



Jonek-Kowalska I. (2014), *Strategies of Internalization in the Industry of Mining Machines and Appliances*, „Oeconomia Copernicana”, Volume 5 Issue 2, pp. 75-100, DOI: <http://dx.doi.org/10.12775/OeC.2014.015>

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Strategies of Internalization in the Industry of Mining Machines and Appliances

JEL Classification: F23, L10, L64

Keywords: *internationalization, internationalization strategies, industry of mining machines and appliances*

Abstract: *Currently, the industry of mining machines and appliances in Poland, as a result of considerable economic improvement on the market of energetic resources, gains an incredible opportunity for further development. However, its use is dependent on the intensification of activity internationalization. Polish sales market, due to hard coal mining decrease and financial problems of mining enterprises, does not guarantee sales increase. Therefore, the basic objective of this article is to assess the currently used internationalization strategies of Polish enterprises performing in the industry of mining machines and appliances.*

In the article, in the theoretical part literature studies concerning enterprises internationalization are used. Next, the characteristics of the industry of mining machines and appliances in Poland are presented, ending with a SWOT analysis.

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Date of submission: March 16, 2013; date of acceptance: December 12, 2013

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** This article has been financed by a grant from the Silesian University of Technology no. RGH-10/ROZ/2012.

In the part devoted to a strategy of internationalization, the results of a questionnaire research conducted in the group of producers of mining machines and appliances in the 2012 were used.

According the research results, Polish enterprises from the industry of mining machines and appliances in the internationalization of their activity use the simplest strategies that do not require engagement of capital on foreign markets. Some examined enterprises have been functioning on popular markets, offering the same products. Other ones conquer new markets and/or modify the products in order to adjust them to geological-mining requirements of target markets. Diversification strategy is not used because of high risk. The examined enterprises are not able to use dumping, due to global competitors and Chinese producers. It is not profitable to use direct investments either in exploration and penetration. The reason is mostly a lack of recognition of markets remote geographically and culturally, as well as low domestic production cost which cause that Polish producers choose a focus strategy instead of a diversification strategy.

Introduction

In the contemporary economy, there is a systematic intensification of internationalization processes. Economies become more and more internationalized. Economic subjects functioning in them may passively participate in globalization bearing its impact. They may also actively engage in its course in the form of internationalization of activity.

Internationalization, in the simplest and at the same time the most general approach, is any type of economic activity undertaken by an enterprise abroad (Piercy, 1978, pp. 44-46; Turnbull, 1985, pp. 20-22). Depending on the definition of internationalization, the scale of economic activity conducted abroad is defined in a different way. Some researchers understand internationalization as moving enterprise's activity outside the domestic country (Rymarczyk, 2004, p. 21). For others, it is the whole investment model on international markets in which the enterprise uses its competitive advantage (Dunning, 1988, pp. 1-31). In a very narrow meaning, in order to consider the enterprise as internationalized it is enough that one of enterprise's product is connected with foreign market. Furthermore, the form of such connections is not important (Przybylska, 2005, pp. 74-92).

The definitions of internationalization presented above are specific for a static character. Internationalization in the subject literature is very often considered in a dynamic, process approach. It is understood then as a process of increasing enterprise's engagement on foreign markets taking place both in passive and active forms (Welch et al., 1988, p. 54). Such process is a function of knowledge increase about particular markets (Melin, 1999, pp. 99-118). In this process there are very often subsequent sequences indi-

cated which determine a path of conducting international expansion (Johanson et al., 1975, pp. 23-24). Additionally, it is also emphasized that an expansion should constitute an element of enterprise's strategy (Fonfara et al., 2000b, pp. 23-30; Fonfara et al., 2000a, p. 12).

It is also worth to mention the basic objectives of internationalization of enterprise's activity, which are: achieving benefits resulting from scale and location, increasing activity's profitability, access to capital, obtaining new contracts, entering new markets, getting new resources or competencies, especially technological ones.

Taking into account the range of internationalization problem in enterprise's activity, the basic objective of the hereby article is to evaluate the currently used internationalization strategies of the Polish enterprises functioning in the industry of mining machines and appliances.

Internationalization strategies in theory of economics

According to the above, internationalization is a process which starts at the moment of expanding the area of enterprise's activity into a foreign sales markets (Acedo et al., 2007, pp. 326-352). Such process, due to a different character than a domestic activity, should be precisely prepared. The enterprise will be often conducting activity in conditions different from the domestic environment. Therefore, distinguishing internationalization in a total enterprise's strategy is wanted and has its purpose (compare Daszkiewicz, 2004, pp. 50-70; Jones et al., 2011, pp. 632-659).

In the subject literature internationalization strategies are classified in a different way. H.I. Ansoff distinguishes four types of such strategy: defense, market development, product development and diversification. The first one means offering the same products on previous sales market and its basic purpose is survival. The second one assumes that the enterprise presents current product offer on new markets. The third strategy consists in offering new product on previous markets. The last one is the most difficult and requires the highest outlays, means conquering new markets and introducing new products at the same time (Mas et al., 2006, pp. 54-82).

M.E. Porter suggests a dichotomous division of internationalization strategy, distinguishing focus and differentiation strategy. Enterprise, using focus strategy, concentrates its main links of value chain on the territory of one or several countries and international expansion is conducted using a dispersed distribution network. In this way, benefits resulting from scale are maximized in the value chain due to high productivity and possibility to reduce unit production cost. In the differentiation strategy the enterprise

puts its particular links of value chain in several countries. The reason for dispersion is mostly cost differentiation in particular links. Such a strategy allows to minimize production costs, however, it requires a very good knowledge of particular foreign markets, as well as the ability to coordinate actions efficiently in the value chain.

Another division of strategy is presented by J.C. Leontiades, distinguishing: skimming, dumping, exploration and penetration. The first one is specific for low outlays and risk as the enterprise only enters chosen segments of foreign markets with products offered on a domestic market. When using dumping, the products are additionally offered at low prices, making price predominance the basic competitive advantage. In both cases, the enterprises internationalize their activity using indirect export by agents, licensing and distributors. In case of exploration and penetration the enterprise use direct investments and, before proceeding with them, research of potential foreign sales market is conducted on a wide scale. Exploration differs from penetration mostly in terms of scale of capital engagement. It is much lower in exploration than in penetration. It may also happen that exploration is the stage preceding penetration.

