Abstract. In the framework of this work, the authors have developed an algorithm for scenario forecasting of small business development in Latvia, based on the assessment of the probability (using the method of hierarchy analysis) of transformation of available opportunities into strengths for each type of support for small business development (financial and credit, educational, informational, institutional and legislative, property and material-technical, informational, consulting) and taking into account the probability of influence of economic transformation risks on this process. The proposed algorithm allowed to envisage pessimistic, realistic and two types of optimistic scenarios: the first – growth of competitive positions of Latvian small business in the Baltic market, the second – in the European market. For each of the scenarios, the experts have determined the maximum limits that integrally evaluate each of the researched types of small business development support, and the a priori probability of realisation of these scenarios has been calculated. The article defines the foresight objectives aimed at achieving the desired development scenarios, the possibility of their realisation is confirmed by calculating a posteriori probability (according to Bayes theory) for each of these scenarios and identifying positive trends in changes compared to the a priori probability.

Key words: foresight objectives for economic transformation, scenario forecasting of small business development, state support for small business in Latvia.

Introduction. The development of an effective strategy for small business development is a mandatory attribute of Latvia's economic development and should be based on comprehensive diagnostics, including the assessment of the quality of development support mechanisms, the validity of legal acts regulating this process, the assessment of existing weaknesses and strengths of small business activities and the determination of the effectiveness of the country's policy of intervention in small business development [5, 8, 12]. We believe that in the near future the development of small business in Latvia is possible not so much because of the introduction of new legislative norms, but because of the qualitative improvement of state support for small business and ensuring unconditional fulfilment of legislative norms by all economic entities. Due to the conflict between the private interests of small business and the national interests of society, there is a need to build a group of scenarios and form a rational strategy for the development of both the economy as a whole and its most vulnerable part – the small business sector. The improvement of small business performance depends entirely on the quality of their development strategy. A quality small business development strategy contributes to their growth, improved access to financial services and increased stability. If the quality of strategy is not high enough, the goals are unclear, and the timing of implementation is uncertain, performance deteriorates. Strategy can influence development by improving economic policy, reducing uncertainty. We agree with the opinion of a number of experts that in the conditions of uncertainty
of transformation processes of the national economy a clearer understanding of possible scenarios of its development is seen through the use of modern tools of foresight-foresight [17, 18, 21, 22]. Proceeding from this, in our opinion, in the issue of ensuring the development of small business, the application of foresight technologies is promising in the construction of development strategies.

**Basic theoretical and practical provision.** In the development of economic, scientific, technological and innovation strategy of the state since the early 1990s, special attention has been paid to the practice of determining development priorities using the Foresight method. This method was widely used by the governments of the USA, Great Britain, Germany, Japan and Australia. By the end of the 2000s, more than 30 countries had implemented this approach. Currently, the Foresight method is actively used not only in the developed countries of Western Europe, the USA and Japan, but also in a number of developing countries and countries with economies in transition, including new EU members such as Hungary, the Czech Republic and Poland. In the UK, Germany, Hungary, France and Spain, support for Foresight comes from the government, while in Sweden, Italy and Portugal the initiative comes from the business community. The most widespread use of this method is in the UK, and many countries are now utilising this country's experience in this area.

Currently, there is no single model of Foresight, each country “adapts” this method to its own conditions and goals. Since Foresight is more about process than outcome, there are no clear indicators of its effectiveness. Each country adapts this approach to its own context, taking into account national interests, using different techniques to predict the future. (Delphi method, scenarios, brainstorming, SWOT – analysis, alternative options and scenarios of the future, international comparisons, etc.). “Foresight” is a process of nationwide selection of new directions, during which a consensus of opinions of various subjects of the national innovation system is achieved, and links between its elements are established. Therefore, this method is most widespread in countries with a developed culture of cooperation and co-operation within the national innovation system, the development of which is supported by the government. Foresight” refers to the process of systematic identification of new strategic scientific directions and technological achievements, which in the long term can have a serious impact on the economic and social development of the country [21, 22].

In economics, system foresight is an important tool for analysing and shaping development prospects. The main methods of system foresight applied in the economic context are as follows [17]:

– Technological analysis and forecasting: The study of current and potential technological trends and their impact on production, services and markets. This includes analysing innovations and assessing their impact on economic dynamics.

