuming that a confidence interval is y% (and a holding period is 20 business days), the above maximum absolute VaR of 20% (with a confidence interval of x% or 99%) shall be rescaled using the following formula:

$$VaR\ (y\%)\ \approx \frac{coeff\ (y\%)}{coeff\ (x\%)} \times VaR\ (x\%);$$

60.2. when another holding period of x business days with a confidence interval of 99% is used, the maximum absolute VaR (20%) with a holding period of t business days (i.e. 20) shall be rescaled using the following formula:

$$VaR\ (n\ days)\ \approx \frac{\sqrt{n}}{\sqrt{t}} \times VaR\ (t\ days);$$

60.3. when another confidence interval (y%) and another holding period (x days) are used, the maximum absolute VaR of 20% (with a confidence interval of x% (i.e. 99%) and the holding period of t business days (i.e. 20)) shall be rescaled using the following formula:

$$VaR\ (y\%, n\ days)\ \approx \frac{coeff\ (y\%)}{coeff\ (x\%)} \times \frac{\sqrt{n}}{\sqrt{t}} \times VaR\ (x\%, t\ days).$$

4.5. Requirements for the VaR Model

61. To enable the use of the VaR model for the fund's global exposure calculation purposes, it shall take into account the general market risk and, if applicable, the idiosyncratic risk. The event or default risks stemming from the fund's investments shall be taken into account at least in the stress testing programme.

62. The company shall ensure that the most appropriate VaR model is selected for the respective fund in view of the fund's investment objective, strategy as well as the types and complexity of the financial instruments used.

63. The company shall ensure that the VaR model captures and measures all risks related to investments in line with the following requirements:
63.1. all positions of the fund's investment portfolio are included in the calculation of VaR;
63.2. the VaR model captures all material market risks associated with the positions of the investment portfolio and, in particular, the specific risks associated with FDIs. For that purpose, the VaR model shall capture all risk factors that have a significant effect on the value of the investment portfolio;
63.3. the quantitative models used for measuring VaR (pricing tools, estimates of volatility and correlation, etc.) provide for a high level of accuracy;
63.4. the consistency, timeliness and safety of all data used in the VaR models are ensured by also including the independence test of data sources.

4.6. Back Testing

64. The company shall assess the accuracy and performance of the fund's VaR model (the prediction capacity of risk estimates) by conducting back testing.

65. Back testing shall provide that for each business day the one-day VaR measure generated by the VaR model for the fund's investment portfolio end-of-business-day positions is compared to the one-business-day actual change in the value of the fund's investment portfolio on the respective business day.

66. The company shall carry out back testing at least once a month, subject to the requirements referred to in Paragraph 65 of this Regulation to perform retroactive comparison for each business day.

67. On the basis of this back testing, the company shall determine and monitor the amount of one-day changes in the value of the fund's investment portfolio that exceeds the related one-day VaR measure calculated by the VaR model (hereinafter referred to as an "overshooting").

68. Where the back testing results reveal an excessive number of overshootings, the company shall have an obligation to review the VaR model and make appropriate adjustments.

69. The company's officials shall receive information, at least once a quarter, about the back testing results, where the number of overshootings for the fund during the last 250 business days exceeds 4 in the case of a 99% confidence interval. That information shall include an analysis and explanation of the sources for overshootings and a statement of the measures taken to improve the accuracy of the model.

70. Where the number of overshootings for the fund during the last 250 business days exceeds 4 in the case of a 99% confidence interval, the company shall notify Latvijas Banka to this effect within 30 days and provide an explanation of the sources for overshootings and of the action taken to improve the performance of the VaR model (if intended). Where the number of overshootings for the fund during the last 250 business days notably exceeds 4 in the case of a 99% confidence interval, i.e. the VaR model is not sufficiently accurate, Latvijas Banka shall be entitled to request that the necessary

measures be taken for an immediate improvement of the VaR model's performance or apply stricter requirements to the calculation of the fund's global exposure.

4.7. Stress Testing

71. The company that uses the VaR approach to calculate the fund's global exposure, shall ensure an appropriate, comprehensive and risk-adequate stress testing process in accordance with the requirements referred to in this Subsection.

72. The stress testing process shall be designed to measure any potential major depreciation of the value of the fund's investment portfolio resulting from unexpected changes in the relevant market parameters and correlation factors as well as to measure the probable changes in the relevant market parameters and correlation factors, which can result from major depreciation of the value of the fund's investment portfolio, e.g. when liquidating positions to a counterparty can cause changes in the market.

73. The stress tests shall be adequately integrated into the fund's risk management process. The company's officials shall familiarise themselves with the results of those tests and take them into account when making investment decisions for the fund.

74. Stress tests shall capture all risks that can have a material effect on the value of the investment fund or its fluctuations.

75. The stress tests shall ensure the analysis of those potential situations when, as a result of leverage, the fund may be exposed to a risk of significant losses that may potentially lead to the default of the fund.

76. Stress testing shall focus on those risks which are not material in normal circumstances but can become material in stress situations, e.g. the risk of unusual correlation changes, the illiquidity of markets in stressed market situations or the risks associated with structured financial instruments (whose return depends on the changes in the market value or return of a set of assets in which an investment has been made indirectly) under stressed liquidity conditions.

77. The stress tests shall be carried out regularly, no less than once a month.

78. The stress tests shall also be carried out whenever there is a reason to believe that changes in the value or the structure of the fund's investment portfolio or changes in the market conditions will cause the test results to differ significantly.

79. The stress tests shall be carried out in line with the structure of the fund's investments and the market conditions under which the fund invests its assets.

80. The stress testing process shall include clear and documented procedures for the design, performance and ongoing improvement of the stress testing process. A programme for carrying out stress tests shall be developed according to such procedures for each fund. The company shall document the justification for the suitability of the selected programme for the particular fund and the conducted stress tests, their results and conclusions as well as indicate the reasons for deviating from the programme.

81. When making significant changes in the used stress tests, both the previous and the new stress test methodology shall be applied at least during the first stress testing after the changes and the results shall be compared.

4.8. Qualitative Requirements for Using the VaR Approach

82. The VaR model and the related outputs are part of the daily risk management process. The company shall integrate the VaR model into the investment process so that the fund's manager ensures the fund's risk profile is under control and consistent with its policy and strategy.

83. The company shall, by using the VaR approach, ensure that the responsibilities of the person who performs the control function include:
83.1. verifying the data needed for the use of the model on a day-to-day basis ensuring the use, maintenance and testing of the VaR model;
83.2. monitoring the process relating to the determination of the reference investment portfolio if the fund uses the relative VaR approach;
83.3. continuously inspecting the VaR model ensuring its adaptation to the fund's investment portfolio;
83.4. validating and implementing for each fund a documented system of internal VaR limits approved for the particular risk profile of the investment portfolio by the board of the company;
83.5. monitoring and controlling the VaR limits;
83.6. monitoring, on a regular basis, the level of leverage;
83.7. producing, on a regular basis, reports relating to the VaR level as well as performed back testing and stress testing and submitting those reports to the officials of the company;
83.8. continuously performing and documenting the inspection of the VaR model that also includes back testing in accordance with Subsection 4.6 of this Regulation to ensure that the model is accurately calibrated and the assumptions used therein are reasonable.

84. To inspect a VaR model, the company shall develop a procedure whereby it also establishes the cases when the model should be adjusted in view of the model inspection results.

85. The initially developed VaR model shall be validated by a person or a structural unit (e.g. an internal audit service, a commercial company of certified auditors or another provider of such service) that has not been involved in developing the model and that has experience in working with complex models to ensure that the model is conceptually sound and captures all material risks. Any significant changes in the model, for instance, those related to using new investment products in managing the fund, the necessity to improve the model in view of the back testing results or the company's decision to significantly alter any aspect of the model, shall also be validated.

86. A fund whose global exposure is calculated using the VaR approach shall have the level of its leverage regularly monitored.

87. Taking into account the fund's risk profile and investment policy, the VaR approach and the stress testing process employed shall be supplemented with another risk measurement method.