J. Rymarczyk (Rymarczyk, 1996, pp. 75-79) divides internationalization strategies taking into account the number of countries included in the process as well as the way of adjusting to new markets. In such an approach, one can distinguish ethnocentric, polycentric, global and dual strategy. The first one assumes expansion to chosen countries similar to domestic market. In the second one, the enterprise performs on the foreign markets which are different from the domestic one. Global strategy means treating world market as a homogenous one (Knight et al., 2005, pp. 15-35). In turn, dual strategy is a compromise between polycentric and global strategy. In this strategy, the enterprise maximizes benefits resulting from global integration, trying at the same time to adapt to the specificity of conquered markets.

Forms of internationalizing enterprise's activity

A form of internationalizing enterprise's activity very much depends on an enterprise's size. Small and medium enterprises, specific for low resource potential and poor competitive position, mainly use exchange sphere in order to internationalize. The most popular forms are export, as well as indirect and direct import in this case. Lower popularity belongs to strategic alliance, franchising or managerial contracts. In this group of enterprises

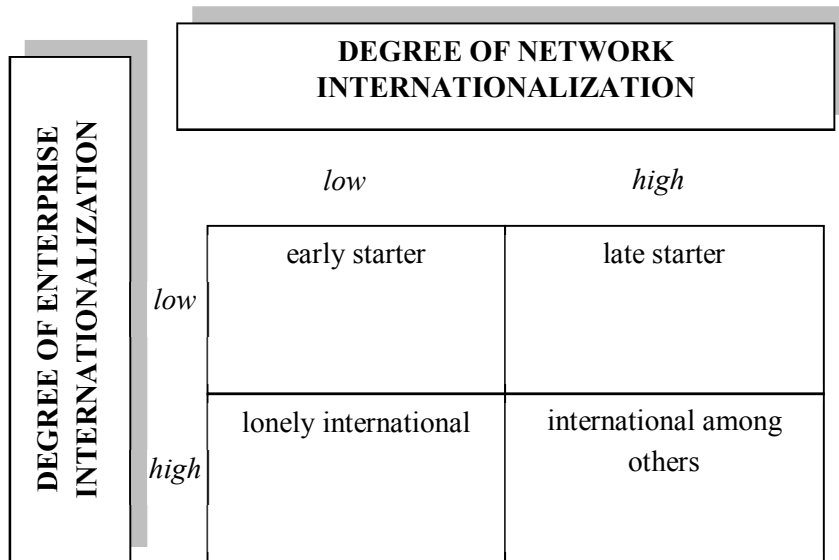
foreign direct investments are conducted very rarely (Przybylska, 2010, pp. 132-154; Gołębiowski, 2007, pp. 16-22).

The process of internationalization is mostly participated by large enterprises of significant resource potential and high competitive ability. Such enterprises are very often described as international corporations. There are four basic models distinguished among these subjects. These are the following corporations:

- international,
- multinational,
- transnational,
- global.

The first among the aforementioned ones perform in more than one country. Foreign sales have a significant share in total sales although it is still lower than domestic sales. Such corporation possesses one or several foreign divisions, which are subordinated to mother domestic headquarters. A multinational corporation possesses numerous divisions in many countries. Also, coordination plants may function on the territory of these countries. However, they are subordinated to a domestic mother enterprise. Transnational corporations use resources gathered on the territory of a country where a branch of mother enterprise is located. Domestic unit is treated as coordinator of actions taken on foreign markets. Export constitutes the most important source of revenues. In case of global corporations it is hard to assign the location of headquarters to any country. The enterprise possesses strong and independent companies situated in many countries of the world. Such companies are listed on local capital markets and have shareholders connected with the country of international expansion (compare Tobolska et al., 2006, pp. 46-59).

In the contemporary conception of enterprises internationalization there is also network approach presented. The authors of this conception – Johanson and Mattsson (1998) – notice that internationalization process depends on a degree of network (market) internationalization. Depending on intensity of these characteristics there are four forms of internationalization distinguished presented in Figure 1.

Figure 1. Internationalization forms in the network approach

Source: Johanson, Mattsson (1988, p. 295).

In the least developed form of internationalization is determined as an early starter – enterprise and network, in which there are several connections with foreign market functioning. In such a situation, the enterprise does not possess proper knowledge and experience concerning foreign markets. It cannot benefit from partners' experience either, as the latter is not high. Therefore, it is suggested for the enterprise to use the intermediary's services what allows to minimize risk and costs of entrance into a new market (compare Kuivalainen et al., 2012, pp. 448-465). Another form of international expansion for an early starter may be an acquisition or investment of *greenfield* type. However, it is much more risky and cost-consuming undertaking. A lonely international is an enterprise having knowledge and experience concerning activity on a particular market at its disposal. An opportunity for an increase of international connections for such an enterprise is to join the network of enterprises performing in a particular country, connected with exchange, resources restocking and competencies. A form of cooperation may be acquisition or direct investment. In the case of a late starter, the participants of domestic network already function on foreign markets. They have proper knowledge and experience which a late starter does not have. At that time, due to establishing cooperation with more experienced participants of the network, the degree of inter-

nationalization may increase. Nevertheless, because of considerable delay, it is not an easy task, especially if one cannot offer own knowledge and experience in that matter for other enterprises. For small enterprises situated in this location, it is advisable to use the intermediary's services or building foreign branch. Large enterprises may use acquisition or joint-venture, but these are highly risky investments. The enterprise defined as "international among others" is characteristic of the highest degree of internationalization. At that time, the enterprise knows foreign markets very well and cooperates with others in order to maintain a great market position and flexible adjustment to changes coming on the market (Ratajczak-Mrozek, 2009, pp. 7-11).