– Market Trend Analysis: The study of market conditions, the competitive environment, consumer supply and demand, and changes in consumer behaviour.

– Econometric modelling: The use of statistical techniques to analyse economic data and develop models that predict future economic developments.

– Scenario forecasting: Creating different scenarios of developments based on changes in economic factors such as GDP, inflation, unemployment, and others.

– SWOT analysis of the economic system: Assessing the strengths, weaknesses, opportunities and threats facing the economy, which helps to identify strategic priorities.

– Socio-economic trend analysis: Examination of demographic changes, social trends and their impact on economic activity.

– Institutional Factors Study: Assessing the impact of legal, political and social institutions on economic stability and development.

– Business Scenarios: Developing business and market scenarios to help companies and investors better understand possible future trends.

– Economic models of structural change: Exploring possible changes in the structure of the economy, such as the development of new industries, changes in trade flows, etc.
– Forecasting using econometrics: Applying mathematical models and statistical methods to forecast economic performance.

These methods allow economic analysts, governments, entrepreneurs and other market participants to make informed decisions and adapt to the changing conditions of the economic environment. One of the main conditions for the successful use of this method is the readiness of society (administrative apparatus, heads of companies, individual specialists, and the public) to jointly assess the long-term prospects of the country's development, abstracting from short-term conjunctural moments.

The implementation of measures and methods of the system foresight of ensuring the development of small business allows to determine the prospects of ensuring the development, to determine the possible horizons of its future and to develop practical measures to achieve the selected strategic benchmarks. The main requirements to the system foresight of small business development are:

– taking into account the specifics of small business activity in Latvia (subordination to the relevant legal and regulatory acts, taking into account the criteria for classifying business entities to the category of small working enterprises, etc.);
– adaptation to the national long-term development strategy of Latvia Latvija2030 [16] and to the support programmes implemented for small businesses [7, 10];
– taking into account the public-private dialogue in balancing interests regarding the vision of future development;
– ensuring access to the necessary amount of financing for small businesses from private, public and intergovernmental funds;
– strengthening interaction between small businesses and research institutions and organisations.

Scenario forecasting in economics, as one of the methods of system foresight, is a methodology aimed at creating various possible scenarios for the development of economic events [19]. This approach helps to assess the likely effects of various factors and events on the economy in the future. Instead of a single-valued forecast, scenario forecasting provides a set of alternative scenarios that take into account different variables, conditions and impacts.

The main features of scenario forecasting include:

– Multiple scenarios: unlike traditional forecasting, the scenario approach involves creating several possible scenarios of developments. These scenarios can cover different levels of economic growth, inflation, policy changes and other factors [2];
– Consideration of various factors: Scenario forecasting takes into account the diverse impacts of various factors such as policies, technological changes, geopolitical developments, changes in market conditions and others that may affect the economy [3];
– Sensitivity analysis: Scenario forecasting analyses how changes in various variables can affect the results of the study. This helps in assessing the degree of resilience or sensitivity of the economic system to various influences [4];
– Strategic planning: due to the ability to consider different scenarios, scenario forecasting is used for strategic planning and decision making. Economic agents, such as businesses or public institutions, can use this approach to develop more adaptive strategies given the uncertainty in the environment.

Without doubt, scenario forecasting is not able to provide absolutely accurate predictions, but it provides an opportunity to better prepare for various potential scenarios of the future and take measures to reduce possible risks.

Risk management is an integral component of foresight justification of small business development activities, which allows to minimise the adverse effects of the action of uncertainty of transformational processes of the national economy on the activities of small businesses. In order to identify possible dangers, it is necessary to take into account in advance all aspects and conditions of small business development [20, 24, 25]. The correct definition of possible risks of transformation of the
national economy and the weight of their influence, along with the circumstances that hinder the development of small business, is crucial.

There are a number of characteristics inherent to the risk, which causes the presence of different views on the semantics of this concept, but their study allows us to highlight the key criteria for identifying the concept [1, 9, 14]:

– risk as a consequence of uncertainty of the result;
– risk as a probability of losses of the enterprise;
– risk as a danger or threat to the enterprise's activity;
– risk as damage received by the enterprise;
– risk as a probability of error and erroneous actions;
– risk as unreliability, etc.

