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## Location and Spatial Development

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### Abstract

The author's methodology for research into location processes is presented in the introduction. This is followed by description of the development of the main theoretical approaches to location, ranging from the first location theories focused on agriculture and industry activities up to modern location theories based on a behavioural and institutional approach.

The theoretical part is followed by a description of how location approaches are applied in public administration, where this application takes the form of spatial development. The author focuses on several European states with main emphasis on the Czech Republic. Further, there is information about empirical research into the process of location of economic activities in companies in the Czech Republic. The list of companies covers the entire range of companies from small ones up to corporations of transnational impact.

The conclusion summarises how important location is for regional development.

**Key words:** regional development, spatial planning, location, theory, empirical research

### 1 Introduction

The subject-matter of this paper, "Location and Spatial Development", may be included among the fundamental themes of regional development.

Location is a process of making decisions on location in space. This process takes place in both private and public sectors. In the public sector it takes the form of spatial planning.

Research into location decision-making is a promising area, given its universal importance in both the public and private sectors. Good knowledge of location decision-making processes is a prerequisite for good work in the public and private sector.

## 2 Methodology

The traditional methodological apparatus of both economics and geography, including analysis, empirical research and subsequent synthesis, was used in the location research, on the basis of which this paper was written.

The analysis was used, in particular, to prepare an overview of the theoretical approaches to location and to describe spatial planning in the Czech Republic and other selected EU member countries.

Empirical investigation was carried out in the form of questionnaire inquiry among companies active in the Czech Republic.

## 3 Location

The word location is of Latin origin. *Locare* means (to) place. Location is the process of selecting the place for specific socio-economic activities. Each place offers certain resources and each economic activity is characterised by certain needs. The best location of a socio-economic activity is where optimum resources exist for it. Resources and needs vary over time and, as a result, the location of socio-economic activities changes. New location is sought for existing activities – relocation - and the space is used in another way - reconversion (Wieloński, 2004).

Location is among the most important issues studied in the research areas focused on the utilisation of space (socio-economic geography, spatial economics and others). This is one of the historically first issues of regional development. People have always been interested in what is the best location. The first people settled at places with the best conditions for survival, i.e. where food was available, dangers were low, climatic conditions favourable etc. Hence, location was primarily addressed in the context of natural conditions. Agriculture developed in the Neolithic era, so that conditions favourable to agriculture were the most important location factor. Agricultural settlements developed at that time (including the most important civilisation regions of the Near East, the Nile Valley, later India and China and still later Europe and America). People began actively influencing space (nature). This is also important for the attractiveness of specific sites. In some cases this influence led to destruction of the natural system, in others, on the other hand, well-functioning cultivated landscape developed. Migrating groups of hunters and collectors were replaced by farming communities (they also migrated, but far less often). Crop production and animal domestication developed.

As crafts developed, metal extraction and processing became an important location factor, leading to changes in the utilisation of space. The concentration of crafts, combined with the development of trade, led to the formation of towns. Towns became centres of socio-economic and cultural development. As a result, the number of population grew.

Further changes occurred as the energy generation activities developed. This is associated with the invention of the steam engine, which open up the way mechanical production.

A significant change came in the mid 20<sup>th</sup> century: it took the form of automation and information revolution, which enhanced the importance of socio-economic activities independent of natural resources. As a result, space lost part of its importance.

Location is the process of selection of sites for specific socio-economic activities. The best location for a socio-economic activity is where optimum resources exist for it.

### Location theory

First the location theories were confined to work with neo-classical approaches. However, as the economic science developed, novel approaches (e.g. behavioural or institutionalist) became its integral parts, thus confirming that location is a universal theme.

Location is one of the most important issues studied in the research areas focused on the utilisation of space (socio-economic geography, spatial economics and others). At its theoretical level, location was studied by J. H. von Thünen (location of agricultural activities), A. Weber (location of industry), T. Palandek (the concept of monopolistic competition), A. Lösch (sales market identified as the key factor of location), W. Christaller (location of services), F. Perroux, G. Myrdal, A. O. Hirschman, J. R. Boudeville, L. E. Davin and J. Paelinck (polarisation of economic growth) and others.

### **J. H. von Thünen's model of location of agricultural activities**

J. H. von Thünen was the first theorist to address the location issue in detail. Although his theory focuses on issues related to agriculture, it can be applied to any other branch of the economy.

Von Thünen's model describes the sales market situation in an "isolated state" with a centrally located city. The key factor underlying location is the closeness (or distance) to the market and the transport costs related to it. Von Thünen's model shows the hypothetical distribution of different types of agricultural production around one central marketplace, i.e. the city. The model is based on the following assumptions of an "isolated state" model (with no links to any other market): the soil quality is consistent throughout the state, there is only one point of exchange (one market), the transport costs depend solely on distance (the land is flat and no landscape relief features interrupt it), there is free competition on the market and all competitors act to maximise profits (Kuciński, 2004).

According to Von Thünen, if the foregoing statements are true, there are four rings of agricultural activity around the centre, each with a specific use of the land. Each of the rings is characterised by its type of produce, depending on demand on the market, type of technology, transport costs and maximisation of land rent. The heaviest and least-durable products are supplied from the ring that is the closest to the market. On the other hand, products that are the easiest to transport (i.e. the lightest and most durable products) are grown in the most distant areas. Land rent is maximised in this way.

