Business analysis of factors and conditions for the development of sugar production organizations

Oksana Pirogova1,*, Roman Nuzhdin2, and Boris Pivovar 3

1Peter the Great St. Petersburg Polytechnic University, 195251, 29 Polytechnicheskaya str., St. Petersburg, Russia
2 Voronezh State University of Engineering Technologies, 394036, 19 prospekt Revolyucii, Voronezh, Russia
3The Russian Presidential Academy of National Economy and Public Administration, 119571, 84, bldg 2, Prospect Vernadskogo, Moscow, Russia

Abstract. The purpose of this study is, using the example of sugar production, to identify parametric characteristics and relationships that make it possible to simulate an algorithm and assessment procedures for predicting the possible results of the economic activity of processing organizations in the context of unstable business relations with suppliers of beet raw materials. The developed methodological approach is based on the classification of factors and conditions by sources of occurrence (external, conjugate and internal environment). When modeling scenario and situational changes, the assumptions inherent in the law of "diminishing returns" were made. In particular, only units of the conjugate environment (beet losses during storage and transportation; sugar losses during storage and in production; conjugation coefficient) are presented as dynamic (subject to change) indicators, the rest are positioned as constants, justifiably unchanged in the short term. Approbation of the proposed valuation procedures made it possible to identify imbalances in the level of dynamics of the resulting indicators (specific profit from sales (per ton of product) and profitability of sales with deviations in the values of the conjugation coefficient of the relative base level characterizing the balance of business relations with suppliers. Based on the results obtained, a conclusion was made about the possibility of manifestation of the established disproportions and the effective use of the proposed methodological approach for their leveling in the subjects of other industries.

1 Introduction

The development of economic activity of organizations of sugar production in Russia is undergoing significant changes initiated by the influence of diverse and ambiguously...
influencing factors of the external, associated and internal business environment [1]. Having mainly a socio-economic nature, the named factors are interdependent and interrelated in the closest and most diverse way [2]. The reciprocal influence of factors, first, is expressed in the polarity of influence, and based on the dual effect of synergy forms both positive and negative conditions for conducting economic activity, and, accordingly, the possibility of developing sugar production. The development of the economic activity of sugar factories is associated with the constant search and mobilization of unused opportunities of the available resource potential, as well as the system of business relations. Therefore, it becomes necessary to update the management tools of organizational development, first of all, based on the knowledge of environmental factors [3], which are the reason for the formation of conditions that impede the development of economic activity of processing organizations of sugar production.

When assessing the possibilities of conjugating the interests of participants in business processes in sugar production, it is necessary, first, to identify the key factors, the structure and interrelation of which affects the result - profit per ton of sugar. We have classified the types of factors and conditions that affect the results of the development of the economic activity of sugar factories, and have classified the key environmental factors that prevent favorable conditions for the development of sugar production (Table 1). During the assessment of the identified factors, the special status of the factors of the associated environment was established - the nature and content of business relations with producers of beet raw materials and beet seeds, which determine the qualitative parameters of the business process "harvesting beet raw materials".

Table 1. Key factors and environmental conditions that hinder the development of economic activity of sugar production organizations.