Taking into account the importance of the processes of type of collateral in the development of small business, we propose a typology of risks of transformation of the national economy in accordance with the type of collateral on the basis of the FELPIC model, considered earlier in the studies of the author R. Indrika (2019):

– risks of financial and credit provision (F);
– risks of educational provision (E);
– risks of institutional provision, including risks of normative and legal provision; (L)
– risks of property and logistical support (P);
– information support risks (I);
– risks of consulting support (C);

The main risks of the national economy transformation affecting the development of small business are those that affect the processes of type support and as the weightiest and significant (Table 1).

Risk management is an integral part of the development of foresight activities and, according to scholars, consists of:

– a cyclical process that should be repeated at regular intervals, and this applies both to the entire activity of the enterprise and to individual business processes [24].
– a set of methods, techniques and measures that allow to a certain extent to predict the occurrence of risk events and take measures to reduce them [9];

<table>
<thead>
<tr>
<th>Group of risks</th>
<th>Abbreviation</th>
<th>List of the most significant hazards within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial and credit support</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>risks (F)</td>
<td>Rf1</td>
<td>Liquidity risk</td>
</tr>
<tr>
<td></td>
<td>Rf2</td>
<td>Credit risk and interest rate risk</td>
</tr>
<tr>
<td></td>
<td>Rf3</td>
<td>Risk of difficulty in accessing necessary financial resources</td>
</tr>
<tr>
<td></td>
<td>Rf4</td>
<td>Risk of insufficient quality of financial resources management</td>
</tr>
<tr>
<td></td>
<td>Rf5</td>
<td>Changes in exchange rates when buying and selling goods</td>
</tr>
<tr>
<td></td>
<td>Rf6</td>
<td>Risk that partners or customers fail to fulfil their financial obligations</td>
</tr>
<tr>
<td></td>
<td>Rf7</td>
<td>Risk of increase in accounts receivable and difficulties in its management</td>
</tr>
<tr>
<td></td>
<td>Rf8</td>
<td>Inability to attract financial resources due to a decrease in the level of creditworthiness</td>
</tr>
<tr>
<td></td>
<td>Rf9</td>
<td>Risk of financial losses due to inflationary processes</td>
</tr>
<tr>
<td></td>
<td>Rf10</td>
<td>Lack / reduction of investment capital</td>
</tr>
<tr>
<td></td>
<td>Rf11</td>
<td>Risk of bankruptcy</td>
</tr>
<tr>
<td></td>
<td>Rf12</td>
<td>Risk of financial losses due to non-payback of implemented new technologies</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Educational support risks; (E)</strong></td>
<td><strong>Re</strong>&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Spending on education can reduce available financial resources for other business needs</td>
</tr>
<tr>
<td></td>
<td><strong>Re</strong>&lt;sub&gt;2&lt;/sub&gt;</td>
<td>A business may not get the expected return on investment in employee education if their new skills are not applied effectively in the workplace.</td>
</tr>
<tr>
<td></td>
<td><strong>Re</strong>&lt;sub&gt;3&lt;/sub&gt;</td>
<td>If the effectiveness and quality of education programmes are inadequate, employees may be left inadequately trained to perform their duties</td>
</tr>
<tr>
<td></td>
<td><strong>Re</strong>&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Investment in employee training may become ineffective if trained employees leave for other jobs</td>
</tr>
<tr>
<td></td>
<td><strong>Re</strong>&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Poor quality of training programmes or insufficient attention to the educational needs of employees can negatively impact a company's reputation and tax bill.</td>
</tr>
<tr>
<td></td>
<td><strong>Re</strong>&lt;sub&gt;6&lt;/sub&gt;</td>
<td>Training programmes can lead to difficulties in planning and coordinating work, especially if the enterprise has limited resources.</td>
</tr>
<tr>
<td><strong>Risks of institutional support, including risks of regulatory and legal support; (L)</strong></td>
<td><strong>Rl</strong>&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Changing economic and tax policies may cause uncertainty and make long-term planning difficult.</td>
</tr>
<tr>
<td></td>
<td><strong>Rl</strong>&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Misinterpretation or violation of regulations could result in legal consequences and lawsuits</td>
</tr>
<tr>
<td></td>
<td><strong>Rl</strong>&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Failure to comply with standards and legal requirements may result in tax penalties and loss of reputation</td>
</tr>
<tr>
<td></td>
<td><strong>Rl</strong>&lt;sub&gt;4&lt;/sub&gt;</td>
<td>New restrictions on international trade may affect a company's export and import operations</td>
</tr>
<tr>
<td></td>
<td><strong>Rl</strong>&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Stringent environmental sustainability requirements may impose additional compliance costs</td>
</tr>
<tr>
<td></td>
<td><strong>Rl</strong>&lt;sub&gt;6&lt;/sub&gt;</td>
<td>Changes in the political environment may affect the business and investment climate</td>
</tr>
<tr>
<td><strong>Risks of property or material and technical support; (P)</strong></td>
<td><strong>Rp</strong>&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Risk of unforeseen power outages that may affect equipment performance</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Risk of manufacturing errors resulting in defective products or poor-quality services</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Risk of rapid obsolescence of the equipment in use, which requires frequent modernisation or replacement</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Risk of loss or damage to buildings, equipment, raw materials and supplies as a result of natural disasters, fire or theft.</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Risk of insufficient attention to equipment maintenance, which may cause early equipment failure.</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;6&lt;/sub&gt;</td>
<td>Risk of environmental compliance issues</td>
</tr>
<tr>
<td></td>
<td><strong>Rp</strong>&lt;sub&gt;7&lt;/sub&gt;</td>
<td>Risk of unforeseen reduction in the supply of raw materials or components due to problems with suppliers</td>
</tr>
<tr>
<td><strong>Risks of information support; (I)</strong></td>
<td><strong>Ri</strong>&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Risk of misuse of information about the company in case of data collection and transfer to third parties.</td>
</tr>
<tr>
<td></td>
<td><strong>Ri</strong>&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Risk of creating unequal conditions of competition in favour of certain enterprises in the presence of state interference.</td>
</tr>
<tr>
<td></td>
<td><strong>Ri</strong>&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Risk of introducing state regulations on data nationalisation, which may affect the localisation and security of information</td>
</tr>
<tr>
<td></td>
<td><strong>Ri</strong>&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Growth of information asymmetry, censorship and misinformation</td>
</tr>
<tr>
<td></td>
<td><strong>Ri</strong>&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Risk of loss and unauthorised alteration of information</td>
</tr>
<tr>
<td></td>
<td><strong>Ri</strong>&lt;sub&gt;6&lt;/sub&gt;</td>
<td>Disruptions in the operation of information systems</td>
</tr>
</tbody>
</table>
Continuation of the table 1