A number of other economists further developed von Thünen's work.

### **Alfred Weber's model of industrial location**

A. Weber's work is the first systematic theory of industry location. The primary location factors included transport costs, labour costs, and agglomeration costs (Kuciński, 2004). The best location is where the costs are the lowest. Weber asserted that neither demand, nor the market price do affect the entrepreneur's locational behaviour, as they are the same everywhere and one entrepreneur cannot change it (the perfect competition assumption).

As said, Weber determined three major location factors: transport costs, labour costs and agglomeration costs. The entrepreneur must take these factors into account when deciding where to locate his industrial operations. According to Weber, the "transport cost" factor is the most important and, accordingly, a place with the lowest transport costs (costs to bring raw materials to the place of production and costs to bring finished products to the market) is the best location. However, the other two factors can also influence location. They can induce the entrepreneur to change location, as they may compensate the increased costs incurred by the change in location, which means that the increased costs of transport are lower than the reduced labour costs or agglomeration costs.

### **Perfect competition of the 18<sup>th</sup> and 19<sup>th</sup> centuries**

Weber and von Thünen base their considerations on the assumption of perfect competition, characterised as follows: there are many firms active on the market, the product is homogeneous, the buyers and sellers have perfect information, and the costs of switching

from one seller to another are nil (after Joan Robinson - Holman, 2001). Today we consider the perfect competition model as extremely unrealistic, but this was not the case in von Thünen's and A. Weber's times, because the economic science stood at the beginning of its history and, in particular, because of historical circumstances. Perfect competition corresponded to the situation at the end of the 18<sup>th</sup> century and the entire 19<sup>th</sup> century, when the economy relied on small producers who, as individuals, could not influence the market price. There were no complex technologies to develop technological monopolies. The products were very simple and very similar to each other, thus meeting the condition of the homogeneity of production. Hence, both Weber and von Thünen assumed – in keeping with their time – that the producer had no influence on demand and was unable to produce any effect on the market price of the production factors and the product; consequently, prices played no role in the entrepreneur's decision-making and in the location model. Location was given exclusively by the minimisation of costs. In the 19<sup>th</sup> century, production was based on the exploitation of natural resources. Proximity of markets was also important, because transport was poorly developed, compared to the present situation. This led Weber to believe that the most important costs were those incurred in transport.

### **Perfect and imperfect competition**

As economics developed, the assumptions of perfect competition were challenged and imperfect competition was studied instead, assuming that the firm can influence the price of its products in circumstances where some buyers do not know that other sellers offer cheaper goods, or where a change of the seller or buyer leads to higher costs etc. (Holman, 2001). Location theories changed with the modification of the entire economic science. T. Palander, for example, proposed a modification based on the monopolistic competition concept, and worked with a price determined by the seller's market position and the size of the market controlled by the seller.

Control, as referred to above, means that conditions are created, under which monopolisation develops to a certain degree. A certain degree of monopolisation can occur in a number of ways, for example by making a product not made by anybody else or by dominating a certain space where no other producers exist. 100 per-cent uniqueness is very rare and so is 100 per cent domination of the market space. What happens more frequently is that a producer uses an advantages of having a product different from others and being located closer to customers.

Just as producers seek to maximise benefits that result from their products' being different from others (production heterogeneity) and meeting more closely the needs of a certain group of customers, they also seek to maximise their benefits from being located nearer to their customers. This of course is taken into account in entrepreneurs' locational considerations and becomes one of the location factors.

Under the conditions of perfect competition, firms seek to minimise their costs per production unit. Under the conditions of monopolistic competition, firms also seek to minimise such costs but their efforts are primarily focused on maximising the sales volume, which includes efforts to maximise the dominated space.

### **Location factors under the conditions of monopolistic competition**

In compliance with the monopolistic competition theory, A. Lösch identified sales market as the key location factor; transport and labour cost minimisation and agglomeration cost minimisation are then ancillary location factors. Thus the location of the firm is determined more specifically by the location of raw material resources and semi-finished product suppliers (minor roles are also played by transport and the primary energy sources). The decline of the importance of transport costs is due to the rise of mobile electricity. A. Lösch's

model reflects the economy of the first half of the 20<sup>th</sup> century, which differed substantially from that in the 19<sup>th</sup> century.

### **Theory of central places**

The location theory is not solely focused on the issues of the location of businesses. An example to this effect is the theory of central places (centres), addressing the relationship between the size, number and location of cities. This theory is also referred to as the service location theory, as follows from W. Christaller's conception. W. Christaller stated that a central place is characterised by the services provided, including, for example, public administration, cultural institutions, health, trade and financial services etc. The key factors of Christaller's model are the distribution of the population and three types of services. The first service type includes basic services (meeting ordinary needs); the second includes higher-level services (meeting intermittent needs); and the third includes the highest-level services (meeting sporadic needs). The highest-ranking centres in the system are the largest cities where all types of services are provided (centres I), followed by middle-rank centres (II), providing second-type services, and the lowest-ranking centres (III), providing only basic services. It is asserted in the classical theory of central places that inhabitants of a lower-level centre who need higher-level services visit the nearest higher-ranking centre where such services are available. Certain changes can be observed at present as a result of the development of individual car transport. Instead of visiting the nearest higher-ranking city, people go straight to the highest-ranking city.