| Environment | Factors | Conditions |
|-------------|---------|------------|
| Macroeconomic Processes | The sugar market of the CIS countries is under pressure from imports from third countries | |
| | Introduction of financial and economic sanctions against Russia by a number of foreign countries | |
| | Negative dynamics of national currencies against the dollar and euro, leading to an increase in the cost of sugar in the national currency | |
| | The global sugar balance is in surplus and is under pressure from accumulated excess stocks | |
| Natural and climatic conditions | Climate change leads to an increase in temperature, precipitation and, as a consequence, the volume of harvesting of sugar beets, sugar supply on the market, changes in prices and incomes of beet and sugar producers | |
| | Climatic conditions unpredictably affect the yield of beets and their quality characteristics, the length of the season, the use of production capacity and production costs | |
| Market conditions | Population incomes grow at a slower pace than prices for goods and services, which limits consumer demand | |
| | The existence of a surplus of sugar in the world is combined with uneven demand | |
| | Low wholesale prices for beet sugar that persist for a long time with a constant increase in prices for fuels and lubricants, fertilizers, plant protection products, equipment and other resources, reduce the profitability of sugar production | |
| | Decrease in sugar consumption in Russia due to increased competition from manufacturers of sugar substitutes | |
| Process/condition | Description |
|------------------|-------------|
| Raw materials production | Exceeding the optimal load on one unit of beet-harvesting equipment, insufficient provision of farms with combines and unsatisfactory condition of their material and technical base. |
| | Imperfect organization of field cultivation processes |
| | Low level of application of resource-saving technologies and the use of seed material of regionalized hybrids adapted to stress factors of beet-growing regions of the country |
| | Early harvest of sugar beets due to lack of processing capacity |
| | The use of imported seeds that are not adapted to the conditions of reproduction in Russian climatic conditions does not bring the expected results |
| | Causes of sugar beet losses: suboptimal setting of equipment during harvesting (combines, loaders), non-compliance with technical standards during storage in the field, suboptimal planning of the digging sequence, volumes of transportation to the plant |
| | Due to the lack of working capital, mineral fertilizers are not applied at the optimal time (August, September) or are used in an incomplete volume |
| | The lack of clear motivation of farms does not give them the opportunity to conclude insurance contracts, therefore they depend on natural disasters, the dishonesty of sellers and manufacturers of products necessary for growing crops |
| | When harvesting, errors occur that cannot be corrected - non-compliance with the row spacing, uneven fields |
| | Insufficient attention is paid to the pre-harvesting maintenance of beet crops, sorting them by quality and shelf life |
| Conjugate relationships with contractors | The mismatch between the economic interests of beet-growing farms and sugar factories, contributing to the reduction of material and technical and labor resources and undermining food security |
| | The imbalance in the production and processing of raw beets is explained by the divergence of interests of the participants in sugar production |
| | Refusal of sugar factories to accept raw materials from third-party beet-growing farms at beet-receiving points; the requirement to store beets in field piles, then supply them to the plant according to an insufficiently agreed schedule |
| Procurement of raw materials | The lack of beet-receiving points equipped with modern high-performance handling equipment, low keeping quality of sugar beet reduces the weight and quality of root crops, which leads to an increase in the loss of beet raw materials |
| | The direction of development of beet processing "off wheels", which was wrongly chosen by Russian producers |
| Technical base | Reduction of production capacity due to the withdrawal of capacity for reconstruction, violation of the optimal structure of crops, leading to an unreasonable increase in the cost of transporting raw materials |
| | Lack of production capacity complicating the production process and increasing the cost of sugar production |
| | Raw materials laboratories do not have the ability to quickly check the correctness of the results obtained on automated lines, so they are assigned to the central plant laboratories, where discrepancies arise in the results of determining the sugar content |
| Raw material storage and processing | Diffusion-evaporated, limestone-carbon dioxide technology for sugar production is becoming obsolete |
| | In raw materials laboratories, physically and morally obsolete equipment is used |
| Energy base | Energy technology complexes are characterized by high cost and sophisticated equipment, slowly adapting to the new realities of pricing. The used energy equipment of foreign production is outdated, lags behind the modern world level of development. |
| Human resources | Sugar production is one of the most traumatic types of food production; almost all blue-collar occupations are classified as hazardous occupations. The existing system of labor relations does not stimulate the employer to improve the working conditions of the personnel, since the measures for their implementation require significant financial costs in accordance with state regulations. |
| Management | Insufficient use of information systems due to the lack of a mathematical description of objects and basic processes. Methods and tools of functional management are used in the management of sugar production; the benefits of process management focused on business processes are practically not realized. |

The factors considered directly or indirectly determine the possibilities for the development of processing companies in the current crisis-market space, which is accompanied by an increase in the influence of destabilizing factors and necessitates an appropriate response. The methods and management tools used in sugar production organizations in most cases demonstrate an imbalance of business interests, underestimation of the possibilities for the expedient development of economic factors that contribute to the protection of competitive advantages and the harmonization of business relations [4]. As a result, it is expedient to switch to systemic management of economic factors of economic activity of processing organizations, using adequate management tools to neutralize or weaken the influence of factors that inhibit or impede the development process.