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>( R_{c_1} )</td>
<td>Risk of ineffective consultations due to inadequate qualifications of government consultants</td>
<td></td>
</tr>
<tr>
<td>( R_{c_2} )</td>
<td>Risk of conflicts of interest if consultants have links with certain groups or organisations</td>
<td></td>
</tr>
<tr>
<td>( R_{c_3} )</td>
<td>Risk that changes in public policy strategy may lead to a change in the direction of advisory support</td>
<td></td>
</tr>
<tr>
<td>( R_{c_4} )</td>
<td>Risk that the advice provided by government consultants may be too general or not applicable to a particular sector</td>
<td></td>
</tr>
<tr>
<td>( R_{c_5} )</td>
<td>Risk of confidential information being leaked as a result of government advice</td>
<td></td>
</tr>
<tr>
<td>( R_{c_6} )</td>
<td>Risk of receiving advice that is not in line with the enterprise's development strategy</td>
<td></td>
</tr>
</tbody>
</table>

- interactive process with clearly defined stages, through which managers can clearly present the risks faced by the organisation [6];
- prediction of risks, determination of their possible sizes and consequences, development and implementation of measures to prevent or minimise the damage associated with risks [20];
- system of targeted measures aimed at identifying and assessing the degree of the totality of risks affecting the activities of the enterprise in order to develop mechanisms to counteract their possible negative impact [14].

A characteristic of small businesses regarding risk management is that, unlike large enterprises, risks are often ignored or identified more slowly.

The risk management process involves a number of measures, such as:
- Identifying and assessing risk; planning actions to mitigate risk;
- controlling the risk; implementing preventive measures of risk occurrence;
- developing proposals for the future.

