Features of the methods of entrepreneurial activity forecasting application on the market of agricultural machinery

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Abstract. The authors carried out a macroeconomic analysis and risky entrepreneurial activity in the agricultural machinery market, to identify the main threats to economic security in the test industry, summarize the risks and opportunities of the extent of their occurrence, in a matrix of risk levels. The authors identify the factors and basic parameters that must be considered in the planning process of entrepreneurial activity on the market of agricultural machinery, graphically display the dominant factors of the market and the possibility of institutional change, explore the problems to be solved on the market of agricultural machinery in the proposed system of corporate planning and tasks that must be to solve in the short medium and long term.

Keywords: forecasting, entrepreneurship, market of agricultural machinery, institutional substitutes.

JEL Codes: O13, C53.

1. Introduction

The state's position in relation to the development of agricultural machinery market should primarily be determined taking place at one time or another in macroeconomic conditions. During the crisis levels of state regulation and support, of course, should increase during the stabilization period - to decline. The best solutions available on the market of agricultural machinery problems can be found only by taking into account the forecast data, which, in comparison with the current laws and trends in the development of these markets in different periods of time, allow you to adjust business activities as needed when new data on changes in the market situation. For this purpose, projections should be reliable, accurate and valid.

2. Macroeconomic and risky analysis of entrepreneurial activity on the market of agricultural machinery

The assessment of the macroeconomic situation possible and appropriate to carry out on the basis of design and analysis of trends in macroeconomic indicators, based on their interpretation of the following provisions, will be [1]:

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- Trend 1 with small amplitude oscillations with respect to the horizontal line x-axis is indicative of controllability index and good predictability.
- Responsibility for risks within the macroeconomic indicators should be defined at the level of governance - the more risk, the greater the involvement of the state in the business in terms of the security situation.

On the basis of data from various statistics about the dynamics of the main macroeconomic indicators, line development trends [2, 3].

The trend analysis of macroeconomic indicators leads to the conclusion about the nature and direction of business regulation in the market of agricultural machinery by the state. The main features of the regulation should be:

- The balance of indicators of market development;
- Focus on of entrepreneurial activity export orientation and increase innovation activity;
- Establishing a system to reduce the uncontrollability of entrepreneurial activity because of the presence of risk, which are recognized at the level of macro-economic indicators;
- Find new relationships with financial institutions, priorities, within the framework of investment attraction. [4]

Let us analyze the nature of state intervention in the functioning of the subjects of this market at the present stage.

The degree of required state involvement in of entrepreneurial activity in the agricultural machinery market will be determined by our level of risk on the part of the industry as a whole in relation to socio-economic progress of the country. The greater the degree of risk, the degree of state intervention should also be greater.

For the purpose of modifying the main threats to the economic security of the country to the considered industry, we point out the following:

- Reduction of production scale of economic activity.
- Strengthening structural imbalances.
- Reducing Industrial production of Independence.
- Reduction of scientific and technological capacity.
- Reduction of workers' lives.
- Strengthening the uneven production of various enterprises.
- Weakening control.
- Shady practices.
- Decline in tax revenues.

These risk factors, as is customary in the prediction, is necessary to be considered in terms of their weight or type of their impact on the overall security of the country's development in terms of the weight of the industry, the assessment of the degree of probability of occurrence of each risk and determination in accordance with the quantitative measure of risk.

In the beginning the description of each risk will be given, and on this basis, after - quantification. Production cuts, the scale of economic activity is a major trend of the last time, so we can say that this risk appears active. The strength of the devastating impact, both for the country and for entrepreneurial activity in the agricultural machinery market is large, as it reduces the potential for support from other industry indicators are deteriorating investment climate, and so getting the investment associated with high costs for all subjects of the Russian Federation. [4] The demand of farmers remains unsatisfied and their situation will worsen, subsequently reflected problems with the products in the country.
Enhancing structural imbalances as well as the risk is very relevant. In the situation of supporting some sectors of the state produces an "arrangement" burden on other sectors. On the one hand, it would seem, manufacturers of agricultural machinery, due to the support provided by today should subsequently help others also suffering from the crisis, but in fact the market of agricultural machinery in the new situation cannot become a "locomotive", due to the imbalance, as it now level, there are no development, and the "patchwork". Therefore, all as a result of a few suffer from this disproportionality.

The production of industrial independence reduces. The probability of this risk under the current policy of protectionism great consequences will decrease the system of competitive advantages and will therefore significant.

The decline in living standards of workers is already happening in the future, this trend can only increase. Demotivation as a general decline in the quality of work, productivity, increased "stress" primarily of highly qualified personnel can be serious consequences for the industry and moderate consequences for the country.

Strengthening the uneven production of various companies also has a high degree of probability. By activating the integration process (the creation of various associations, holding companies), as already noted, it activates the process of redistribution of capital from weak to strong production in the framework of promising investment projects for the industry and strengthening of disproportionality, which, in turn, does not allow flexibility to respond to the needs market and for this reason flexibly transformed. Trend toward monopolization cause difficulties leadership industry.