The essence of why this is a location-related theory rests in explaining service location – i.e. explaining the relationship between the importance of the centre and the importance of the services it provides.

There are two ways to prove that this explanation is rational. The first is empirical, based on spatial analysis. It can be found empirically that once a city reaches a certain level of importance, it provides services that are not provided in lower-ranking cities (e.g. certain administrative services). This conclusion also corresponds to deductive logics, where we can rely on the general finding that for effective provision of services a certain size of the place is needed in order to achieve economies of scale and a sufficient cost-effectiveness of the service. For example, communities of less than a thousand people cannot have building authorities of their own.

We cannot say if the types of the services provided are the result of the existence of centres or if the existence of centres is the result of the provision of services. What we are able to say, however, is that there is an interdependence between centres and the provision of certain services.

### **Theory of city-forming and city-serving services**

An economic approach to service location was also used by W. Sombart, who divided cities into two groups: inward-looking cities, focusing on city-forming services (i.e. services provided to their own inhabitants) and outward-looking cities, focusing on city-serving services (i.e. services for their inhabitants and other services provided to the cities' wider surroundings, such as banking services, research centre services, services related to culture, sports etc.).

### **Concentric model of urban layout (William Alonso)**

This model is primarily based on the assumption of a perfectly working market: the city develops on a homogeneous plain with no natural hindrances. Direct distance and the existence of one centre are the only criteria of accessibility.

In this model the costs of transport grow proportionately to distance from the centre while rentals fall proportionately to distance from the centre. The smaller the proportion of transport in total costs (e.g. in the case of pensioners who do not commute for work), the smaller the susceptibility of the curve in the graph to distance from the centre. On this basis, the utilisation of the territory is arranged in concentric rings around the centre (Maier, Čtyroký, 2000).

People on the demand site can be divided into groups based on preference to smaller rent and smaller transport costs. Those who most strongly emphasise transport costs are located in the centre. Those who prefer lower housing costs (i.e. lower rentals) prefer living farther from the centre. These groups can be divided by sectors: services are located in the centre and industry is located farther from the centre. Then follow housing and the rural sector.

Reality is not very closely reflected in Alonso's model. Its main merit is that it offers a simplified explanation of why cities tend to develop monofunctional zones around the centres and why the intensity of economic exploitation under market conditions as a rule grows toward the centre (Maier, Čtyroký, 2000).

The model can serve to illustrate the changes occurring as a result of growing demand. The mode of use changes at the interfaces between the zones.

### **Polarisation theory**

Polarisation theories represent another trend within the location theory. A polarisation theory is not a closed and consistent theory in the right sense of the word. It is a complex of arguments related to developments with common features (Maier, Tödtling, 1997a).

The locational nature of polarisation theories is given by concentration processes. Firms tend to locate their activities in a space (region) with the highest rate of economic growth and development.

Unlike the neoclassical approach, which is based on the deductive method, polarisation theories are based on an inductive approach. They rely on detailed empirical research using case studies or on the explicit experience of the researcher. As distinct from the neoclassical theories, polarisation theories are less abstract and are difficult to integrate into a more general economic science (Maier, Tödtling, 1997a).

Polarisation theories are of divergent nature. By these theories, the development process tends to widen gaps rather than levelling the differences (Maier, Tödtling, 1997a).

The following assumptions are common to the polarisation theories (Maier, Tödtling, 1997a):

- Production factors are heterogeneous and at least partly immobile, i.e. they cannot be perfectly substitutional, so that there is no levelling of the prices of production factors;
- Monopolies, oligopolies and externalities exist on the market, instead of perfect competition;
- Information, particularly that on technical and organisational novelties, is not automatically accessible. It spreads over space and through the economic system.

Francois Perroux, who addressed the issue of sectoral polarisation, is referred to as the founder of the polarisation approach. He believed that economic growth does not arise consistently. There are driving sectors and driven sectors. Driving sectors are characterised by a large size and robust growth. A sector becomes a driving sector if it achieves internal and external economies, i.e. positive internal and external effects and innovation – particularly economies of scale. However, driving sectors may also have an adverse impact: e.g., they seize economic factors from other sectors (Maier, Tödtling, 1997a).

F. Perroux stated that strong economic units are the poles of growth. Large firms, groups etc, are such strong economic units, characterised by a strong market position and rapid economic growth, in which other companies may also participate.

Theories of regional polarisation are related to Perroux's sectoral polarisation. Gunnar Myrdal and Alfred O. are representatives of this approach.

G. Myrdal and A. Hirschman divide interactions between regions into two categories based on antagonistic effects: Myrdal refers to "spread" effects and "backwash" effects. A. Hirschman calls them "trickling-down" effects and "polarisation" effects. They in fact describe effects that are very similar to Perroux's "impact" and "retarding" effects. The concepts of "spread", "trickling-down" or "impact" effects comprise all the mechanisms that lead to the spreading of development impulses in space. They spread positive impulses to adjacent areas (spatial spreading of impulses). "Backwash", "polarisation" or "retarding" effects, on the other hand, spread adverse impacts to the surroundings, including, e.g., drift of skilled manpower, reduction of the innovation potential, fiercer competition etc.

The ratio between these two types of effects is the key factor that decides whether the effects are to be generally positive or negative for the adjacent areas. A. Hirschman assumes that the "spread" effects prevail. G. Myrdal, on the other hand, believes that "backwash" effects prevail and that imbalances are widening – rather than levelling out differences, the market mechanism widen them, so that the state must intervene with its regional disparities policy. Myrdal even recommends developing countries to apply centrally planned economy, at least for a certain period (Maier, Tödting, 1997a).

According to G. Myrdal's and A. Hirschman's view, regional policies should be focused against the polarisation forces towards levelling out development differences, i.e., they should strengthen the balancing effects and reduce the polarisation effects (Maier, Tödting, 1997a).

Polarisation theories were further developed by the French-Belgian polarization school (J. R. Boudeville, L. E. Davin and J. Paelinck), which is also referred to as the French development theory school. The centre (city, agglomeration) is considered to be the focus (centre) of growth that integrates (thanks to the demand for activities) the adjacent space and its inhabitants. Economic development (expressed, for example, as the growth of employment and economic strength) boosts demand, which, in turn contributes to further growth of the centre, which thus dominates an ever larger part of the region's economic space (particularly in those parts of the region that are well connected to the centre of growth). Skilled manpower and capital, which find good opportunities of use in the centre of growth, come to the centre from these regions with which the centre is connected by good traffic channels (Maier, Tödting, 1997a).

This school has a direct impact on spatial planning. If a city is to deliver its growth impulses to the surrounding regions (thus exercising its driving function), it must become involved in a functionally interconnected settlement system. Growth impulses do not spread consistently in space (Maier, Tödting, 1997a).

### **Regional science**

Walter Isard is the founder of regional science. It is the ambition of regional science to transform the descriptive regional economy into an exact science on solid theoretical footing, using modelling techniques. It uses the gravitational model, input-output theory, location models based on the theory of central places, and applies a quantitative approach.

Regional science is criticised for neglecting institutional behavioural issues. It is related to "new economic geography", which is no longer based on the neoclassical approach: it works with imperfect competition and with externalities, and reflects the importance of history.

### **Behavioural and institutional approaches**

Some economists (especially those who also partly focus on sociology) challenge certain assumptions of the rational behaviour of individuals and firms. They question the assertion that the decision-making process of an economic entity (whether an individual or a firm) is

always directed towards the entity's objective, i.e. maximisation of the benefits it can gain (In the case of firms, profit maximisation is the target). They also emphasise that there are high transaction costs and that there is no complete or sufficient availability of information. These considerations have led to innovated location theories, the structure of which is similar to that of neoclassical theories but their contents are different. As a result of these innovations, theoretical conclusions are formulated, which may (but also may not) be closer to reality. This is confirmed by theoretical works based on behavioural approaches, which involve personal influences in the decision-making processes. The individual acting according to his/her personal needs is referred to as "*homo satisfandus*". Behavioural approaches also respect environmental effects, which involve risk and uncertainty. Thus, for example, the personal preferences of managers who prefer places (regions) where they have their personal hinterland (family, friends, familiar places) become involved in decision-making. It also happens that managers who do not have sufficient information copy the behaviour of their competitors, which may even be irrational from the viewpoint of the firm. Behavioural approaches are close to institutionalism, emphasising the lack of harmony between the interests of managers and owners of firms, which may influence the process of location of the firm's activities. According to institutionalism, market has no decisive effect on the allocation of resources and investments.

Institutionalism developed in the 1890s as a response to the fact that the neoclassical economy neglected the role of institutions. Institution means a social arrangement or a rule that regulates the relationships between individuals and between social groups. Institutions are recognised standards of behaviour, including traditions, habits and legal regulations. These standards are based on social psychology. Various types of organisations, such as corporations, business associations, trade unions, consumer associations and the state, can of course also be considered to be institutions. Institutions are the result of past social development. It often happens that institutions fail to meet new needs.

Institutionalists reject the neoclassic thesis that the consumer is a market sovereign. They do not believe that market is a tool for optimum allocation. Rather than that, they treat market as a social institution defined by the over-all institutional arrangement of the entire economy.

John. K. Galbraith is the most widely known post-war institutionalist. He believed that the key role in the current post-industrial era is played by the technostructure, which includes professional managers, representing something like a social elite. Members of this "club" are able to ensure that the state acts in their favour and are guided by owners' interest only to a limited degree. Their ambition is to strengthen their power and prestige, which coincides with the objectives of corporations, focused on their growth. Corporations controlled by the technostructure displace smaller businesses from the market space. This issue can be addressed by state intervention, as far as it is not controlled by the technostructure.

Supporters of behavioural approaches to location study focus on how firms proceed in preparing their location decisions and how they behave under real conditions, rather than examining how companies should behave. As distinct from neoclassical conceptions, an inductive approach is used in this case. Conclusions are derived on the basis of generalisation of empirical observations. Representatives of the behavioural branch of the location theory seek to describe firms' location behaviour and match their observations with explaining factors, particularly with the corporate characteristics (Maier, Tödting, 1997a).

Neoclassical location theories do not consider the factors of uncertainty and irrationality, although in reality firms are seldom able to use optimisation calculations. They often rely on simplified procedures, routine and experience. Such methods are summed up under the heading "heuristics" (Maier, Tödting, 1997a).

Heuristics includes solution patterns where an optimum solution is not what is being sought. It is necessary instead to find a solution in which the costs are tenable and which is



acceptable. The use of a heuristic approach may be economically feasible mainly in those cases where an optimisation calculation involves high costs of information, time and resources and where avoidance of such costs offers a good compensation for the loss ascribable to the deviation from the optimum (Maier, Tödting, 1997a).

The ability to work rationally is an important theme for the behavioural approach. The factors underlying the ability of rational planning (location) include the quality and quantity of information and the capability to process and use such information.

Information availability mainly depends on the interconnection of the enterprise with its surroundings and on its size, as large enterprises are capable to process much information on the global world in a rational manner and, subsequently, to diversify their activities and locate them in different places.

### **Theories working with value added and clusters**

Other (more recent) theories work with value added. This concept was developed by B. Hayter, who analysed an economic situation involving changes in the production area. The important periods in which changes occurred in the production area include the advent of Fordism, or the 1980s, when information technologies developed, allowing for the co-ordination of production from a single point (compression of time and space). This broke the traditional chain in which value was progressively added to products. Frontiers have lost their meaning. New business groupings, called clusters, have developed, in which the value-adding processes take place and where competitors both co-operate and compete. Within clusters it is easier for firms to seek business partners, financing sources and employees. Being a member of a cluster enhances the firm's reputation. A. Marshall (Principles of Economics, issued in 1890) was the first to note the grouping of firms. Firms (industrial, at that time) grouped in regions where they co-operated to gain advantage over competitors. M.E. Porter continued in the investigation of business grouping. Porter applies the term "industrial cluster" to a group of organisations that cluster in a certain territory, belong to similar industries and their relationships are a mix of co-operation and competition. Competition between such firms is not static competition focused on the minimisation of costs through the effects of agglomeration: it is dynamic, focusing primarily on innovation. It is obvious that the cluster theory also belongs under the heading of location theories.

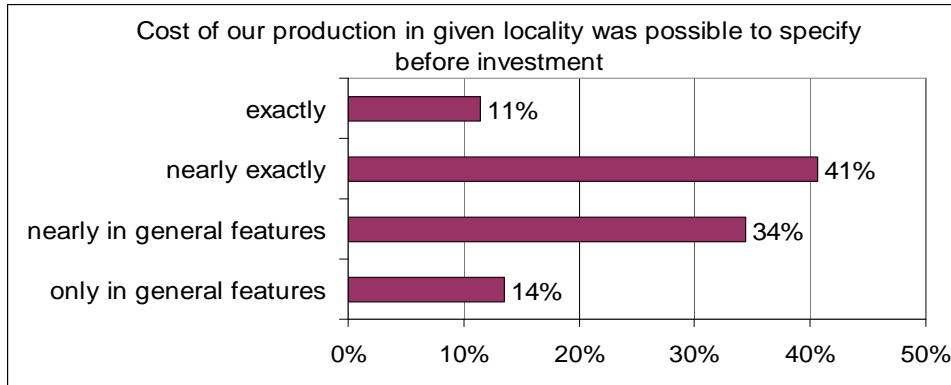
### **Empirical research – existing results**

Author realizes empirical research for confirmation or unconfirmation of mentioned localization theories. There are evaluated first 100 of questionnaires from the firms existing in the Czech Republic (with domestic and foreign firm capital). Firms were chosen at random.

The research is aimed on new investment of character „new company“, „new subsidiary company“, „new operation“, „the others“.

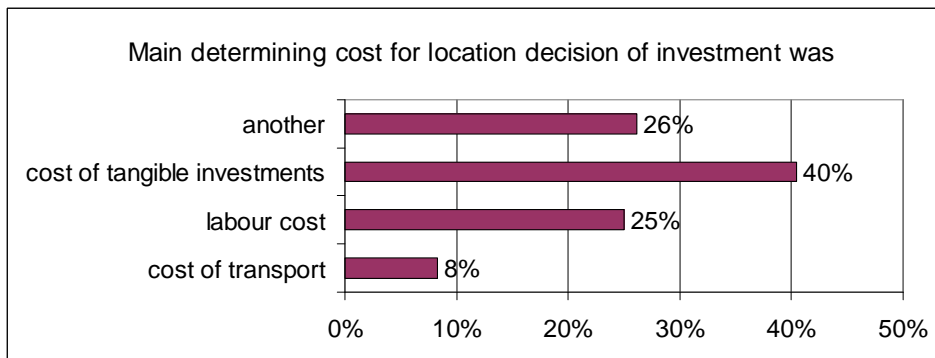
The research is realized under PhD. study program.

18 per cent of firms were in the micro-firm category (1 to 9 employees), 51 per cent of firms were in the small firm category (10 to 49 employees), 30 per cent of firms in the medium firm category (50 to 249 employees) and 1 per cent firms in the large firm category (250 and more employees).