We believe that in the implementation of system foresight it is worthwhile to dwell on the first stage of this process, since the accuracy of its results is the cornerstone of any future decision at the small business level. Identifying the risks of transforming the national economy is a major decision for small businesses because of the variety of processes and reduced resources. In this regard, tools to establish such predicted risks such as: brainstorming, risk list, structured interviews, questionnaires, cause-effect analyses, previous experience of managers, etc. are quite available and effective. Some risk factors of national economic transformation can be directly observed and measured by macro-economic variables, e.g. GDP. Other risk factors cannot be directly observed because they contain too many variables. For a proper description of risk, two variables should be identified: key risk factors and key risk indicators [13]. The first provides information on the level of risk impact before any mitigation measures, and the second defines the risk profile of the business sector. Performing a thorough analysis of the aforementioned risks of national economic transformation from different angles concerning all small business activities can be a cumbersome task, but the benefits are clear: by focusing on prevention and mitigation strategies and incorporating them into the business processes themselves, some of the risks described in Table 1 can be significantly reduced. When making a decision, the manager is faced with two alternatives – a risky one and a robust one that ensures that the results achieved are maintained [11]. We believe that in the framework of scenario planning foresight to the reliable development scenarios, taking into account the existing level of influence of the risks of transformation of the national economy, belongs the realistic scenario that provides for the preservation of profitability and positive trends in key performance indicators (Figure 1).
According to the reasonable assertion of the relationship between the foresight scenario and the risks of securing small business development, the risk assessment function will look as follows:

\[ f_r \{ r_F, r_E, r_L, r_P, r_I, r_C \} \]  \hspace{1cm} (1)

where \( f_r \) - function of the influence of the risk of transformation of the national economy on the provision of small business development;

- \( r_F \) – risk of financial and credit support;
- \( r_E \) – risk of educational support;
- \( r_L \) – risk of institutional and legislative support;
- \( r_P \) – risk of property or material and technical support;
- \( r_I \) – risk of information support;
- \( r_C \) – risk of consulting support.

At the same time, taking into account the scenario approach to the development of foresight activities determines the need to determine the maximum limits of the desired future risk acceptable for scenario building, which will be described by the following formula:

\[ P_{fors} = \begin{cases} \text{scenario}1 & \text{if} \quad f_r \{ r_F, r_E, r_L, r_P, r_I, r_C \} < x_1 \\ \text{scenario}2 & \text{if} \quad f_r \{ r_F, r_E, r_L, r_P, r_I, r_C \} < x_2 \\ \text{scenario}N & \text{if} \quad f_r \{ r_F, r_E, r_L, r_P, r_I, r_C \} < x_N \end{cases} \]  \hspace{1cm} (2)

where \( P_{fors} \) – probability of realisation of foresight activities under scenarios 1, 2, 3 (scenario1, scenario2, scenario3), which is determined by the value of the expected value of the random variable \( x_1, x_2, \ldots, x_N \).

**Research findings or data, evaluation of research results.** The level of risk of ensuring the development of small business was assessed by the expert method. Representatives of small businesses, auditors, accountants were interviewed. 94 people took part in the survey. The results of the survey were unified in accordance with the empirical scale of acceptable risk level and standardised in accordance with the average expected value of a random variable, which allowed to substantiate the following results:
– the achievement of scenario 1 (ensuring profitable activity of small business) is possible under the condition of minimising risks and ensuring the possibility of their occurrence not more than 0.48;
– implementation of scenario 2 (optimistic closed) is achieved under the condition of minimising risks and ensuring the possibility of their occurrence no more than 0.31;
– implementation of scenario 3 (optimistic open) is possible under the condition of minimising risks and ensuring the possibility of their occurrence within 0.21.

The proposed scientific and methodological approach to assessing the risks of national economic development involves the use of the indicator of the probability of occurrence of the desired future development of small business and allows using the empirical scale of acceptable risk level to assess the probability of realisation of the desired foresight scenario of small business development. The results show that even with a high level of risk (0.49) small businesses can ensure their development according to a realistic scenario, which allows for the profitability of small businesses. To achieve more attractive strategic goals (market expansion, entry into the international market, etc.), the probability of occurrence of the classified risks of transformation of the national economy should be small. In general, it can be noted that the existing risks with a correct policy of their minimisation and a reasonable process of targeting development goals will not be an obstacle to ensure the development of small business. Documenting the procedure for achieving the strategic priorities of ensuring the development of small business involves targeting foresight measures of small business development.