2 Materials and methods

It is advisable to assess the impact of natural, production and economic indicators that quantitatively and qualitatively characterize the causes; it is advisable to carry out based on a structural-logical block diagram, which makes it possible to establish the presence and direction of connections not only between the factors themselves, but also between them and the effective indicator. In fig. 1 shows the key factors that generate (mainly) production risks, as well as their impact on the specific profit (tons of sugar). Thus, the systematization of economic factors allows for a deeper study of their interrelationships and direction of impact in the formation of the value of the effective indicator, which is of no small importance at the next stages of assessing the possibilities of conjugation of interests of participants in sugar production, especially at the stage of modelling the vector of dynamics of the studied indicators [5].

At the theoretical level, the production potential can be formalized as follows:

$$P = (k, f, R),$$

where $P$ – production potential of organization; $R$ – resources of organization; $f$ – resource organization level; $k$ – level of realization of untapped opportunities.

The key factor in the conjugation of business interests is the reason that directly or indirectly forms the level of organization of resources and untapped opportunities of resource potential:
resource p indirectly forms the level of organization of resources and untapped opportunities of participants in sugar production, especially at the stage of model importance at the next stages of assessing the possibilities of conjugation of interests of impact in the formation of the value of th economic factors allows for a risks, as well as their impact on the specific profit (tons of sugar). Thus, the systematization direction of connections not only between the factors themselves, but also between them a structural quantity.

It is advisable to assess the impact of natural, production and ec factors of economic activity of processing organizations, using adequate management tools relations. As a result, it is expedient to switch to systemic management of economic development of processing companies in the current crisis.

Materials and methods and tools of functional management are used in the management of processes are practically not realized description of objects and basic processes. Insufficient use of information systems due to the lack of a mathematical improve the working conditions of the personnel, since the measures for their protection of competitive advantages are sit uations, phenomena, events related not so much to the external and internal, but to the conjugate environment in which the business interests of the parties are coupled and under the influence of the factors of which there is an increase and accelerating the bi-directional synergy effect. It is possible to assess the sources and causes of the available opportunities in the business environment in terms of the characteristics of the influence of individual factors on the level of economic activity. As factors that are particularly important for sugar production, the factors that arise and act mainly in a conjugate environment are identified and substantiated – these are the losses of beet raw materials during storage, transportation, and sugar during storage and processing. To assess the influence of the conjugate environment on the economic activity of sugar factories processing sugar beets, it is proposed to use the calculated coefficient of conjugation of business processes (coefficient of the conjugate environment influence), taking into account the total losses of sugar with beets during storage and transportation and sugar in production [6]:

$$K_c = \left(1 - \frac{L_s}{100}\right) \cdot \left(1 - \frac{L_{sug}}{100}\right) \cdot \left(1 - \frac{L_{pr}}{100}\right),$$

(3)

where $L_s$ – losses of beets during storage and transportation, as a percentage of harvested beets; $L_{sug}$ – loss of sugar during storage, as a percentage of harvested beets; $L_{pr}$ – sugar losses in production, including sugar content in molasses, as a percentage of harvested beets.

In other words, from an economic point of view, the value of the conjugation coefficient ($K_c$), always less than 1 is interpreted as follows: $K_c \rightarrow 1$, but $K_c \neq 1$. The closer $K_c$ is to one, the less the influence of the associated environment, and the more opportunities for the organization of the sugar industry to increase profitability and develop economic activity.