The weakening of control is a common feature of the crisis; this threat – today, it is a clear reality. But within the definition of the degree of the effects of reduced controllability, it is expedient to define levels when: a) the situation is amenable to adjustment under certain conditions, a temporary imbalance can be considered as a transition to a more promising market behaviors; b) when the situation is partially corrected under certain conditions, but requires a lot of expenses, which does not allow the system to evolve for a long time, and finally, c) when the situation cannot be regarded as a managed, all the time characterized by the appearance of new features in the framework of the growing recourse. In this situation, we can talk about the risks of second-tier in the industry that essentially "pumps" the total lack of control processes in the country.

The reduction of scientific and technological capacity in times of crisis is already happening, many investment projects are "frozen", the new proposals for its development does not occur. If we do not pay much attention to this, in the near future, the industry will produce vehicles by unfavorable foreign country financing schemes.

High shady practices with the active participation in this issue of government bodies and the constant adjustment of the current legislation, but some manifestations will continue to grow, making the market opaque, poorly predictable, characterized by deterioration in the investment attractiveness of that today cannot be ignored.

Evasion schemes are constantly being improved, to eliminate them in the presence of significant financial difficulties almost impossible, so you should recognize the real threat of declining tax revenues. And it's not just a pretty significant risk for the country - for entrepreneurs it turns the wrong interpretation of the problems of the sector by the government and inadequate, dysfunctional support. We summarized the situation in a tabular form.

<table>
<thead>
<tr>
<th>Type of risk</th>
<th>Probability of risk</th>
<th>Value of risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease of production scale</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Increase of structural imbalances</td>
<td>0.6</td>
<td>0.4</td>
</tr>
</tbody>
</table>
Increase of industrial depending of the production  |  0.9 | 0.8 |
Decline in living standards of workers       |  0.9 | 0.4 |
Strengthening the uneven production of various enterprises |  0.8 | 0.2 |
The weakening of controllability             |  0.7 | 0.5 |
Reduction of scientific and technical potential |  0.7 | 0.6 |
Growth of shady practices                    |  0.6 | 0.4 |
Loss of tax revenue                          |  0.6 | 0.3 |

<table>
<thead>
<tr>
<th>Probability</th>
<th>.</th>
<th>PP</th>
<th>.</th>
<th>.</th>
<th>.</th>
<th>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9-1.0</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>0.7-0.8</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
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<tr>
<td>0.5-0.6</td>
<td>.</td>
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<td>0.3-0.4</td>
<td>.</td>
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<tr>
<td>0.1-0.2</td>
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Table 2: Matrix of levels of risk

The average result of the analysis of entrepreneurial activity in the market of agricultural equipment indicates the presence of a critical level of risk activities of its subjects in the overall economic development of the country, so the state should be expected to support that in the best-case scenario should be considered as the creation of framework conditions, primarily for investment activity. Given the high potential for
government interference in the business of the industry (in the presence of an identified level of risk), in the worst case scenario should be expected to provide subsidies and privileges at the expense of other sectors of the economy.

3. Factors and the main parameters considered in the planning process

According to the Center Datamonitor, an income from the sale of vehicles on the market of agricultural machinery will increase in recent years at 7.2% (Table. 3). It should be noted that the Russian market is highly exposed to market fluctuations and, therefore, its task is to stabilize and prioritize slower but sustained growth. In the long term projected increase revenue in this market to 189.9 billion dollars, reflecting a growth rate of 5.7%.

On the market of construction machinery, agricultural machinery and trucks agricultural production itself is 12.5%, including tractors – 9.5%.

Table 3: Income of Russian manufacturers in the market of construction machinery, agricultural machinery and trucks

<table>
<thead>
<tr>
<th>Year</th>
<th>Bill. of dollars</th>
<th>% of growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>109.0</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>117.1</td>
<td>7.4</td>
</tr>
<tr>
<td>2011</td>
<td>122.4</td>
<td>4.6</td>
</tr>
<tr>
<td>2012</td>
<td>133.1</td>
<td>8.7</td>
</tr>
<tr>
<td>2013</td>
<td>144.0</td>
<td>8.1</td>
</tr>
</tbody>
</table>

In comparison with the European and American market, which in 2009 received respectively income of $ 38.6 billion and 51.3 billion dollars, the Russians significant figures? A detailed representation of the different regions in the center of the market indicated in the following form: the American market of construction machinery, agricultural machinery and trucks is 35.6%; Asia-Pacific market is 30.4%, Europe – 26.8%, with manufacturers from other regions – 7.1%. The dominant factors of this market are:

Fig. 1: Reflection of the dominant factors in this market
This market is characterized by limited competition, due to the presence of certain barriers, mainly determined by the high cost for the organization of agricultural production. Buyers segmented between different companies of various sizes, i.e. customers choose your company, depending on their requirements for the goods, but resources poorly differentiated between companies. Entering the market through production specialization, therefore, very difficult, and this specialization is possible only in the local market. Competition between the major players in the market may be growing due to the uneven level of duties and taxes in different regions of the world; taxes and duties increased fixed costs in production and lower variable costs, violate flexibility when interacting with customers. And this flexibility characterizes a healthy market and reduces certain way negatives competition. In general, competition in this market can be assessed as moderate. [6]