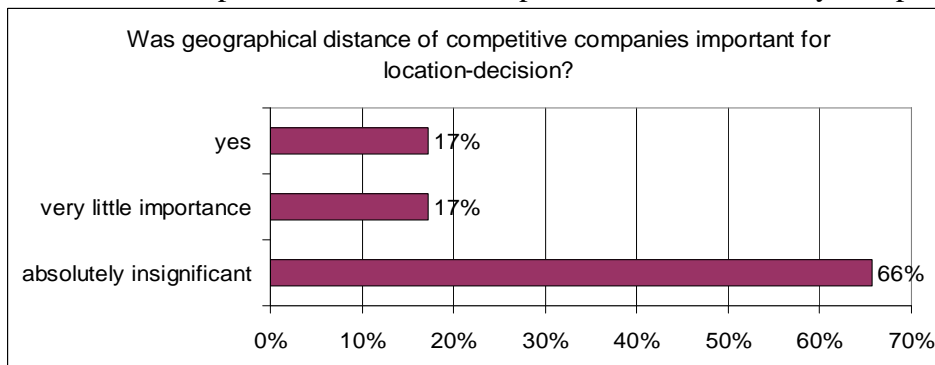
**Chart no. 1, Author**

More than one half of companies were able „to exactly specify“ or “to nearly exactly specify“ costs of production before capital investment. It means that behavior of these firms is in line with neoclassic conditions. Nearly half of companies is not in line with these conditions.



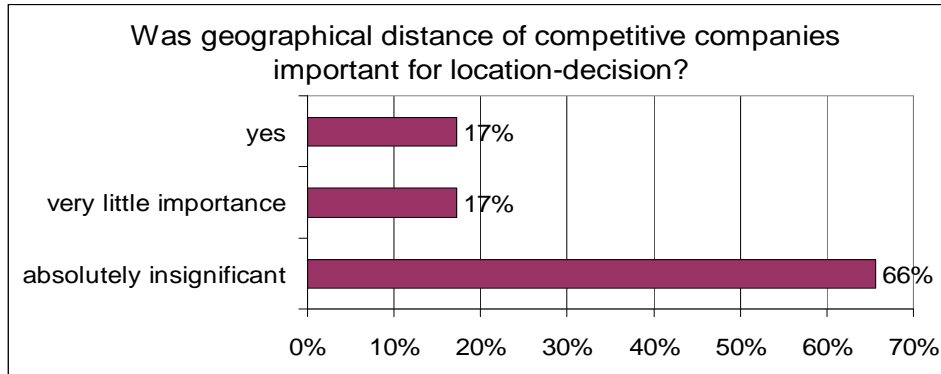
**Chart no. 2, Author**

As main determining costs were selected „costs of tangible investments“. They were mentioned in 40 per cent. „costs of transport“ were selected only in 8 per cent.



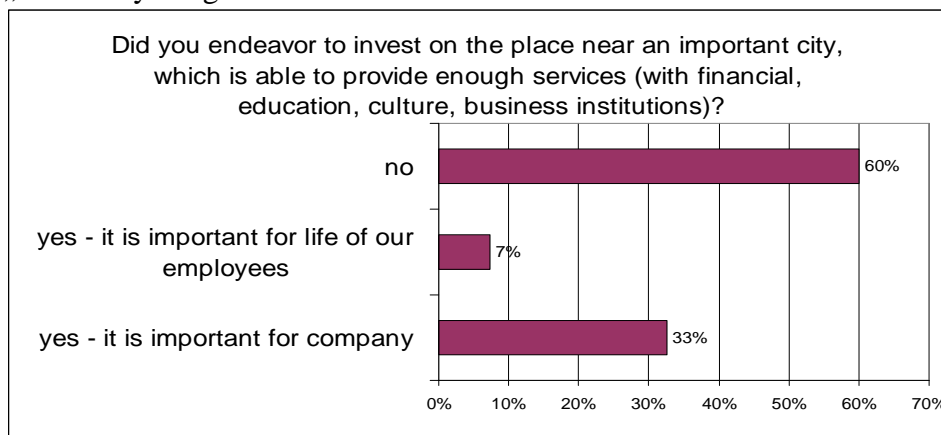
**Chart no. 3, Author**

Less than half of companies rated the geographical (transport) nearness of consumers as „very important“. More than half of companies rated this factor of „very little importance“ or „insignificant“.



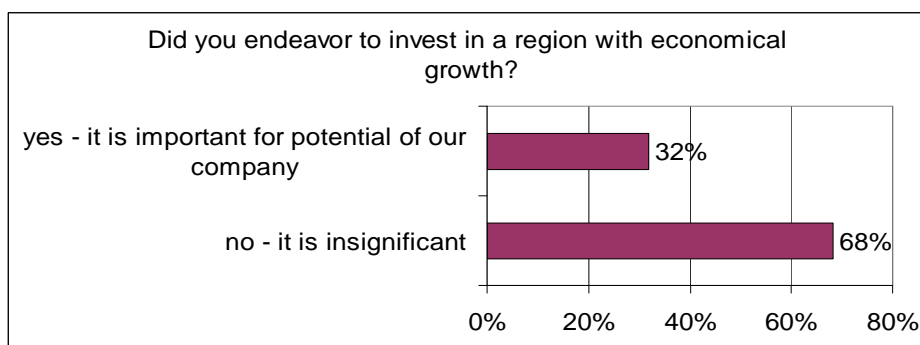
**Chart no. 4, Author**

66 per cent of the firms selected geographical distance of competitive companies as „absolutely insignificant“.