When assessing the level of conjugation of interests, it is also necessary to take into account the specifics of this or that business process (groups of business processes). In particular, we will consider the influence of such factors as losses of beets and sugar during storage and transportation on the specific profit (per ton of sugar) and sales profitability, taking into account the following assumptions:
- natural and climatic conditions in a particular region differ from those in other regions, that is, a poor harvest of beets and their sugar content in a particular region does not have a significant effect on the market price of selling sugar beets, that is, on the amount of material costs of a sugar refinery;
- sugar factories cannot have a significant impact on the loss of beets during storage and transportation by means of additional costs in extreme conditions: for example, high temperatures, excessive precipitation during harvesting.
In this regard, a certain value for predicting and preventing (or reducing) risks is the development of a model for finding functional dependences of the specific profit (per ton of sugar) on the level of dynamics of conjugation of business interests of the participants in sugar production. Here is an algorithm for modeling this process [7].

\[ P = Pr - C_{prs} \]  (4)
Fig. 1. Influence of key factors in the development of business relations on the results of economic activity of sugar processing organizations.

In this regard, a certain value for predicting and preventing (or reducing) risks is the development of a model for finding functional dependences of the specific profit (per ton of sugar) on the level of dynamics of conjugation of business interests of the participants in sugar production. Here is an algorithm for modeling this process [7].

\[ P = Pr - C_{pr}, \]

where \( P \) – profit per ton, rub.; \( Pr \) – selling price of 1 ton of sugar beet, rubles / ton; \( C_{pr} \) – cost price of 1 t, rubles / t.

After purchasing the harvested sugar beet material costs (costs for beet raw materials) \( MC = \text{const} \) and do not depend on the amount of beets that will be processed. Therefore

\[ C_{pr} = C_{var.sp.} + \frac{C_f + C_{beet}}{A_p}, \]

where \( C_{pr} \) – production cost, p.; \( C_f \) - fixed costs, p.; \( C_{beet} \) – the cost of harvested beet raw materials; \( C_{var.sp.} \) – specific variable costs (minus the cost of beet raw materials), rubles / t; \( A_p \) – the amount of sugar produced, t.

\[ A_p = A_h \cdot (1 - L_o) \cdot Yld \]

where \( A_h \) – the amount of harvested sugar beet, t; \( L_o \) – losses of beets during storage and transportation, units; \( Yld \) – sugar yield, units.

Thus, we get:

\[ P = Pr - C_{var.sp.} - \frac{C_f + C_{beet}}{A_h \cdot (1 - L_o) \cdot Yld}. \]

After the completion of the process of harvesting beet raw material, the sugar content of the beet on acceptance can be conditionally considered unchanged, in turn, the results of production activities begin to be influenced by factors of the conjugate environment, including sugar loss.

Potential change in profit:

\[ \Delta P = \frac{C_f + C_{beet}}{A_h \times Sug} \times \frac{\Delta C_C + C_{C1} - C_{C1}}{C_{C1} \times (\Delta C_C + C_{C1})}; \]

\[ \Delta P = \frac{C_f + C_{beet}}{A_h \times Sug} \times \frac{\Delta C_C}{C_{C1} \times (\Delta C_C + C_{C1})}. \]

If the planning goal is to determine the impact of both the external (in terms of interaction with suppliers) and the associated business environment on changes in income and profitability, then the sugar content and the cost of beet raw materials should be used as variables, taking into account its sugar content [8].

3 Results and discussion

For the correct performance of the reference comparison based on the values of the coupling coefficient, the following assumptions were used, which are acceptable for the modern development of sugar production technology in Russia on the example of a sugar plant with a production capacity of sugar beet processing 3000 t / day [9,10,11]:

- loss of sugar beet during storage and delivery to production – 4.6 %;
- loss of sugar during storage – 0.5 %;
- sugar losses in production, including sugar content in molasses – 2.72 %.

