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## **Modern theories of international trade and international market entry strategy: evidence from mechanical engineering**

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**Abstract**

The conceptual foundations of modern directions of international trade theory research in order to create a strategy of coming to international markets are analyzed in the article. In particular the article shows that in the present the Russian machine-building industry has a significant growth potential through the development of mining and manufacturing industries, which should be used as an export potential.

**Keywords**

Engineering, product range building, international trade, foreign trade potential, competitive advantage.

**Introduction**

In today's world no one country can exist in economic isolation. All aspects of the national economy, including the production of goods and services, income and unemployment level, living

standards linked to the national economies of its trading partners. These links take the form of an international movement of goods and services, labor, investment and technology. Therefore, access to international markets is a highly relevant direction.

In order to form the concept of access to international markets the use of methods of strategic management becomes possible, in particular, in the analysis of markets and the company's ability to comply with the implementation of activities in the international market. However, the use of these instruments cannot answer questions about how it is necessary to plan the line of goods to increase sales and profit both in operational and strategic periods.

Though, to determine strategic guidelines and answer the question of how it is necessary to allocate resources of the company, expressing in particular how it is preferable to develop, it is necessary to conduct an economic analysis from the perspective of theories of international trade.

### **Theoretical foundations of the world trade**

Classical theories of international trade include the theory of comparative and relative advantages and Heckscher-Ohlin theory, explaining the reasons for order and structure of international trade. Particularly, it is proved that the country has a comparative advantage in the production of goods, where in the process of output intensively used those resources

(factors of production) that the national economy has in abundance. Besides, hitherto empirical confirmation of this theory yet has not been tested adequately.

Modern research in the field of international trade theory is based on a study of the role of individual companies in the implementation of foreign exchange. Thus, the basis of modern theories of international trade based on the following postulates:

1) enhancing the role of multinational corporations in the post-war international economy;

2) classical theories of international trade cannot predict the existence and development of intra-industry trade between countries;

3) limited empirical evidence of Heckscher-Ohlin theory.

Under the analysis of trade flows in accordance with modern theories of international trade (in contrast to classical theories) such factors are taken into account as quality of goods, their production technology, brand recognition and customer loyalty that largely determines the concept of strategic management at the assortment policy to the international markets entry.

The most significant theory of international trade is based on the pro-

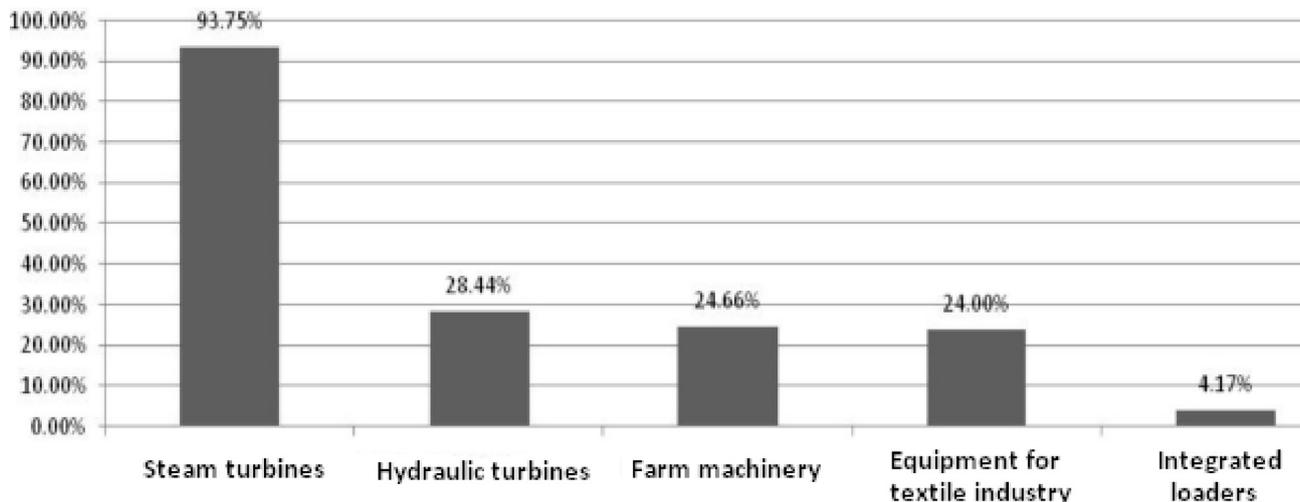


Fig. 1. Growth rate of production of certain types of engineering products (2008 compared to 2007)

posed idea of Swedish economist S. Lidman that international trade in manufactured goods results from the similarity between the preferences of consumers from different countries at the same level of economic development.

According to the theory of Lidman first companies produce products to meet the demand in the domestic market, while in the search for new opportunities to sale products it is revealed that the most promising foreign markets are in those countries where consumer preferences are similar to the specifics of local market demand. According to the theory of similarity of countries, trade in industrial goods should take place mainly between countries with comparable income levels per capita.

Country similarity theory is particularly significant for the study of trade

in differentiated products such as vehicles and equipment. In making decisions on purchasing consumer goods in this category an important role plays a brand awareness and reputation of the product on the market.

### **International market entry strategy**

Until the recent economic crisis Russian machine-building complex in some areas has shown a significant growth. In particular, in the increased production of various types of equipment for the oil and gas industry. Chart of production growth rate in 2008 compared to 2007 is shown in Fig. 1.

Obviously, the development of these types of production is conditioned by the demand of relevant industries –

energy, rail transportation and others. Thus, under the development of production and the formation of the product range it is necessary to consider the possibility of selling engineering products to the countries with the same level of development of manufacturing or extractive industries, e.g., Middle Eastern countries in the sale of equipment for oil and gas production and the CIS countries for sale of railway equipment, rail transport, and, accordingly, taking into account the needs of these markets – the working conditions.

Also important for the formation of the entry strategy methodology in international markets is the theory of the product life cycle, which was developed in the field of market research to describe the evolution of the strategy of the product placement at various stages of product life cycle. Later it was developed by R. Vernon in the 1960s. According to this concept, we can define the role of innovation in entering international markets and assess not only the comparative advantage of product manufacturing, but also the strategic actions of competitors in the decision making process in relation to international production, international trade and investment.

According to the Vernon's theory international product life cycle consists

of three stages: the stage of development of a new product, the stage of maturity and the stage of product standardization. At the first stage of the product life cycle or the stage of development of a new product the company goes on development and implementation of new product in response to the need for this product in the domestic market. As the product is innovative, it is not obvious whether the emergence of a market is possible, in which there may be effective demand for these products. Thus, the study of needs enable exploring consumer response to the emergence of a new product and to determine whether this product correspond to potential or existing customers opportunities.

For the time being innovative submarkets in the Russian mechanical engineering being developed in areas such as shipbuilding, power plant engineering, production of certain types of agricultural machinery, medical and aircraft equipment, railway engineering. It is obvious that at the initial stages the production should be located in the country, where scientific research and experimental design work on the development of this product were performed. This practice was confirmed by vertically integrated entities in industrialized countries. Thus, the first phase of practical approval in

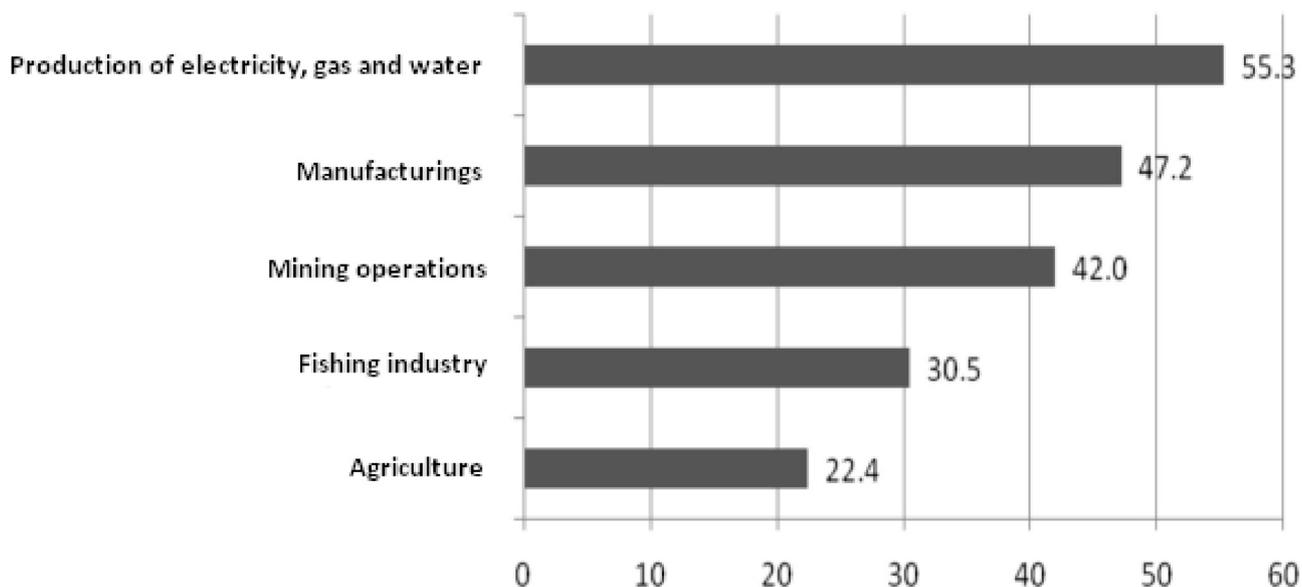


Fig. 2. The share of investment in machinery and equipment by industries (Rosstat, 2009)

the domestic market is conducted for all engineering products.