The introduction of foresight measures is aimed at turning the existing opportunities for small business development into their strengths, taking into account the appropriate level of risk of uncertainty in economic processes. Given the specifics of system foresight, which consists in achieving the desired future, the assessment of the effectiveness of foresight measures is to determine the probability of small business development, which in our opinion can be most accurately determined using the formula of full probability. Let us assume that A1, A2,..., AN is a complete group of incompatible mutually exclusive scenarios (hypotheses about alternative foresight scenarios). If event A, expressing the development of small entrepreneurship, can occur only when one of the scenarios (B1, B2, B3), which form a complete group of incompatible events that can occur when opportunities are realised at an appropriate level of acceptable risk, then the probability of event A (development of small entrepreneurship) is calculated using the formula:


Given a particular type of support for a small business, the probability of its development will be described by the system:

$$P(\text{development}) = \begin{cases} 
  P_{pF} = P_{\text{probF}} \times P_{\text{riskF}} \\
  P_{pE} = P_{\text{probE}} \times P_{\text{riskE}} \\
  P_{pL} = P_{\text{probL}} \times P_{\text{riskL}} \\
  P_{pP} = P_{\text{probP}} \times P_{\text{riskP}} \\
  P_{pI} = P_{\text{probI}} \times P_{\text{riskI}} \\
  P_{pC} = P_{\text{probC}} \times P_{\text{riskC}} 
\end{cases}$$

where Pdevelopment is the probability of development in the implementation of the opportunities of the relevant species security at an acceptable level of uncertainty risk;

Pprob is the probability of transforming the identified opportunities for species security into the strengths of the SE. Accordingly:

$$P_{\text{for opREAL}} = P_{\text{probF}} \times P_{\text{riskF}} + P_{\text{probE}} \times P_{\text{riskE}} + P_{\text{probL}} \times P_{\text{riskL}} + P_{\text{probP}} \times P_{\text{riskP}} + P_{\text{probI}} \times P_{\text{riskI}} + P_{\text{probC}} \times P_{\text{riskC}}$$

– the possible probability that a realistic development scenario has been realised;
P_{\text{for opOPTC}} = P_{\text{probF}} \times P_{\text{riskF}} + P_{\text{probE}} \times P_{\text{riskE}} + P_{\text{probL}} \times P_{\text{riskL}} + P_{\text{probP}} \times P_{\text{riskP}} + \\
+ P_{\text{probI}} \times P_{\text{riskI}} + P_{\text{probC}} \times P_{\text{riskC}}

– possible probability that the optimistic closed development scenario has been realised;

P_{\text{for opOPTO}} = P_{\text{probF}} \times P_{\text{riskF}} + P_{\text{probE}} \times P_{\text{riskE}} + P_{\text{probL}} \times P_{\text{riskL}} + P_{\text{probP}} \times P_{\text{riskP}} + \\
+ P_{\text{probI}} \times P_{\text{riskI}} + P_{\text{probC}} \times P_{\text{riskC}}

– the possible probability that an optimistic open development scenario has been realised;

The probability of development under the classified scenarios according to the possibilities of types of state support in accordance with the full probability formulae is as follows:

P_{\text{for opREAL}} = 0.893; P_{\text{for opOPTC}} = 0.573; P_{\text{for opOPTO}} = 0.431;

It is clear that the probability of small business development according to the realistic scenario is higher because it requires less time and resources and is possible in the short term. At the same time, the implementation of the optimistic scenario requires a longer time interval and can be implemented if certain conditions are met (favourable business environment, obtaining the expected effect of small business development measures, etc.).

In fact, the probability of the system foresight of SME development will have the following form:

\[
P_{\text{for } \epsilon} \in \{ \begin{align*}
P_{\text{for opREAL}} \rightarrow & P_{\text{for opOPTC}} \rightarrow P_{\text{for opOPTO}} \end{align*} \} .
\]

If we assume that event A has occurred (development of small business through the implementation of foresight activities), then the probability of hypotheses (alternative scenarios) is re-evaluated by calculating the posterior probability in accordance with the Bayes T. formula, which in its classical form is as follows:

\[
P(A|B) = \frac{P(B|A)P(A)}{P(B)}
\]

where \(P(B)\) – a priori probability of the existence of hypothesis B, \(P(A|B)\) – conditional probability of event A with the existence of hypothesis B, \(P(B|A)\) – posterior probability of the realisation of hypothesis B.