4.9. Disclosures in the Fund's Prospectus

88. The company shall indicate in the fund's prospectus the method used to calculate the fund's global exposure (the relative or absolute VaR approach).

89. Where the VaR approach is used to calculate the fund's global exposure, the fund's prospectus shall disclose information about the expected and the possible highest leverage levels.

90. The leverage to be disclosed in the fund's prospectus shall be calculated as the sum of the notional principal values of the FDIs used.

91. Where the relative VaR approach is used to calculate the fund's global exposure, the prospectus shall disclose information about the key principles for determining the reference investment portfolio and about the financial instruments included therein.

4.10. Information to be Submitted to Latvijas Banka

92. The company shall submit to Latvijas Bank the following information about each fund whose global exposure is intended to be calculated by using the VaR approach:
92.1. the introduction and use of the VaR approach;
92.2. the control of the fund's global exposure and leverage;
92.3. the documentation of the VaR model;
92.4. the initial validation of the VaR model;
92.5. the stress testing process;
92.6. the performance and ongoing inspection of the model.

93. Information about introducing and using the VaR model shall include:
93.1. the motivation for choosing the VaR approach (either relative or absolute) specifying all considerations for the selection of the approach and its suitability for the operations of the particular fund;
93.2. information about the validated VaR model of the fund, the system of internal VaR limits, the level of leverage and the procedure for monitoring and controlling these indicators;
93.3. information about a contact person (first name, surname, phone number, e-mail address) regarding the introduction and use of the VaR approach.

94. Information about the arrangements for controlling the fund's global exposure and leverage shall include the following:
94.1. a description of the responsibilities of the company's official involved in the risk management process;
94.2. a description of the process for implementing, using and validating the VaR model, and for monitoring the level of leverage (also when the risk control function has been outsourced to another person).

95. Information about the documentation of the VaR model shall include:
95.1. a description of the data and data sources used in the model;
95.2. information about collecting and storing of data, verification of the consistency, timeliness, safety and independence of data sources;
95.3. a description of the model methodology and the motivation for choosing the model;
95.4. information about the risk factors covered by the model;
95.5. a description of the parameters (holding period, confidence interval, etc.), assumptions, estimates and restrictions and of the quantitative methods (pricing methods, volatility and correlation estimates, etc.) used in the VaR model;
95.6. the motivation for the expected use of the parameters that are different from those referred to in Paragraph 57 of this Regulation when using the absolute VaR approach;
95.7. a description of the process of determining the reference investment portfolio when using the relative VaR approach;

95.8. a description of the validity range for the operation of the model.

96. Information about the initial validation of the model shall include:
96.1. data about the person or the structural unit that initially validated the model (first name, surname or the name of the firm, a statement to the effect that the person has the necessary competence and experience in working with complex models);
96.2. the assessment of independence of the structural unit or the person involved in the initial validation of the VaR model;
96.3. the conclusions after the initial validation of the developed model.

97. Information about stress testing shall include:
97.1. a description of the stress testing process;
97.2. a description of the procedure for carrying out stress tests and of the stress test programme;
97.3. information about the performed stress tests and the results thereof.

98. Information about the performance and ongoing validation of the VaR model shall include:
98.1. a description of the process for the implementation and practical application of the model and of the responsibilities of the related risk control function;
98.2. information about the accuracy and performance of the VaR model (i.e. compliance of the forecast risk measurements with the actual ones);
98.3. a description of the back testing method used by the company and of the analysis of the results of the performed tests, including information about the number of overshootings found by back testing over the last 250 business days;
98.4. a description of the process for ongoing validation of the model.

5. Calculating Risk Exposure to a Counterparty

99. Risk exposure to a counterparty shall be calculated by aggregating the positive market values of the transactions in FDIs made with the respective counterparty. Risk exposure to a counterparty – a credit institution – shall not exceed 10% of the fund's assets and to an investment firm – 5% of the fund's assets.