At the next stage of the life cycle due to the limited size of the domestic market and the desire to maximize investment, since the size of the market still remains indefinite, the company strives to minimize their investment in production facilities for the product. Almost all products are released at this stage is sold on the domestic market, and export sales are limited.

According to statistics, in the structure of investment in fixed assets in 2009 a significant share of investment accounted for machinery and equipment (Fig. 2), therefore, the change in intensity of effective demand for engineering products can be derived from studying

the dynamics of investment in fixed assets by industries (Fig. 3).

As can be seen from the graph, the rate of investment growth is uneven and depends strongly on the type of industry and the overall economic situation. Thus, the crisis in 2008-2009 in economy has caused a significant reduction in costs for the conversion of fixed assets.

Specifically, we can say that a large proportion of engineering companies, being engaged in the product creation and the development of submarkets for domestic consumers, can be at the first or second stage of the product life cycle. At the third stage of the product life cycle, the stage of standardization, a stabilization of the product market takes place, and, considering the need to minimize the cost of

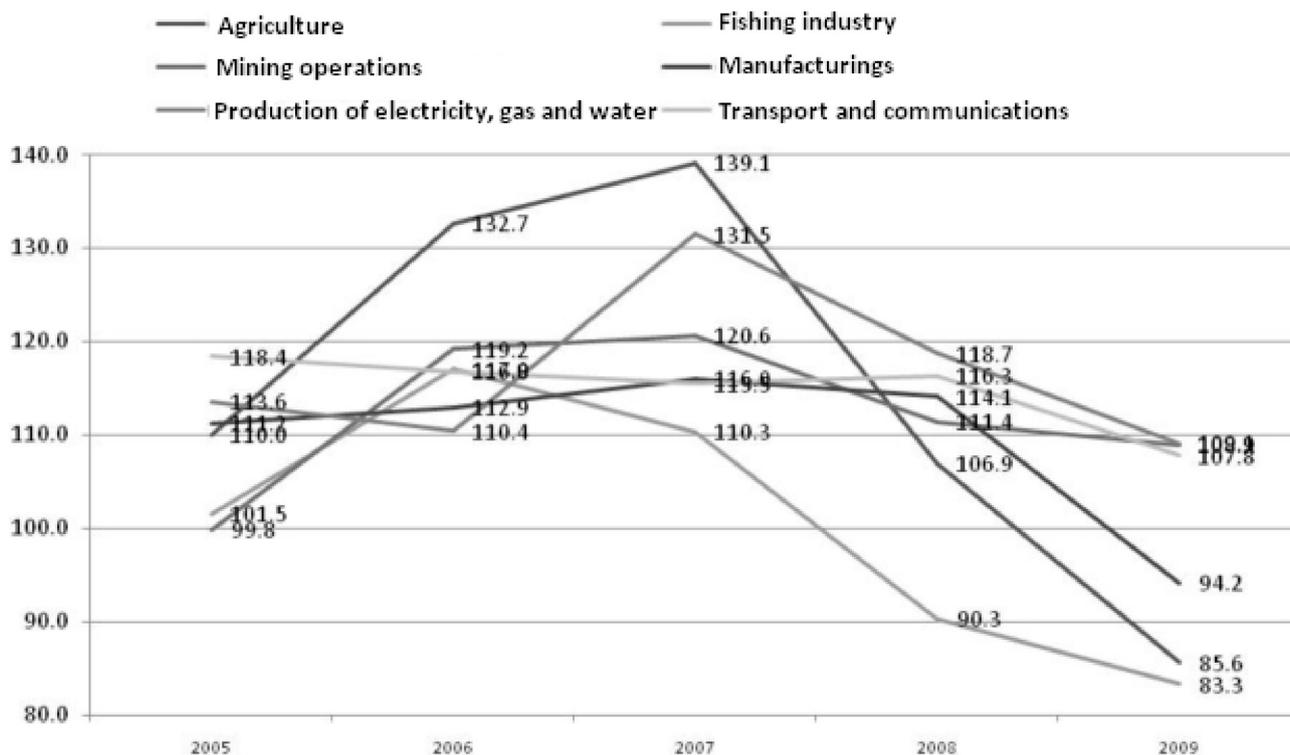


Fig. 3. Dynamics of investments in fixed assets (in terms of industries, Rosstat)