Characteristics of industry of mining machines and appliances in Poland

The industry of mining machines and appliances is a market strongly connected with the mining industry. In Poland, due to a long-term tradition and strategic significance for the country, it is a market strongly connected with the hard coal mining industry. A great importance for this market is also lignite and copper mining. Poland is a significant producer of those resources in the world. Domestic recipients constitute quite stable and certain source of sales of products and services for the industry of mining machines.

The structure of the industry is varied, depending on the type of products and services offered. There may be a core distinguished which consists of producers of machines and appliances delivered mostly to mining industry and enterprises of a more universal character being providers of machines and appliances in a wider scale of use than the mining industry. The latter ones are connected with processes accompanying underground exploitation: mechanic, electric, transporting, ventilation, air-conditioning ones or processes providing safety of exploitation.

The appliances characteristic of mining are: heading and longwall coal-cutting machines, powered supports, room and pillar supports, wall band conveyors, other band conveyors and conveyor belts. Additionally, in this group in the open-pit mining the following may be indicated: mining, loading and delivery machines, stockpilers; some of them are associated with equipment typical for construction industry. Auxiliary appliances, adjusted for the needs of mining are: transportation systems, hydraulic and pneumatic drives, gas detection, measurement and monitoring systems, ventilation and airing systems, ventilation systems, mining rescue equipment, mining

cables, drive chains for mining machines and appliances, appliances and tools of small mechanization, tools for communication and signaling, as well as electric appliances and tools.

Currently in Poland there are about nine hundred cooperants, enterprises and institutional subjects collaborating with the mining industry. Over two hundred are providers of machines, appliances and services for mining. The core of the industry constitutes about forty enterprises that provide equipment typical for mining enterprises. The industry leaders are four enterprises functioning in a form of consolidated capital groups.

The main providers of professional capital-consuming equipment for the mining industry are four enterprises functioning in a form of consolidated subjects. These are the following capital groups: Famur, Kopex, Fasing and Bumech. Their product and service offer is very rich and diversified. Thanks to this, the enterprises are able to fulfill the needs of their recipients in a complex way. Undoubtedly, an advantage of such enterprises is large size and long-term experience, which allows to obtain cooperants in Poland and to conduct international expansion. They are well-recognized and valued on foreign markets.

On the basis of an analysis of the industry of mining machines and appliances and its environment in a form of the mining industry, a SWOT analysis has been made. The results are presented in Figure 2.

According to SWOT analysis, there are strengths dominating in the industry of mining machines and appliances. They are considerably emphasized by the opportunities embedded in the external environment and connected mostly with an intensive development of mining industry in Poland and in the world. This means that the industry is currently facing an unrepeatable opportunity for development and may use an aggressive strategy of international expansion. Such a strategy, according to the suggestions of strategic management, is available only for the industries (enterprises) with a dominance of strengths intensified by opportunities of external environment. Therefore, it should be stated that the industry of mining machines and appliances in Poland has a potential enabling to conquer new sales markets and development of the present ones.

Figure 2. SWOT analysis in the Polish industry of mining machines and appliances

Internal Features	Positive	Negative
	<p style="text-align: center;">S – strengths</p> <ol style="list-style-type: none"> 1. High quality of products appreciated on Eastern markets. 2. Wide range of complex products and services. 3. Complementarities of products and services. 4. Stability of cooperation with recipients. 5. Knowledge of all mining technologies. 6. Continuous modernization of technology. 7. Including innovative information technology solutions in the offer. 8. Possessing technologies allowing drilling excavations of smaller cross-sections, in rocks that are harder to mine. 9. High level of long walls automation equipped with modern hardware 	<p style="text-align: center;">W – weaknesses</p> <ol style="list-style-type: none"> 1. Strong dependence of this branch of industry on the mining industry. 2. Strong rise of prices of mining machines and equipment in the last couple of years. 3. Frequent failures of some of the mining machines and equipment. 4. Lack of industrial strategy of international expansion. 5. Lack of industrial promotion of Polish mining machines and equipment. 6. Shortage of specialized staff with industrial education and experience.
External Features	Positive	Negative
	<p style="text-align: center;">O – opportunities</p> <ol style="list-style-type: none"> 1. Investments in Polish mines. Investments in the global mining industry. 2. Increase of world demand for energy. 3. Increase of world demand for hard coal. 4. Possibility of establishing cooperatives and subsidiaries on international markets. 5. Actions in favor of non-equity integration (cluster initiative). 	<p style="text-align: center;">T – threats</p> <ol style="list-style-type: none"> 1. Tightening restrictions concerning the emission of carbon dioxide. 2. Changes of exchange rates, unfavorable for Polish producers. 3. Deepening of economic recession. 4. Natural disasters, making realization of investment planned in the global mining sector much more difficult. 5. Competition inside the industry on international markets, worsening the image of Polish producers. 6. Chinese competition backed up by long-term government loans and offering the collection of resources mined. 7. Intensification of the global competition. 8. Variability of geological and mining conditions in target countries 9. Difficulties in accessing the capital and increasing costs of external financing.

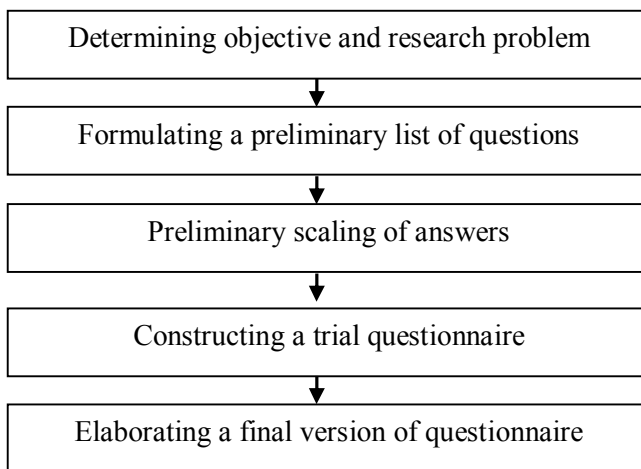
Source: own work.