The conditional probability \(P(A|Bj)\) of event A is determined by dividing the values of this indicator by the sum of its values; the full probability is determined as the sum of multiplications of \(P(Bj)\) by \(P(A|Bj)\). The posterior probability of hypotheses \(P(Bj)\) is defined as the quotient of dividing the corresponding component of the full probability formula by the total value of \(P(A)\).

Bayes' theorem is one of the basic laws of probability theory and allows us to determine the probability of one event based on knowledge of the probability of other random events present in the predicted time interval. The Bayes formula allows to specify economic indicators and list the value of their probabilities taking into account dynamic changes of indicators or their indices, using both known information and data of new observations of changes of these indicators in the forecast years.

It is used when there is information about causal variables (risks and opportunities), and the essence of the study is to determine the probability of occurrence of the resultant variable (development). Thus, given a conditional probability \(P(B|A)\) of occurrence of some event B (provided that event A occurs), Bayes' theorem gives a solution to the inverse problem, what is the probability of occurrence of event A, provided that event B occurred.

According to the calculation of the probability of small business development under the proposed foresight scenarios after the implementation of a number of measures to improve the species support of small business development, the Bayes formula will look like this:
In the last decade, small business in Latvia is in constant development, taking into account the existing conditions and future opportunities. The implementation of foresight measures is impossible without the state's participation not only in supporting the development of small business, but also in creating favourable conditions of the economic environment, including achieving a low inflation rate, settling imbalances in foreign economic policy, conducting economic deregulation and stimulating tax reform, which will ensure the inflow of local and external capital into the economy, etc. At the same time, an important task of the state in the sphere of small business development (both managers and working staff) is to increase economic literacy and build new knowledge in the spheres of realisation of type support. Indeed, a key factor in the development of small business is the level of theoretical knowledge among existing and potential entrepreneurs on doing business. Therefore, state assistance in creating a network of organisations that provide information, advice and training is particularly important in ensuring the development of small business.

Conclusions. In general, it can be argued that the implementation of foresight measures is impossible without the state's participation not only in supporting the development of small business, but also in creating favourable conditions of the economic environment, including achieving a low inflation rate, settling imbalances in foreign economic policy, conducting economic deregulation and stimulating tax reform, which will ensure the inflow of local and external capital into the economy, etc. At the same time, an important task of the state in the sphere of small business development (both managers and working staff) is to increase economic literacy and build new knowledge in the spheres of realisation of type support. Indeed, a key factor in the development of small business is the level of theoretical knowledge among existing and potential entrepreneurs on doing business. Therefore, state assistance in creating a network of organisations that provide information, advice and training is a particularly important foresight measure to ensure the development of small business.

In the last decade, small business in Latvia is in constant development, taking into account the target benchmarks of not only survival but also development of small business in the international arena, the application of classical management strategies based on the principle of “planning from the existing” is no longer sufficient for comprehensive and permanent development. Latvia needs a
clear strategy of small business development, which will be based not on attempts to “survive” among increased competition, but on ensuring sufficient competitiveness and attractiveness of Latvian small business, which is possible to implement only by imitating a favourable future for small business and determining on this basis measures to achieve prospective goals. We believe that the need to take into account the specific features of small business, the existing opportunities and risks of their activities, the trends of changes in the legislative framework of their development, entails the need to develop such a well-thought-out strategy of state support, with the aim of acquiring practical skills to identify measures and recommendations to obtain the desired future of small business and the development of tactical steps to achieve the vector guidelines of development. Small business entities identify the need to transform the survival strategy traditionally used by Latvian small businesses into a competitive strategy, which involves transformation of services, introduction of a new service strategy and servitisation. The latter is understood as a strategic transformation of small business, which, according to the cyclical nature of the economic environment, deliberately introduces new service elements into its business model, relying on the resources allocated within the framework of the state strategy to support small businesses.

References:


