*STOWARZYSZENIE EKONOMISTÓW ROLNICTWA I AGROBIZNESU*
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# TRANSPORT POLICY AT ENTERPRISES OF THE AGRIBUSINESS SECTOR*

## *POLITYKA TRANSPORTOWA W PRZEDSIĘBIORSTWACH SEKTORA AGROBIZNESU*

**Key words: policy, transport, logistics, agribusiness**
*Słowa kluczowe: polityka, transport, logistyka, agrobiznes*

**Abstract.** The paper discusses the transport policy pursued by agribusiness enterprises. The research was conducted at 504 enterprises. Significant dependence was found between maintaining a separate register of transport costs and optimisation of transport routes and load capacity of vehicles. The enterprises surveyed mainly used their own transport or a combination of own and third party transport. Use of third party transport services only was not a frequent choice. If such services were used at all, they related mainly to transportation and less frequently to forwarding. Purchase of new vehicles in the future was planned most frequently in the dairy industry (75%), whereas outsourcing of transport services was most frequently used in the oil industry (33%). High differentiation between particular industries was found.

## Introduction

In the general meaning, the policy is an art, a method of governing. It is most frequently associated with the state [Kopaliński 2000]. Indeed, establishment of the law and support to institutions ensuring efficient operation of the market requires involvement of the state [Milewski 1999]. The policy involves accomplishment of highly influential ideas promoted by economists and political thinkers. The majority of main political debates conducted in recent years have focused on the issue of efficiency of the market economy and proper relations between the market and the state [Zawojska 2010].

Economic policy means determination of the objectives for the given economic system and application of methods, means and measures leading to the accomplishment of those objectives [Ćwiklińska 1997]. Creation and implementation of the economic policy depends on the economic situation [Zawojska 2007]. The policy responds to the current situation and is supposed to result in achievement of a certain state in the future. Similar dependencies are observed on the micro level. The current condition of enterprises and market conditions influence the decisions adopted in many domains, among others in relation to transport.

The transport policy is an activity aimed at programming development of the transport system and influencing its efficient operation [Koźlak 2008]. In relation to an enterprise, the policy means the ability to select objectives and methods of proceeding in specific conditions, as well as to compare the needs with possibilities to satisfy them [Mendyka 2009].

In the conditions of globalisation observed in the world's economy, transport is a very important sector, one of the most important factors of economic progress and an important tool of production [Łacny 2009]. The condition of economy depends on efficient functioning of transport and logistics. On the other hand, development of transport depends on economic growth and increasing trade exchange [Klepacki, Rokicki 2008]. It should be added that transport needs are continuously evolving and changing along with social and economic development [Rydzkowski, Wojewódzka-Król 2009].

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Transport is defined as a combination of activities consisting in movement of tangible goods in space, using appropriate technical means [Logistyka… 2008]. Within an enterprise, transport is an integral part of the company's logistic system. It allows ensuring deliveries of goods at the right time, in a good condition and at an acceptable cost [Coyle 2007]. Transport management should be one of the fundamental activities within any enterprise or transport system [Kisperska-Moroń, Krzyżaniak 2009].

The participation of transport costs in the costs of logistics is significant (it may be as high as 40%). Consequently, an appropriate transport policy of the enterprise and optimisation of transport in various aspects becomes important [Romanow 2003]. Decisions related to transport usually concern selection of the means of transport, quality of the service as well as optimisation of transport routes and load capacity [Lasek et al. 2008]. In the period of economic slowdown, demand for services of transport companies decreased. In the period of good economic situation, enterprises were enlarging their fleets by app. 10% annually. A common trend is to increase load capacity of the means of transport [Czy przewoźnicy… 2010]. An important decision within the enterprise is selection between own and third party transport. The decision to outsource transport services may influence processes in other areas of activity, e.g. warehousing. Inappropriate selection of a service company involves a certain risk. If the contractor makes a mistake, it may expose the customer to enormous losses and bad reputation in the industry [Trochymiak 2010]. It should be noted that differentiated services are offered on transport markets. Differentiating factors include the technique and technology of transport as well as the customers' preferences [Klimek 2010].

## Organisation of research

The objective of the study was to determine the transport policy of enterprises from selected sectors of the agribusiness. The solutions applied in this sectors as well as future plans related to transport will be discussed. Enterprises were assigned to an industry in compliance with their declaration pursuant to PKD (Polish Classification of Activity), whereas company size was determined based on the number of employees. The following enterprise sizes were distinguished according to the number of employees: microbusinesses (0-9 employees), small enterprises (10-49 employees), medium-sized enterprises (50-249 employees) and large enterprises (250 and more employees).

Data used in the analysis come from surveys conducted from December 2009 until March 2010. Survey questionnaires were mailed to all enterprises of the agricultural and food production sector contained in the REGON database (CRO – Companies Registration Office) . There were altogether 8498 survey questionnaires. 508 questionnaires (6%) were sent back. After rejecting questionnaires containing significant deficiencies preventing their further analysis, 504 entities remained for further analysis (Tab. 1).

**Table 1. Number of researched enterprises by sector**
***Tabela 1. Liczba badanych przedsiębiorstw według branż***

| **Agribusiness sector/** ***Sektor agrobiznesu*** | **Number of enterprises by size/** ***Liczba przedsiębiorstw według wielkości*** | | | | |
|---|---|---|---|---|---|
| | **micro/** ***mikro*** | **small/** ***małe*** | **medium/** ***średnie*** | **large/** ***duże*** | **total/** ***ogółem*** |
| Meat/*Mięso* | 9 | 59 | 38 | 11 | 117 |
| Fruit and vegetable/*Owoce i warzywa* | 2 | 18 | 11 | 2 | 33 |
| Oil/*Oliwa* | 0 | 5 | 1 | 0 | 6 |
| Milk/*Mleko* | 2 | 8 | 8 | 6 | 24 |
| Cereals/*Zboża* | 13 | 15 | 7 | 2 | 37 |
| Bakery industry/*Piekarnictwo* | 25 | 164 | 24 | 1 | 214 |
| Other food industry/*Pozostała żywność* | 5 | 29 | 5 | 6 | 45 |
| Fodder/*Pasze* | 2 | 11 | 1 | 0 | 14 |
| Beverage producers/*Produkcja napojów* | 3 | 6 | 4 | 0 | 13 |
| Tobacco/*Papierosy* | 0 | 0 | 0 | 1 | 1 |
| Total/*Ogółem* | 61 | 315 | 99 | 29 | 504 |

Source: own study
*Źródło: opracowanie własne*

The majority were small enterprises (62.6%), followed by medium-sized enterprises (19.6%) and microbusinesses (12.1%), with the lowest number of large enterprises (5.7%). The analysed sample was dominated by enterprises from the bakery industry (42%) and meat industry (23%), whereas companies from the tobacco sector constituted the smallest group (0.2%) as well as those dealing with the processing of oil (1.18%). Data analysis used above all table-based and graphical analysis, considering the character of data obtained in the nominal or ordinal scale. The chi-square test was also used to determine dependencies between selected characteristics.

## Transport policy of agribusiness enterprises

Transport plays an important role within all production enterprises. An appropriate transport policy may contribute to reduction in the enterprise's costs of logistics. No research is available covering logistic solutions, including those related to transport, applied by agribusiness enterprises. The majority of enterprises did not have a separate department dealing with transport (Fig. 1). The best situation was observed in the dairy industry, where 67% of companies had a transport department, whereas the worst situation was observed in the fodder and bakery industries (respectively, 21 and 23% entities).

Reduction of transport costs is possible by optimisation of transport routes and load capacity of vehicles (Fig. 2). The first method was applied at 67% enterprises, whereas the other one at 42% companies. Planning of transport routes was most frequently performed at dairy enterprises (87% entities), and least frequently at bakery enterprises (63%). As far as load capacity of the means of transport is concerned, it was most frequently optimised at oil enterprises (67% companies), and least frequently at bakery enterprises (24%).

There existed a strong dependence between conducting a separate register of transport costs and rationalisation of transport routes ($\chi^2$emp=89,52, p-value<0,05). Moreover, a relation was observed between the register of costs and optimisation of vehicle load capacity. The impact was lower ($\chi^2$emp=37,60, p-value<0,05).

Car transport was the most popular branch of transport at agribusiness enterprises (Fig. 3). Utilisation of other branches of transport was only marginal. Rail transport was used relatively often in the oil industry (33% entities) and in the cereal industry (11%). Sea transport of goods was conducted at 33% of oil enterprises and 24% of companies dealing with the processing of fruit and vegetables. Air transport was only used by individual entities from particular industries.

Utilisation of car transport may be caused from limited area of the enterprises' activity in terms of procurement and sale markets [Rokicki, Wicki 2010].

In many cases, proper operation of enterprises was connected with possession of their own means of transport (Fig. 4). Own transport only was used by 53% agribusiness enterprises, whereas third party transport only was used by as few as 8% entities. Both own and third party transport was used by 39% companies. The largest share of companies using their own means of transport was observed among bakery (76%), meat (51%) and cereal enterprises (47%). Third party transport only was used most frequently by fodder companies (36% entities), oil companies (33%) an fruit and vegetable production companies (27%).

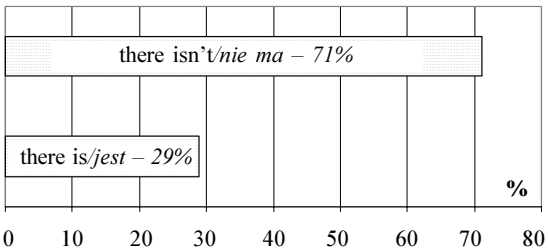


**Figure 1. Existence of a separate department dealing with transport in agribusiness firms**
***Rysunek 1. Funkcjonowanie odrębnego działu zajmującego się transportem w firmach agrobiznesu***
Source: own study
*Źródło: opracowanie własne*

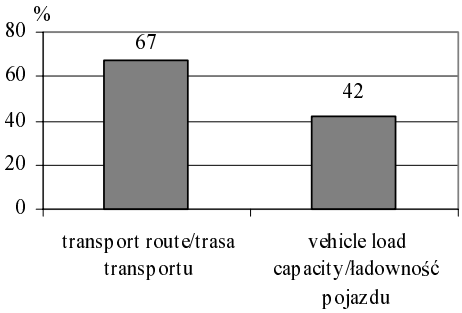


**Figure 2. Methods of transport optimisation in agribusiness firms**
***Rysunek 2. Sposoby racjonalizacji transportu w przedsiębiorstwach agrobiznesu***
Source: own study
*Źródło: opracowanie własne*

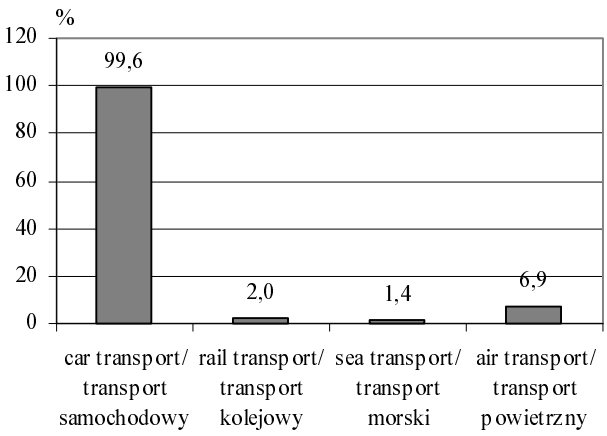


**Figure 3. Branch of transport used in agribusiness enterprises**
***Rysunek 3. Gałęzie transportu wykorzystywane w przedsiębiorstwach agrobiznesu***
Source: own study
*Źródło: opracowanie własne*

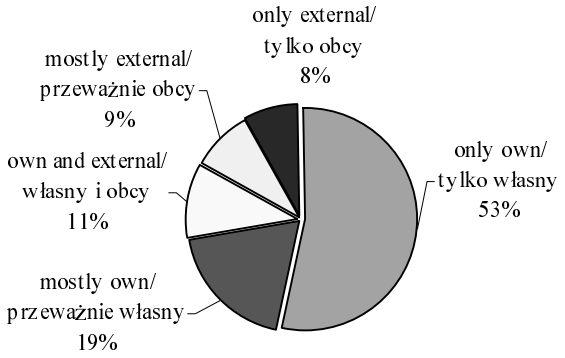


**Figure 4. Share of own and external transport services in enterprises**
***Rysunek 4. Transport własny i obcy w przedsiębiorstwach agrobiznesu***
Source: own study
*Źródło: opracowanie własne*

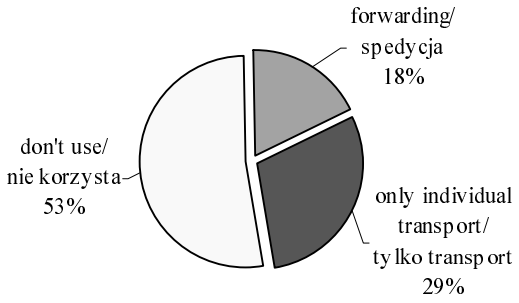


**Figure 5. The scope of external transport services**
***Rysunek 5. Zakres korzystania z usług transportowych przez przedsiębiorstwa agrobiznesu***
Source: own study
*Źródło: opracowanie własne*

Agribusiness enterprises more frequently employed the services of individual carriers than of forwarding enterprises (Fig. 5). Comprehensive services related to transport and its organisation (forwarding) were purchased mainly by beverage producers (53% entities) and enterprises dealing with the processing of fruit and vegetables (48%). The services of individual carriers were most frequently used by fodder companies (86% entities), oil companies (67%) as well as fruit and vegetable companies (58%).