Methodology

Identification and assessment of internationalization strategy in the Polish industry of mining machines and appliances is conducted on the basis of results of questionnaire research.

The research instrument in the primary research was the questionnaire form prepared according to the methodological sequences presented in Figure 3.

Figure 3. Stages of building a questionnaire form



Source: own work based on Kaczmarczyk (2003, p. 98).

The research included 13 out of 40 enterprise that constitute the core of the industry. In order to identify the examined group the address database of Polska Technika Górnicza (Polish Mining Technique) was used. There are enterprises included that established a long-term cooperation with the mining sector and participate in an active way in the promotion of the industry of mining machines and appliances. The research was conducted in August 2012. Due to the range of the problem of research conducted, the questionnaire form was divided into five parts. In each of them a research objective was defined. These objectives, in a chronological order, are formed as follows:

- Determination of directions of current and potential export, as well as its size altogether with the conditions of a competitive nature.
- Analysis and assessment of the product offer, as well as the degree of its adjustment to the requirements of foreign markets.
- Assessment of internal barriers embedded in the inside of Polish enterprises and in their national political, economic, social and technological environment.
- Identification and assessment of external barriers limiting export of mining machines and appliances stemming from conditions of importer's market.
- Assessment of image of Polish brands in target countries.

Some answers to 25 questions included in the questionnaire form were of closed character and some were of open character. There were also questions requiring assessment of intensity of the researched phenomena. In the hereby article only the answers regarding the questions which enabled identification and assessment of internationalization strategy were used.

The researched enterprises were characterized and classified using the basic quantitative data. Demographics included in the questionnaire form concerned the size of employment, balance sheet value of assets and equity capital, as well as the net income in year 2011. Sectional characteristics of the examined enterprises are presented in Table 1.

Table 1. Collective financial characteristics of the examined enterprises

Specification	Arithmetic mean	Maximum value	Minimum value	Gap
Employment size [people]	716	5 606	13	5 593
Balance sheet value of assets [PLN]	78 205 822	214 753 134	3 801 692	210 951 442
Balance sheet value of equity [PLN]	41 326 238	140 106 206	2 492 244	137 613 962
Net income [PLN]	5 647 920	22 150 741	153 511	21 997 230

Source: own work based on questionnaire research.

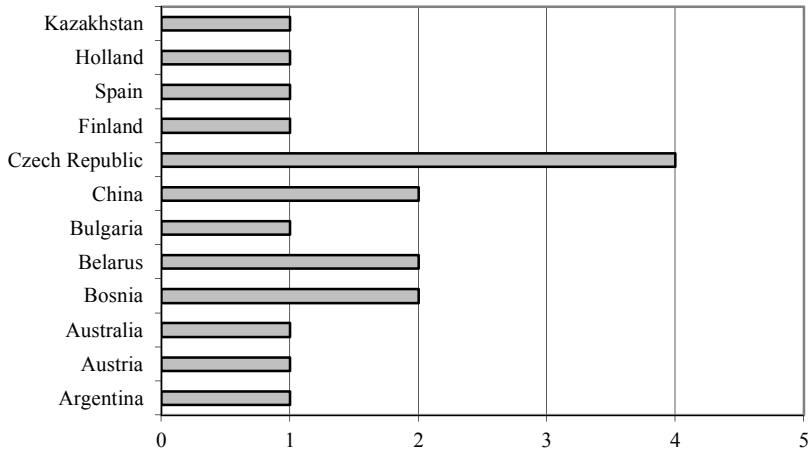
Collective characteristics of the examined enterprises included in Table 1 show a differentiation in the Polish industry of mining machines and appliances. Dominating enterprises are the market leaders of very high incomes, amount of assets, capital and employment. Beside them there are many small and medium enterprises in the industry.

Internationalization strategies of industry of mining machines and appliances in Poland in the light of questionnaire research Current and potential target markets

In the first of the analyzed questions, the examined enterprises had to characterize the main export directions (countries) by indicating them and determining the length of the period of previous cooperation, as well as number and value of contracts signed in the last three years. The enterprises indicated 24 countries where they export mining machines and appliances. These are: Argentina, Austria, Australia, Bosnia, Belarus, Bulgaria, China, the Czech Republic, Finland, Spain, Holland, Kazakhstan, Colombia, Lithuania, Mexico, Morocco, Germany, Republic of Southern Africa, Russia, Romania, Serbia, Ukraine, Great Britain and Vietnam. On the aforementioned list there are both, countries being leaders on the market of mineral resources extraction, as well as countries specific for a lower mining potential, such as: Bosnia, Romania or Serbia. The list includes all the continents, but the most target markets are currently located in Europe.

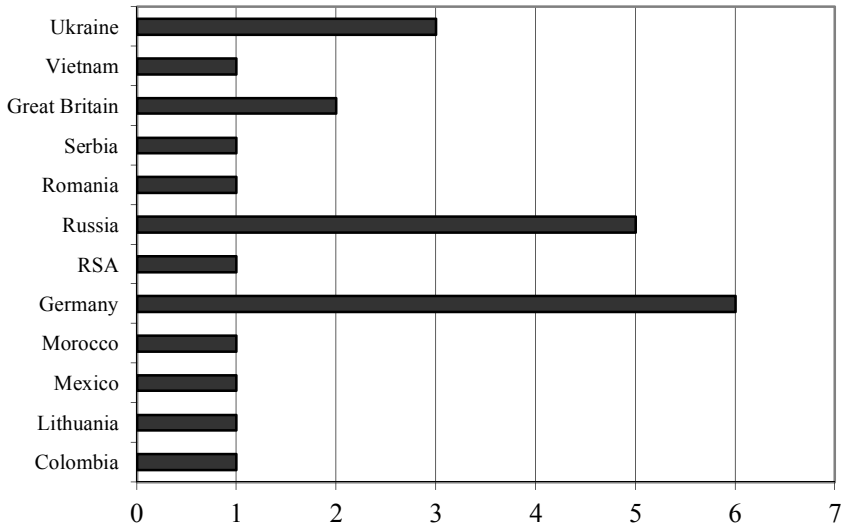
Some of the examined enterprises have already been exporting products to several of the 24 aforementioned countries. Consequently, it is vital to identify the most popular sales directions. In Figure 1 and 2 there is a list of target countries altogether with an indication of the number of enterprises that have been exporting mining machines and appliances there.