100. The company may apply contractual netting in respect of the concluded FDI transactions with the same counterparty provided that these transactions are included in a legally enforceable bilateral netting contract and comply with the requirements referred to in Articles 295, 296 and 297 of Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and amending Regulation (EU) No 648/2012 as far as they concern the operation of the company. Contractual netting shall only be applied to the transactions in the OTC FDIs concluded with the counterparty.

101. Collateral passed to the counterparty on behalf of the fund shall be added to the exposure to the counterparty.

102. When calculating risk exposure to a counterparty, the initial margin paid to the counterparty by the fund and the fund's claims regarding the variation margin that is related to the FDIs traded on the regulated market or the OTC FDIs shall be taken into account, except in cases when the company has done research and obtained assurance that the segregation of the money paid by customers from the property of the counterparty is legally ensured or a similar protection of the customer's assets is ensured in case of the counterparty's default.

6. Transaction concentration risk

103. To comply with the investment limits referred to in Section 66 of the Law on Investment Management Companies when calculating the transaction concentration risk with a single issuer or counterparty, the company shall take into account:

103.1. the carrying amount of the transferable securities of that issuer in the fund's investment portfolio;

103.2. the principal of deposits where the counterparty is a credit institution;

103.3. the commitment of the underlying asset of FDIs, including embedded FDIs, where the underlying asset of the FDI has been issued by that issuer or counterparty;

103.4. risk exposure to that counterparty;

103.5. in case of a stock lending transaction or a sale and repurchase transaction, the net exposure value with that counterparty.

104. The principal of deposits shall be the cash resources in the accounts with a credit institution on the reporting date that are repayable to the fund in accordance with the contract provisions. The principal of deposits is comprised of the total carrying amount of all time deposits and claims on demand (except claims on demand with the custodian bank) that is reduced by the sum of accrued interest unless the contract provides for the payment of accrued interest in case of an early termination of the contract.

105. The commitment of the underlying asset of the FDI, where the underlying asset of the FDI is issued by an issuer or a counterparty in respect of which the company establishes transaction concentration, shall be calculated using the commitment approach in accordance with the requirements referred to in Section 3 of this Regulation irrespective of the approach used by the company to calculate the fund's global exposure.

106. Where the underlying asset of an FDI is comprised of several securities (e.g. a securities index), the commitment of each security in the underlying asset of the FDI shall be determined separately.

107. When calculating the exposure to an issuer or a counterparty, the commitment of the security of that issuer in the underlying asset of the FDI shall also be taken into account that is the market value (using the commitment approach) or the value of the maximum potential losses in case of the issuer's default where that approach is more prudent.

108. Risk exposure to a counterparty shall be calculated in accordance with the requirements referred to in Section 5 of this Regulation.

109. In case of a stock lending transaction or a sale and repurchase transaction in securities, the net commitment of the counterparty shall be composed of the spread between the carrying amount of the assets sold or lent and of the collateral received.

110. By derogation from the requirements referred to in Paragraph 106 of this Regulation, the commitments of the securities in the underlying asset of the FDI need not be included when calculating exposure to a single issuer or a counterparty where the underlying asset of the FDI contains a securities index that is comprised of the investment objects which comply with the Law on Investment Management Companies and whose structure corresponds to the degree of diversification set out in Paragraphs 1^1 and 1^2 of Section 66 of the Law on Investment Management Companies.

111. Where an FDI embedded in a financial instrument provides for a swap of an existing financial instrument for another financial instrument issued by the same issuer, the larger

of the market value of the underlying asset or of the market value of the security or the money market instrument shall be included in the calculation.

7. Final Provision

112. The Financial and Capital Market Commission's Regulation No 147 "Regulation on Calculating the Fund's Global Exposure and Risk Exposure to a Counterparty" of 1 September 2020 (*Latvijas Vēstnesis*, 2020, No 177) shall be deemed invalid.

Informative Reference to the European Union Directive

The Regulation comprises the legal provisions arising from Commission Directive 2010/43/EU of 1 July 2010 implementing Directive 2009/65/EC of the European Parliament and of the Council as regards organisational requirements, conflicts of interest, conduct of business, risk management and content of the agreement between a depositary and a management company.

Governor of Latvijas Banka   Mārtiņš Kazāks