The calculated baseline level of the conjugation coefficient was 0.923 units. Thus, for the case under consideration, the level of profit dynamics per ton of sugar produced is described by the following functional relationship:

\[
\Delta P = \frac{(70593 + 882414)}{(294138 * 17.01 / 100)} \cdot \frac{C_s}{(0.923(C_s + 0.923)}};
\]

\[
\Delta P = 20.6366 \cdot \Delta C_s / (\Delta C_s + 0.923).
\]

Perceiving business relations as one of the main factors of economic activity, we made an assumption about the possible operation of the "law of diminishing returns" in the context of the categories under consideration, which manifests itself in the different-sized dynamics of the resulting indicator (profitability of sales) with an increase / decrease conjugation coefficient and unchanged values of other indicators [12,13]:

- the volume of harvested beets – 294138 tons,
- sugar content of sugar beet on acceptance – 17.01%;
- purchase price of sugar beet - 3000 rub./ton (excluding VAT);
- the amount of fixed costs – 70593 thousand rubles;
- the sum of other variable costs (except for raw materials costs) – 223545 thousand rubles;
- total costs (raw material costs + fixed costs + other variable costs) – 1176552 thousand rubles;
- sugar sales price – 35000 rub./ton (excluding VAT)

For the purpose of the study, a step was adopted for changing the values of the coupling coefficient ± 0.5% (in the range of 0.873-0.979 units), which has a direct effect on the volume of sugar production and sales (tables 2-4). In this case, it is not of fundamental importance that of the indicators and to what extent had a positive / negative effect on the change in the conjugation coefficient [14, 15].

**Table 2. Influence of the level of business relationships with suppliers on profit and sales profitability.**

| Coupling coefficient, units | The amount of sugar produced, t. | Proceeds from the sale of sugar, thousand rubles | Total costs, thousand rubles | Profit from the sale of sugar, thousand rubles | Sales profitability, % |
|-----------------------------|---------------------------------|-----------------------------------------------|-----------------------------|-----------------------------------------------|------------------------|
| 0.979                       | 48973                           | 1714054                                      | 1176552                     | 537502                                        | 31.36                  |
| 0.974                       | 48742                           | 1705968                                      | 1176552                     | 529416                                        | 31.03                  |
| 0.970                       | 48511                           | 1697883                                      | 1176552                     | 521331                                        | 30.70                  |
| 0.965                       | 48280                           | 1689798                                      | 1176552                     | 513236                                        | 30.37                  |
| 0.960                       | 48049                           | 1681713                                      | 1176552                     | 505161                                        | 30.04                  |
| 0.956                       | 47818                           | 1673628                                      | 1176552                     | 497076                                        | 29.70                  |
| 0.951                       | 47587                           | 1665543                                      | 1176552                     | 488991                                        | 29.36                  |
| 0.946                       | 47356                           | 1657457                                      | 1176552                     | 480905                                        | 29.01                  |
| 0.942                       | 47125                           | 1649372                                      | 1176552                     | 472820                                        | 28.67                  |
| 0.937                       | 46894                           | 1641287                                      | 1176552                     | 464735                                        | 28.32                  |
| 0.933                       | 46663                           | 1633202                                      | 1176552                     | 456650                                        | 27.96                  |
| 0.928                       | 46432                           | 1625117                                      | 1176552                     | 448565                                        | 27.60                  |
| **0.923**                   | **46201**                       | **1617032**                                  | **1176552**                 | **440480**                                    | **27.24**             |
| 0.919                       | 45970                           | 1608946                                      | 1176552                     | 432394                                        | 26.87                  |
| 0.914                       | 45739                           | 1600861                                      | 1176552                     | 424309                                        | 26.51                  |
| 0.910                       | 45508                           | 1592776                                      | 1176552                     | 416224                                        | 26.13                  |
| 0.905                       | 45277                           | 1584691                                      | 1176552                     | 408139                                        | 25.76                  |
context of the category described by the following case under consideration, the level of profit dynamics per ton of sugar is determined by the sum of total costs (raw material costs + fixed costs + other variable costs), which includes the amount of fixed costs, sales, sugar content molasses, processing of molasses, sales of raw materials, proceeds from the sale of molasses, and other variable costs (exclusive of the amount of fixed costs per ton of sugar).