Figure 1. List of target markets – number of indications of examined enterprises (part 1)



Source: own work based on questionnaire research.

Figure 2. List of target markets – number of indications of examined enterprises (part 2)



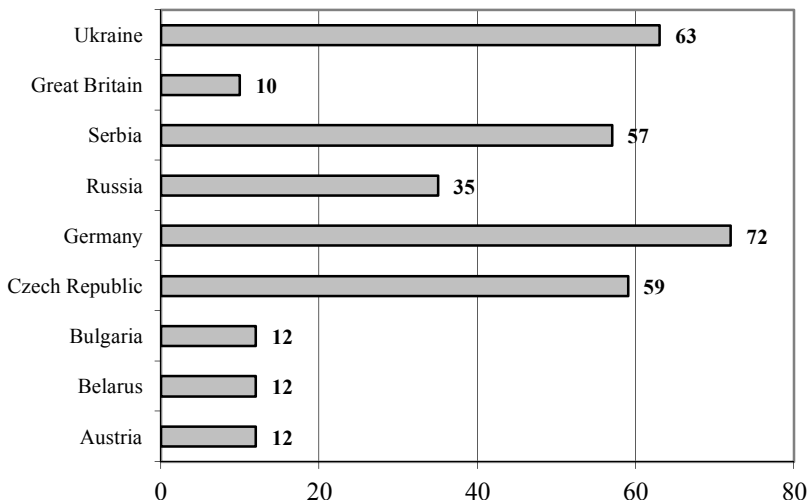
Source: own work based on questionnaire research.

According to the research results, the most popular sales markets are Germany, Russia, Ukraine and the Czech Republic. Only one or two enterprises from the examined group conduct trade exchange with the other countries.

In the analyzed question the representatives of enterprises were also asked to determine the length of cooperation with a particular country. The cooperation lasting over twenty years was declared with the following countries: Bosnia, Bulgaria, China, Czech Republic, Germany, Russia, Serbia, Great Britain and Ukraine. Trade exchange lasting fifteen years was conducted with Spain. The period of cooperation between five and ten years is specific for such sales market as: Belarus, Colombia and Mexico. Export to the other countries has been going on for less than five years. For all the examined enterprises, these are sales markets being in the stage of exploration.

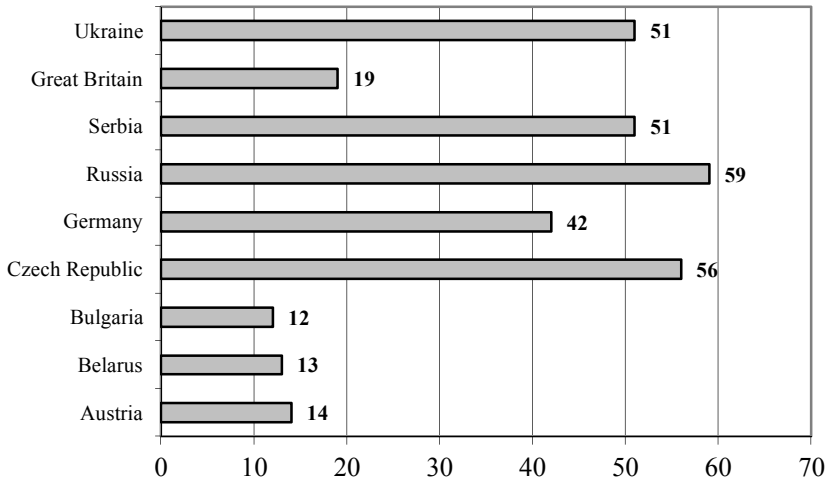
Beside sales markets, in the first question the interviewees were also asked about the number of contracts signed in years 2010-2012 with the particular countries. In figures 3-5 the distribution of answers to these questions was presented, including the countries with which the highest number of trade contracts was concluded.

Figure 3. Number of contracts signed with particular countries in 2010



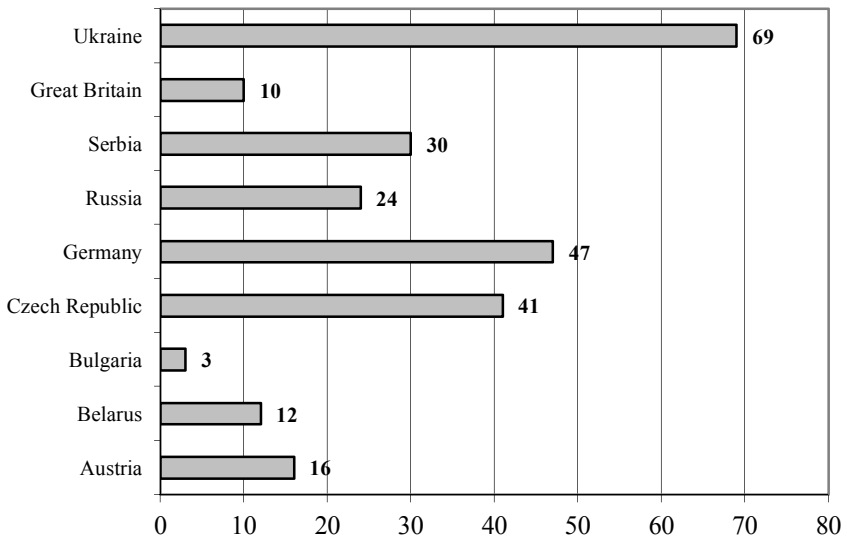
Source: own work based on questionnaire research.

Figure 4. Number of contracts signed with particular countries in 2011



Source: own work based on questionnaire research.