IT support to transport was provided at 21% agribusiness enterprises. In this respect, the best performers were beverage producers (53% entities) and enterprises dealing with the processing of fruit and vegetables, whereas the poorest results were those of bakeries (7%) and cereal companies (18%). Management of transport is perceived by most enterprises as similar to that performed by the competitors (Fig. 6). Only 18% companies perceived themselves to be among industry leaders in this respect. Results in particular sectors were comparable.

The survival and development of enterprises requires adoption of appropriate operating and strategic decisions. As far as transport is concerned, 53% companies were planning to purchase new means of transport, whereas only 7% were planning to outsource transport services (Fig. 7). Differences were observed between particular industries. The largest share of enterprises planning to purchase new vehicles was found in the dairy industry (75%), whereas the lowest share was found in the oil industry (17%). As far as outsourcing of transport services is concerned, it was planned by the largest group of oil companies (33%).

Transport policy may differ between individual enterprises. However, it is highly dependent on the sector and area of activity in terms of sale and procurement markets.

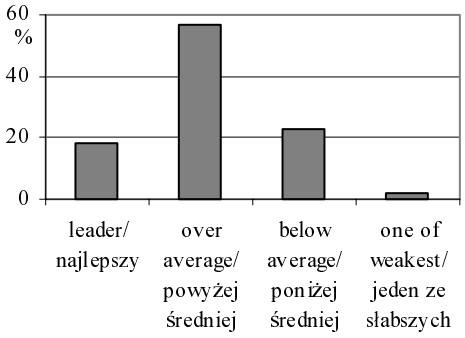


**Figure 6. Evaluation of transport management in companies**
***Rysunek 6. Ocena zarządzania transportem przez przedsiębiorstwa***
Source: own study
*Źródło: opracowanie własne*

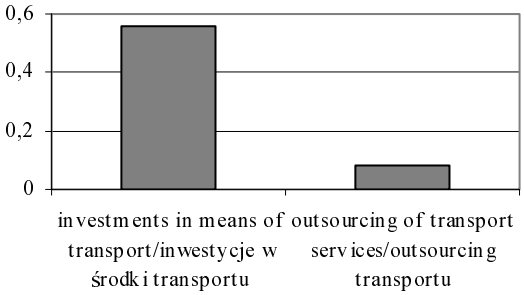


**Figure 7. Plans for the future in transport activity**
***Rysunek 7. Zamierzenia na przyszłość dotyczące transportu***
Source: own study
*Źródło: opracowanie własne*

## Conclusions

Agribusiness enterprises applied diversified transport policies. A significant dependence was determined between conducting a separate register of costs in the company and rationalisation of transport, in terms of both transport routes and load capacity of vehicles. The dominant branch used by enterprises was car transport. Its major characteristic is directness. Utilisation of the means of close transport may have also resulted from reach of the enterprises' activity. Such dependencies were discovered in previous research conducted by Rokicki and Wicki [2010].

Agribusiness companies mainly used their own transport, or a combination of own and third party transport. Only 8% entities used third party transport only. Differences were found between particular sectors. The highest number of companies using own means of transport only was found in the bakery industry (76% entities). If enterprises used transport services at all, these were mainly services of individual carriers, and less frequently – forwarding services.

The perception of transport management by agribusiness enterprises against the background of the competition is similar. Most enterprises considered themselves to be similar in this respect to the industry average. Enterprises were planning to purchase own means of transport more frequently than to outsource transport services. Purchase of new vehicles in the future was mostly planned in the dairy industry (75%), whereas outsourcing of transport services – in the oil industry (33%).

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## *Streszczenie*

*W pracy przedstawiono politykę transportową stosowaną w przedsiębiorstwach agrobiznesu. Badania przeprowadzono w 504 przedsiębiorstwach. Stwierdzono istotną zależność między prowadzeniem oddzielnej ewidencji kosztów transportu a optymalizacją tras przewozu i ładowności pojazdów. Przedsiębiorstwa wykorzystywały głównie transport własny lub kombinację własnego z obcym. Rzadko stosowano wyłącznie transport obcy. Jeżeli już korzystano z usług, to dotyczyły one głównie przewozów, a rzadziej spedycji. Zakup nowych pojazdów w przyszłości planowano najczęściej w branży mleczarskiej (75%), zaś outsourcing transportu w branży olejarskiej (33%). Występowało duże zróżnicowanie pomiędzy poszczególnymi branżami*

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