Perceiving business relations as one of the main factors of economic activity, it is necessary to determine the influence of the level of business relationships with suppliers on specific indicators of economic activity.

Table 2

| Coupling coefficient, units | Material costs (beet raw materials) per ton of sugar, r. | Fixed costs per ton of sugar, r. | Total costs per ton of sugar, r. | Profit per ton of sugar, r. |
|-----------------------------|--------------------------------------------------------|---------------------------------|---------------------------------|-----------------------------|
| 0.979                       | 18018                                                  | 1441                            | 24025                           | 15540                       |
| 0.974                       | 18104                                                  | 1448                            | 24138                           | 15448                       |
| 0.970                       | 18190                                                  | 1455                            | 24253                           | 15355                       |
| 0.965                       | 18277                                                  | 1462                            | 24369                           | 15261                       |
| 0.960                       | 18365                                                  | 1469                            | 24487                           | 15166                       |
| 0.956                       | 18454                                                  | 1476                            | 24605                           | 15070                       |
| 0.951                       | 18543                                                  | 1483                            | 24724                           | 14973                       |
| 0.946                       | 18634                                                  | 1491                            | 24845                           | 14876                       |
| 0.942                       | 18725                                                  | 1498                            | 24967                           | 14777                       |
| 0.937                       | 18817                                                  | 1505                            | 25090                           | 14677                       |
| 0.933                       | 18910                                                  | 1513                            | 25214                           | 14577                       |
| 0.928                       | 19004                                                  | 1520                            | 25339                           | 14475                       |
| **0.923**                   | **19099**                                              | **1528**                        | **25466**                       | **14373**                   |
| 0.919                       | 19195                                                  | 1536                            | 25594                           | 14269                       |
| 0.914                       | 19292                                                  | 1543                            | 25723                           | 14164                       |
| 0.910                       | 19390                                                  | 1551                            | 25854                           | 14058                       |
| 0.905                       | 19489                                                  | 1559                            | 25986                           | 13952                       |
| 0.900                       | 19589                                                  | 1567                            | 26119                           | 13844                       |
| 0.896                       | 19690                                                  | 1575                            | 26254                           | 13735                       |
| 0.891                       | 19792                                                  | 1583                            | 26390                           | 13624                       |
| 0.886                       | 19895                                                  | 1592                            | 26527                           | 13513                       |
| 0.882                       | 19999                                                  | 1600                            | 26666                           | 13401                       |
| 0.877                       | 20105                                                  | 1608                            | 26806                           | 13287                       |
| 0.873                       | 20211                                                  | 1617                            | 26948                           | 13172                       |
| 0.868                       | 20319                                                  | 1625                            | 27091                           | 13056                       |

Table 3. Influence of the level of business relations with suppliers on specific indicators of economic activity.

Table 4. Assessment of deviations of indicator values from the baseline.

| Coupling coefficient, units | Deviation of the conjugation coefficient, units | Increase in the coefficient of conjugation,% | Profit deviation, thousand rubles | Deviation in profits per ton of sugar, rbt | Deviation of sales profitability, %n. |
|-----------------------------|-----------------------------------------------|---------------------------------------------|-----------------------------------|-------------------------------------------|--------------------------------------|
| 0.979                       | 0.055                                         | 6.00                                        | 97022                             | 1168                                      | 4.12                                 |
| 0.974                       | 0.051                                         | 5.50                                        | 88937                             | 1075                                      | 3.79                                 |
| 0.970                       | 0.046                                         | 5.00                                        | 80852                             | 982                                       | 3.46                                 |
| 0.965                       | 0.042                                         | 4.50                                        | 72766                             | 888                                       | 3.13                                 |
| 0.960                       | 0.037                                         | 4.00                                        | 64681                             | 793                                       | 2.80                                 |
| 0.956                       | 0.032                                         | 3.50                                        | 56596                             | 698                                       | 2.46                                 |
| 0.951                       | 0.028                                         | 3.00                                        | 48511                             | 601                                       | 2.12                                 |
Table 5