Figure 5. Number of contracts signed with particular countries in 2012¹



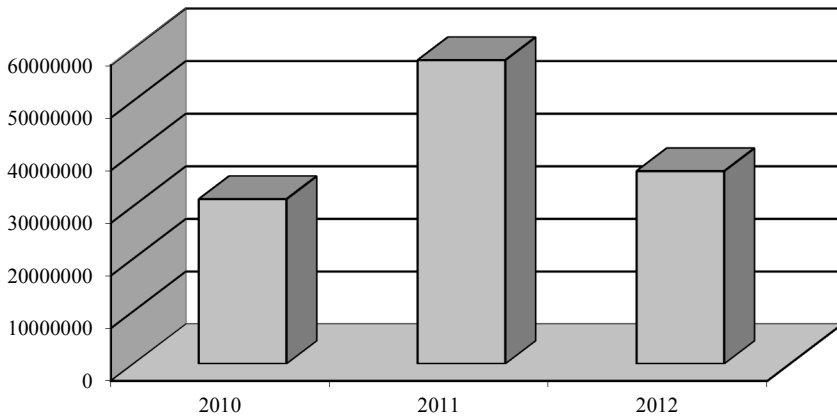
Source: own work based on questionnaire research.

¹ Before July 2012.

The most intensive export of mining machines and appliances is related to European sales markets such as Ukraine, Germany, the Czech Republic and Serbia. The number of contracts signed on these markets is increasing in time, which shows their systematic development. On the geographically remote markets, the contracts are signed by big enterprises and their number differed from 1 to 5.

The number of contracts signed in years 2010–2012 on 24 markets indicated by the interviewees is presented in figure 6.

Figure 6. Amount of contracts for machines and appliances purchase on the markets indicated by the interviewees in years 2010–2012² [in USD]



Source: own work based on questionnaire research.

In comparison to year 2010, the examined enterprises managed to increase the value of contracts signed on foreign markets by over 80%. It proves high absorptivity and development tendencies of the indicated markets. Until the first half of 2012 the total value of trade contracts concluded by the examined enterprises already exceeded the value of all the contracts signed in 2010 by 17% and it constituted 63% of value from year 2011.

The next question under analysis concerned new export directions included in the development strategy of enterprise in the next five years' time. Among the answers, there were continental indications such as Northern and Southern America. In turn, the countries in the answers were: Australia, Bosnia, China, Finland, India, Canada, Mexico, Russia, Sweden, Tur-

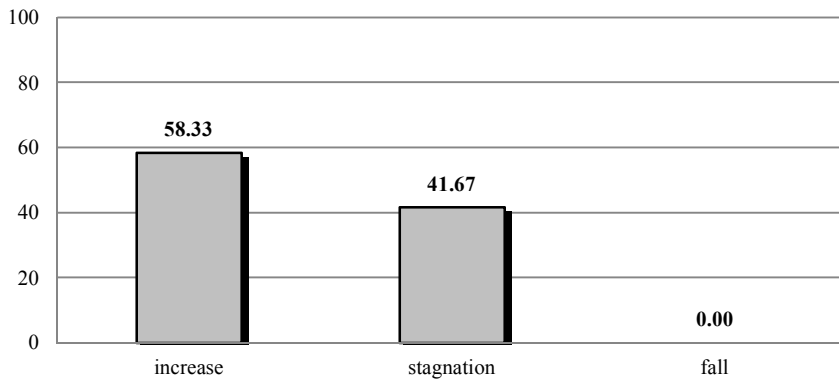
² Before July 2012.

key, USA and Vietnam. Among the chosen countries, there are the greatest producers of mineral resources in the world.

Expectations concerning development of the market of mining machines and appliances

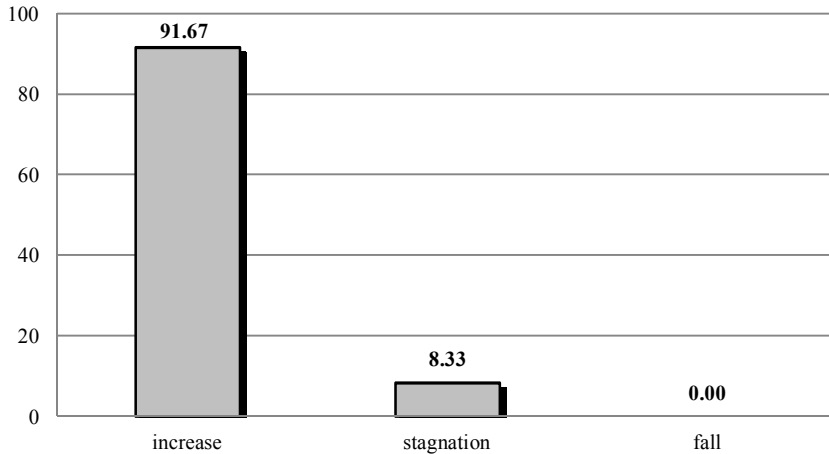
One of the questions concerned determination of expectations towards the amount of sales of mining machines and appliances on domestic and foreign markets in the indicated time perspectives. The perspectives involved three periods: next year, 5 and 10 years. Expectations of enterprises in relation with the year 2012 are presented in figures 7 and 8.

Figure 7. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on a domestic market in year 2013 [% of indications]



Source: own work based on questionnaire research.

Figure 8. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on foreign markets in year 2013 [% of indications]

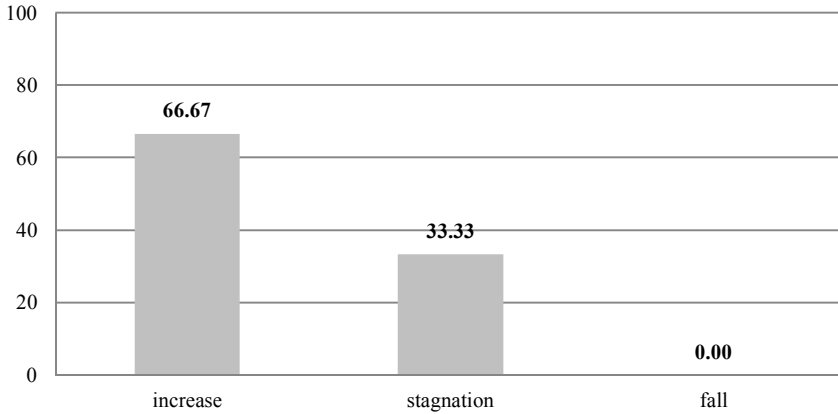


Source: own work based on questionnaire research.