Now consider the possibility of institutional changes in the market. Basically, it refers to the appearance of substitutes. And this probability Datamonitor connects to the following factors:

![Figure 2: Features of institutional changes](image)

As such substitutes (institutional substitutes) in the market is not, however, the possibility of their occurrence there, here is the greatest likelihood of reselling equipment used, privates. On the one hand, to buy equipment that were in use for less than a new one, but on the other - there are no guarantees about the quality that can carry huge risks as part of agricultural production. Therefore, the effect of substitutes on the market is moderate. [7]

Competition is carried out mainly by large players (players in this market are mainly large, as determined by the high level of fixed costs in production and low level of variable costs). Income derived in this market, and competitive conditions are strongly dependent on the level of production of farmers, ie the conditions of agriculture in the countries, if conditions are good and the farmers enjoy higher profits, the equipment is purchased, otherwise - no. Seasonality - is also an important factor that regulates the position in this market, however, manufacturers have often contract with farms and could purchase appliances throughout the year [8].

Differentiation and specialization allows producers to be reasonably competitive in this market. The expansion of business activities in the framework of entering new markets in modern conditions it is very difficult to carry out in connection conquest of vast clear boundaries large branded companies. Other manufacturers, including domestic, today it is important to retain the existing position, and this can be achieved through regional specialization. The high level of taxes limits the ability of self-organizing market
mechanism that helps in the end only exacerbate the situation. For domestic entrepreneurs operating in this market, it is important to "build a symbolic value. [9]

Since the prices of many resources, including components, determined the price of oil, which in recent years vary greatly and are difficult to predict and planning, we need new more stable suppliers, for example, the same farmers: can sell equipment, which appeared out of service as a raw material producers, though this substitute can become a reality only if the cheapness of used raw material potential. Farmers to reduce the price of scrap will go sooner or later, because eventually all will be felt more acutely the problem of disposal. At the same time, the more resource providers, the more stable and favorable situation - for the expansion of relations with suppliers requires a certain institutional environment.

With regard to the global analysis of the Russian market of the current situation can be called favorable to penetrate to us foreign producers in terms of their interests: the market is growing, the adequacy of suppliers, unsettled, allowing to manipulate the price elasticity.

Acute problem of monopolizing the market, initiated mainly [10]:
- fixed price that the Russian market is strongly expressed;
- unequal rules of the game that, on the contrary, is poorly developed;
- insufficient number of players (producers).

Challenges of entrepreneurs are seasonality, which have not yet learned to control. Major global players significantly determine the nature of Russian exports, displacing us from the markets of the CIS countries (e.g., Uzbekistan), filled with his technique in the domestic market due to significant competitive advantages.

Table 4: Issues that the market for agricultural technology within the framework of the proposed system planning entrepreneurship

<table>
<thead>
<tr>
<th>Short-term</th>
<th>Medium-term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrying branded manufactures policy</td>
<td>Synergy effect</td>
<td>Quality</td>
</tr>
<tr>
<td>Stabilization and possible decline in prices by suppliers, resource</td>
<td>Building a balanced infrastructure environment</td>
<td>Environmental friendliness</td>
</tr>
<tr>
<td>The study of regional specificity required</td>
<td>Growth of key components</td>
<td>Economic efficiency</td>
</tr>
<tr>
<td>Increase of competition</td>
<td>Balance of indicators</td>
<td>Solution of social problems</td>
</tr>
<tr>
<td>-</td>
<td>Growth of the fundamental value</td>
<td>Market stabilization</td>
</tr>
</tbody>
</table>

Thus, our analysis shows that in the short term there is a need to address the following objectives:
- Stabilization of the market (creating repeatable processes);
- Stabilization of the possible reduction of prices by suppliers to the resources;
- Explore the necessity of regional specificity;
- Increasing competition (to all market participants have been benefited from the business).

In the medium term it is necessary to obtain:
- synergies;
- building balanced infrastructure protection;
- growth of key competences;
- balance indicators;
- increase fundamental value in the long term:
- quality (primarily - increase in the period of the technology without breakdowns);
environmental friendliness;
- economy;
- solving social problems within the business activity.

4. Conclusion

The study showed the changes in the market place of agricultural machinery under the influence of external factors and circumstances, initiated by businessmen in the market. The basic position is that the changes within the market as a system are due to imbalance of the primary and secondary processes. They can stimulate the negative or positive effects. Positive changes associated with increases primarily synergistic effects.

The process of planning and forecasting business in the market of agricultural machinery has an impact on emerging risks. It was revealed that the negative trends in the development of the Russian market of agricultural and entrepreneurial activities on it related to the imbalance of processes competitiveness, increase possible risks that do not allow us to focus on transformation and finding solutions of potential problems.

5. References (Endnotes)