| Coupling Coefficient | Change in Coupling Coefficient | Change in Profitability | Percentage Change |
|-----------------------|--------------------------------|-------------------------|-------------------|
| 0.891 | -0.032 | -3.50 | -56596 | -748 | -2.64 |
| 0.886 | -0.037 | -4.00 | -64681 | -859 | -3.03 |
| 0.882 | -0.042 | -4.50 | -72766 | -972 | -3.43 |
| 0.877 | -0.046 | -5.00 | -80852 | -1086 | -3.83 |
| 0.873 | -0.051 | -5.50 | -88937 | -1201 | -4.23 |
| 0.868 | -0.055 | -6.00 | -97022 | -1317 | -4.64 |

Let us evaluate the results of the situations we have modeled, depending on the change in the coupling coefficient, which takes into account the total losses of beets and sugar during storage, delivery to production and in production [16-17]. Reducing losses to a level, for example, sugar losses during storage - 0.42%, sugar losses in production, incl. content in molasses - 0.85%, losses of beets during storage and delivery to production - 1.18% led to an increase in the coupling coefficient by 0.055 units (an increase of 6%), which in turn affected the specific profit, increasing it by 1168 rubles / t (an increase of 8.12%) (table 5) [18]. Against this background, the increase in profitability amounted to 4.12 pn, which ensured an increase in the mass of profit by 97.022 million rubles [19]. An increase in losses, and as a consequence, a decrease in the level of the conjugation coefficient by the same percentage points, led to the same reduction in the mass of profit by 97.022 million rubles (decrease -9.16%) and a decrease in profitability by 4.64 pn. Thus, we can conclude that the deviation of the coupling coefficient from the baseline in the range [-6%; + 6%] has...
a different-sized impact on the profitability of business activities in two areas of dynamics - [-4.64 \text{pn}; 4.12\text{pn}]. The clearly identified dynamic differences demonstrating the prevailing influence of the negative vector of deviations are shown in Figure 2.

4 Conclusion

Due to the constantly changing conditions for the functioning of organizations under the influence of a dynamic business environment, as well as the laboriousness of drawing up flexible budgets with a lot of indicators that are not used for evaluation and analysis, many authors express an opinion about refusing to draw up flexible budgets in favor of assessing key impact indicators, which characterizes the proposed approach as relevant for the purpose of predicting the level of profitability and assessing business activities.

The obtained ratios allow us to state the presence of certain dynamic imbalances in the change in the level of profitability, the manifestation of which increases with the growth of the range of deviations of the conjugation coefficient from the base level. The perception of the base level of the values of the assessed indicators and indicators forms a certain parametric model that fragmentarily characterizes the system of harmonious business relations between producers and processors of beet raw materials. With an equal change in the coefficient of the conjugate environment, a higher rate of decrease in the specific weight of profit (per ton of sugar) is observed in comparison with an increase in this indicator, therefore, the management of related factors affecting the specific profit (losses of beets and sugar during storage, transportation and in production), is of key importance in the process of generating in-comes of processing organizations of sugar production and characterizes the need to reduce these losses in order to optimize the profitability of economic activity.

In the course of the evaluation and analytical procedures, it was found that the resulting indicator (profit) and indicator (profitability) are not significantly influenced by the composition and structure of costs, which confirms the conditional isolation of the factors of the associated environment and their specific impact on the results of economic detail processing organizations of sugar production. In addition, this feature, as well as the almost single-product nomenclature of sugar production, makes it possible to conclude that the revealed proportions (disparities) are comparable for organizations with a greater or lesser production capacity, as a rule, with a significantly different mass of fixed costs. At the same time, if one of the objects of appraisal procedures is marginal income or break-even production volume, then the composition and structure of production costs will be essential for obtaining correct analytical results and conclusions.

The revealed dependence of the resulting indicators is characteristic not only for sugar production, but also for other sectors of the agro-industrial complex, including agriculture, and should be taken into account by managers when planning production activities and budgeting.

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