It stems from the data presented in figures 7 and 8 that both on domestic and foreign markets the producers expect an increase in 2013. Nevertheless, the expectations related to foreign markets are definitely more optimistic as over 91% of interviewees expect that these markets will be still developing. The rise on domestic market is predicted by 58% of interviewees. Attention should also be paid to the fact that none of the examined producers expects fall in sales amount of mining machines and appliances, both on domestic and foreign markets.

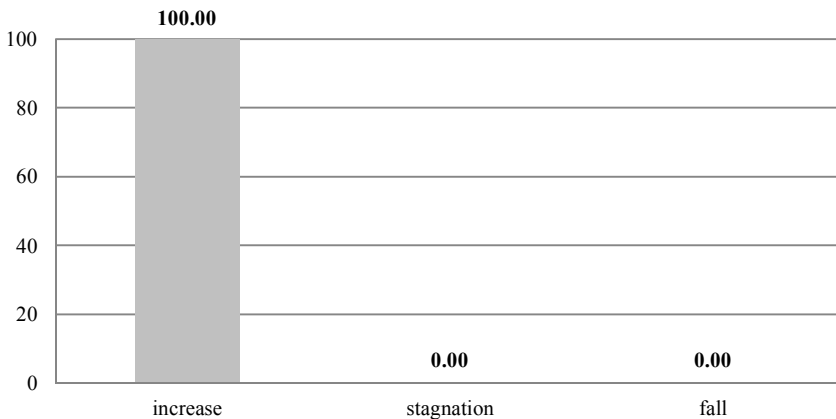
Positive assessment of sales tendency in the sector of mining machines and appliances is also maintained in a perspective up to 5 years (figures 9 and 10). The rise on the domestic market is expected by over 66% of interviewees, whereas on the foreign markets it is predicted by all interviewees.

Figure 9. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on a domestic market in the next five years [% of indications]



Source: own work based on questionnaire research.

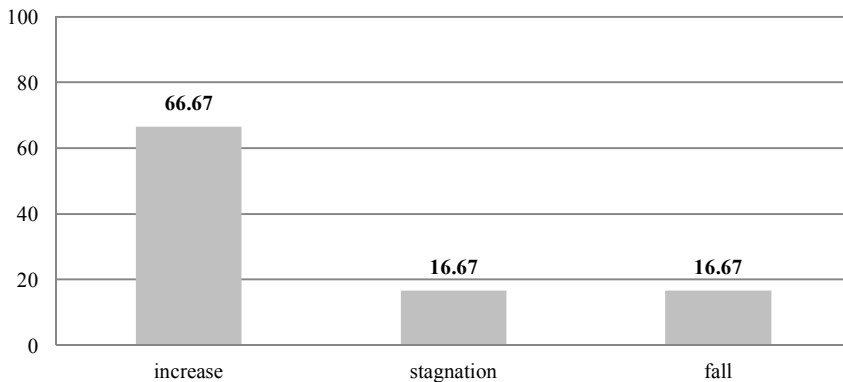
Figure 10. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on foreign markets in the next five years [% of indications]



Source: own work based on questionnaire research.

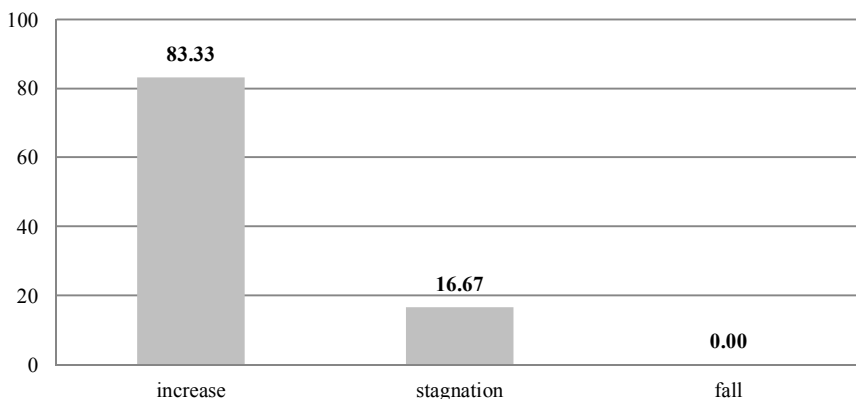
However, the forecast does not remain so optimistic in a perspective up to ten years (figures 11 and 12).

Figure 11. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on a domestic market in the next ten years [% of indications]



Source: own work based on questionnaire research.

Figure 12. Expectations of the examined enterprises in relation with sales amount of mining machines and appliances on foreign markets in the next five years [% of indications]



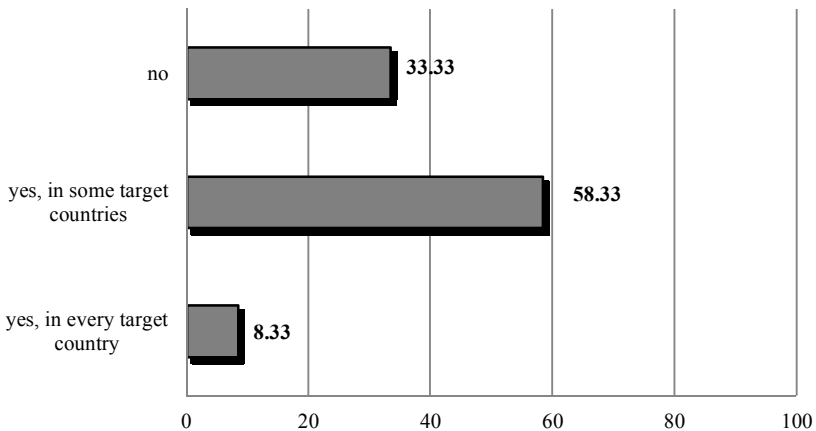
Source: own work based on questionnaire research.