its production, it becomes necessary to reduce the maximum possible level of costs, which main method may be the transfer of production to companies located in countries with lower levels of payment labor. For instance, many companies move their production to CIS countries – Kazakhstan and Ukraine, to meet an effective demand in the Russian Federation. As a result begins the process of importing the product on the domestic market of the company, which initially was involved in its implementation. In some cases, this process can result in the complete cessation of production in domestic enterprises.

An example of the third stage of the life cycle of the Russian mechanical

engineering is a launched into production in 1947 Kalashnikov AK-47 assault rifle, which by the mid 70's was the most common weapon in its segment. To maintain a high rate of sales the technology on the production of this type of weapon was assigned to Turkey, Myanmar, Bulgaria, India, France, China and other countries. Currently 90% of all produced in the world Kalashnikov assault rifles made in China.

Consequently, the concept of the production range development strategy is a testing in the domestic market before the release of innovative products to international markets.

In the 80s researchers P. Krugman and K. Lancaster developed new

theoretical principles to describe patterns of international trade<sup>1</sup>. According to this theory, companies seek to obtain sustainable competitive advantages, which can then be used to provide access to international markets. In particular, according to the research by Krugman, at the disposal of companies participating in the competition in the international market, there are several ways to obtain a sustainable competitive advantage by using techniques such as:

- company has rights to intellectual property;
- R&D investment;
- obtaining savings out of scale or diversification of activities;
- use of the opportunities provided by the experience curve.

The company, which has intellectual property rights (with rights to the trademark and trade name, and holds patents and copyrights on various inventions), in many cases gains significant advantages over their competitors. Herein investment in scientific research development is a key component of the total

cost of production of high-tech products. Because of the high initial costs other companies may be uncompetitive in comparison with recognized leaders in these sectors.

According to the theory of global strategic competition trade flows in the international market are formed depending on what companies are investing the necessary resources in R&D. Companies that engage in marketing their products to large segments of the domestic market have the opportunity to study the needs of local consumers, so these market participants have advantages over their foreign competitors in the market of the products, which production is based on the use of high technology. Customer feedback allows these companies to make the necessary adjustments in product at the stage of research and development that enables them to better meet the needs of domestic consumers. Subsequently, this experience can be used to meet the needs of foreign customers. Russian mechanical engineering has a significant R&D in the field of defense technologies, derived from the research of MIS in 60-90s, relevant up to time, that allows selling products in foreign markets. However, today the creation of new products significantly limited by the opportunities of the investment, so this situation is possible only in

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1 Krugman, P.R., Obstfeld, M. (1997), *International economy. Theory and policy: Textbook for students of high schools. Trans. from Eng. [Mezhdunarodnaya ekonomika. Teoriya i politika: ucheb. dlya studentov vuzov po ekon. spets. Per. s angl.]*, MSU; JUNITI, Moscow, 799 p.

the areas of strategic industries, provided legal limitations on investments.

### Conclusion

Savings from the expansion of operations and savings from the production diversification enables companies to achieve sustainable competitive advantage in the international market. Savings from the expansion takes effect in the case when the average volume of the production costs decreases as the number of units of product manufactured by one company increases. This type of cost reduction takes effect when the average volume of the production costs of the product decreases as the number of different products manufactured by one company increases. Economy of scale or diversification of activities enables companies to provide enough low average cost of producing one unit, which gives them an advantage over competitors operating on the global market. Gaining advantage by this factor is very limited at the present stage, as the Russian mechanical engineering products are in demand only in the piece or serial production.

Thus, according to the theory of strategic competitive advantage of P. Krugman and K. Lancaster, it is neces-

sary to exploit the potential of patent law on R&D in the development of the international market entry strategy.

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# Современные теории мировой торговли и стратегия выхода на международные рынки: на примере машиностроения

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## Аннотация

В работе анализируются концептуальные основы современных направлений исследования теории международной торговли с целью формирования стратегии выхода на международные рынки. В частности, в статье показывается, что в настоящее время российский рынок машиностроительной отрасли имеет существенный потенциал роста за счет развития добывающей и обрабатывающей промышленности, который необходимо использовать в качестве экспортного потенциала.

## Ключевые слова

Машиностроение, формирование ассортимента, международная торговля, внешнеторговый потенциал, конкурентное преимущество.

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