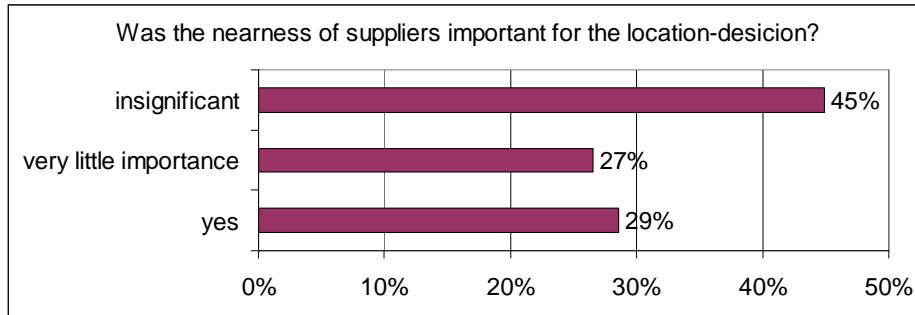
**Chart no. 5, Author**

40 per cent of companies endeavored to invest on the place near important city, which is able to provide enough services (with financial, education, culture, business institutions). 7 per cent of the firms answered that this factor was important for life of employees.



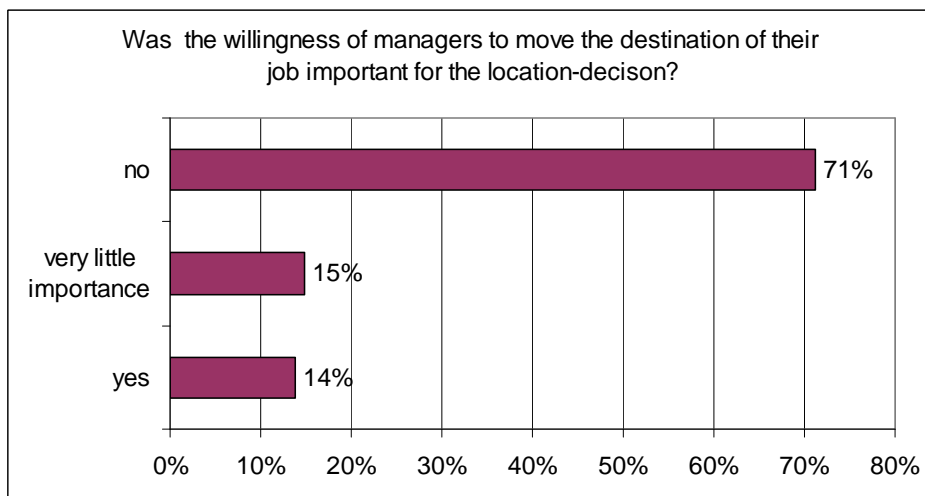
**Chart no. 6, Author**

Nearly one third of the companies endeavored to invest in region with economical growth. Two thirds of companies selected this factor as „insignificant“.



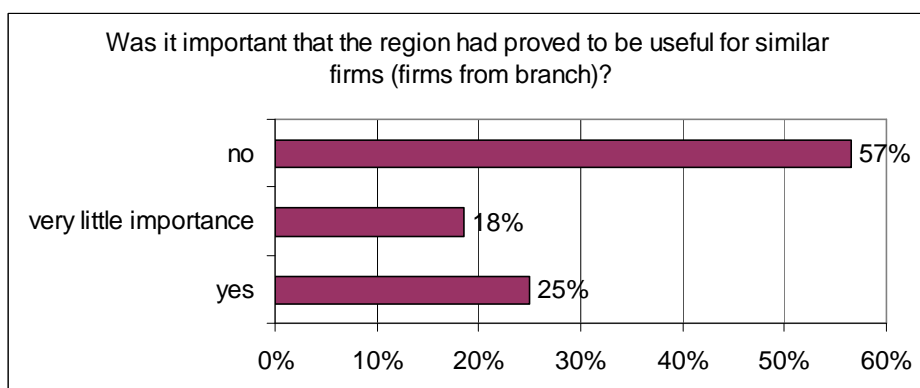
**Chart no. 7, Author**

Nearness of suppliers is important for 29 per cent of respondent companies. 45 per cent of the firms selected nearness of suppliers as „insignificant“.