In a ten-year horizon some interviewees expect a fall in the sales amount on the domestic market and a stagnation on foreign markets. It proves rationality of expectations of interviewees, as these tendencies correspond to the real processes on mining markets such as: exploitation of resources or gradual replacement of coal energy sources by alternative carriers.

Forms of internationalization and competitors

A form plays a very important role in internationalization. Polish enterprises from the industry of mining machines and appliances, even the largest ones, do not conduct direct investments in target countries. However, some of them use agents' help. The distribution of answers to the questions concerning the use of these form of internationalization is presented in figure 13.

Figure 13. Distribution of answers to the question: *Does the enterprise use these days the agent's services dealing with mediation in signing and completing trade transactions, who functions on territory of the country where mining machines and appliances are exported?*[%]



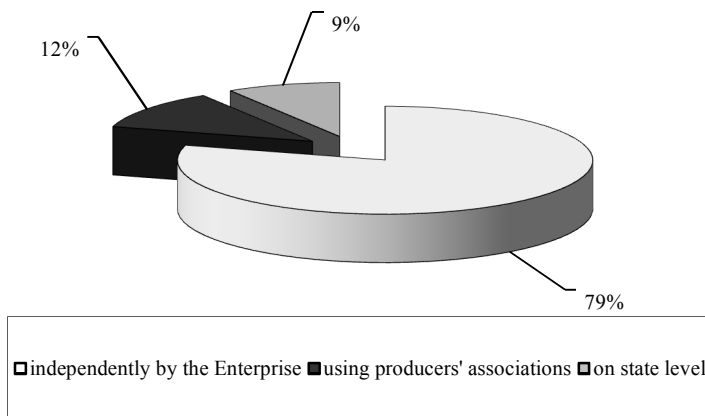
Source: own work based on questionnaire research.

The greatest part of enterprises use the help of agents, who mediate in transactions in some target countries. Over 8% is supported by this form of activity in every country where the mining machines and appliances are

exported. Among these countries the following ones are mentioned: China, Belarus, Mexico, Russia, Ukraine, Turkey and the Czech Republic. Consequently, it is a useful and appreciated form of international expansion.

Beside the form of internationalization, the interviewees were additionally identifying the form of conducting promotion on foreign markets (Ayal et al., 1979, pp. 84-94). The interviewees in this case had to choose among the following types of promotion: conducted independently, by the agent or on state level. Aggregation of results for all the target countries allowed to conclude that most often promotion is conducted independently. Only 12% of the interviewees use the help of producers' associations and 9% of promotion conducted on the state level (figure 14).

Figure 14. The way of conducting promotion on foreign markets in total for the examined enterprises [%]



Source: own work on the basis of questionnaire research.

The current and potential competitive environment is also important in internationalization. Therefore, two general questions were included in the questionnaire form concerning the domestic and foreign competitors. Among the domestic competitors the most dangerous on foreign markets, the greatest number of indications concerned industry leaders. The most dangerous enterprises are considered to be: Famur S.A., Fasing S.A., Kopex S.A., Bumech S.A., Wolbrom S.A. and Wonam S.A. The leaders were indicating one another.

The most dangerous international competitors are thought to be the leaders of the world industry, that is such enterprises as Bucyrus (currently in the Caterpillar structure) and Joy Global. Among the indications the

concern Emeco did not occur, probably due to the fact that it is a manufacturer of equipment for open-pit mines, whereas most interviewees deliver appliances for underground mining.

Conclusions

An assessment of the strategies and forms of internationalization used in the industry of mining machines and appliances was conducted on the basis of theoretical considerations presented in the first part of the hereby article, results of questionnaire research and industry analysis. The results are included in Table 2 and 3.

Table 2. Internationalization strategies in the industry of mining machines and appliances in Poland

Type of strategy	used – YES not used – NO	Type of strategy	used – YES not used – NO
<i>According to H. J. Ansoff</i>		<i>According to J. C. Leontiades</i>	
defense	YES	skimming	YES
market development	YES	dumping	NO
product development	YES	exploration	NO
diversification	NO	penetration	NO
<i>According to Strategor</i>		<i>According to J. Rymarczyk</i>	
focus	YES	ethnocentric	YES
		polycentric	YES
differentiation	NO	global	NO
		dual	YES

Source: own work.

Table 3. Internationalization forms in the industry of mining machines and appliances in Poland

Form	used – YES not used – NO	Form	used – YES not used – NO
international	YES	early starter	YES
multinational	YES	late starter	YES
transnational	NO	lonely international	NO
global	NO	international among others	NO

Source: own work.

Polish enterprises from the industry of mining machines and appliances in the internationalization of activity use the simplest strategies that do not require capital engagement on foreign markets. Some examined enterprises have been functioning on popular markets, offering the same products. Other ones conquer new markets and/or modify the products in order to adjust them to geological-mining requirements of target markets. Diversification strategy is not used because of high risk. The examined enterprises are not able to use dumping due to global competitors and Chinese producers. It is not profitable to use direct investments either in exploration and penetration. The reason is mostly a lack of recognition of geographically and culturally remote markets, as well as low domestic production cost, which cause that Polish producers choose focus strategy instead of diversification strategy.

Taking into account the number and differentiation of target markets, it may be noticed that small and medium enterprises use ethnocentric strategy. Larger enterprises prefer to choose polycentric strategy. Industry leaders also try to implement dual strategy. The latter ones in the internationalization process function as multinational corporations and late starters. Small and medium enterprises are most often international corporations and early starters.

The actions improving internationalization strategy in the industry of mining machines and appliances should be oriented on industrial focus (compare Barkema et al., 1998, pp. 7-26). This process has already been started by the leading Polish producers. Further focus will allow to increase the competitive advantage of Polish enterprises in target countries. Leading Polish producers are recognized on the world markets, which enables a start for small and medium enterprises ready for cooperation with the leaders. Internationalization intensification may also be supported by mutual marketing campaigns in the industry which promote Polish producers abroad.

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