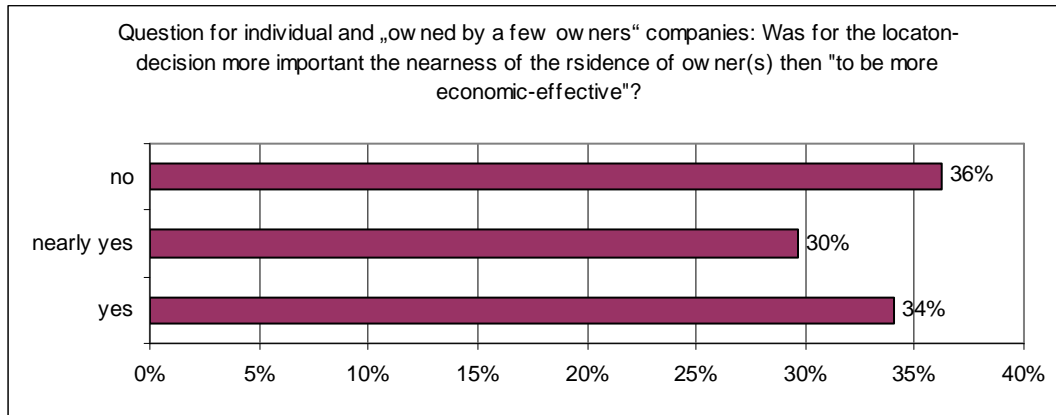
**Chart no. 8, Author**

14 per cent of companies answered that “the willingness of managers to move the destination of job” had been important for the location-decision.



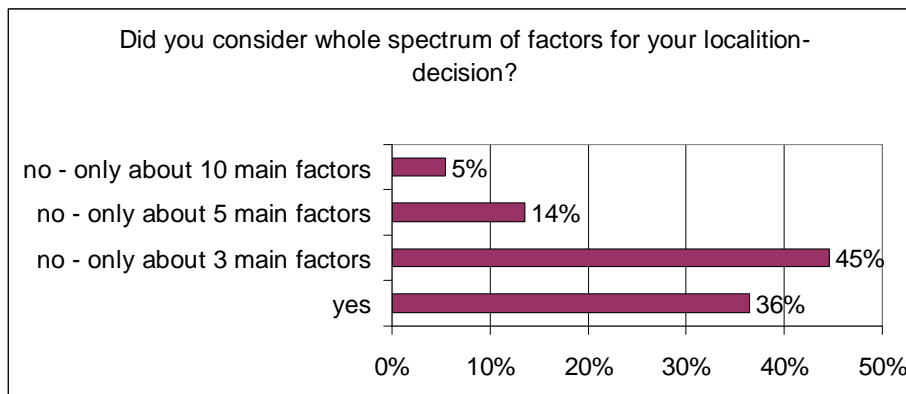
**Chart no. 9, Author**

57 per cent of companies answered „no“ to the question if the region had proved to be proved useful for branch-firms.



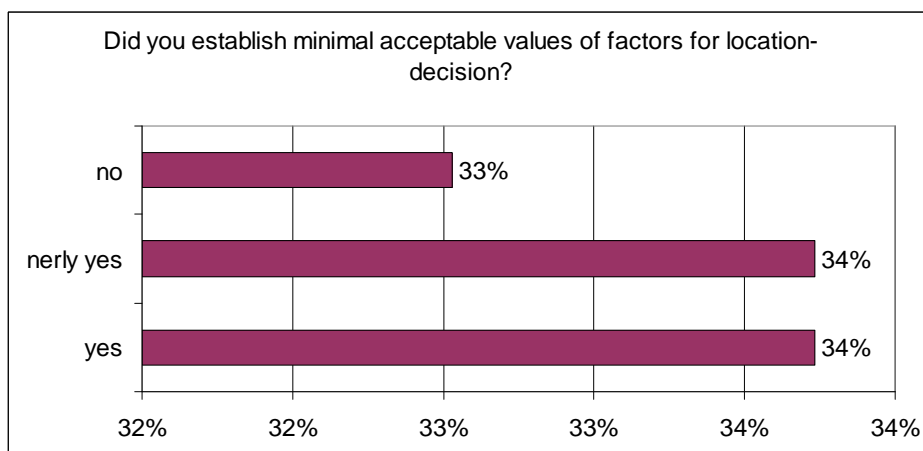
**Chart no. 10, Author**

34 per cent of individual and „owned by a few owners“ companies answered that the company had been placed near of residence of owner(s) even if different place would be more economic-effective. Another 30 per cent recorded answer „nearly yes“.



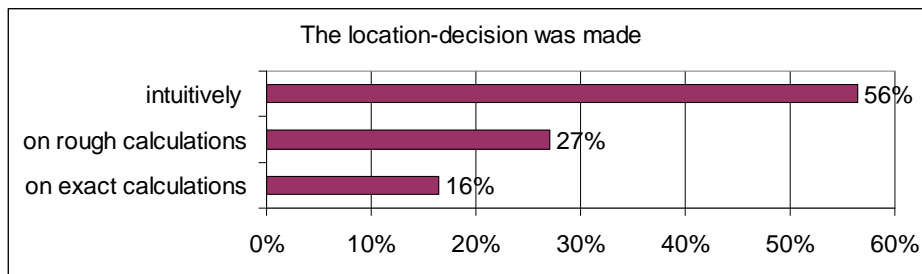
**Chart no. 11, Author**

45 per cent of the firms recorded that for the location-decision were important only about 3 factors. 36 per cent of the firms recorded that they considered whole spectrum of factors.



**Chart no. 12, Author**

34 per cent of companies established the minimal acceptable values of factors for the location-decision. Another 34 per cent of firms answered „nearly yes“.



**Chart no. 13, Author**

56 per cent of the respondents recorded that their location-decision was intuitive. 27 per cent decided on the base of rough calculations. 16 per cent of firms answered that they had been able to make exact calculations.

### **Spatial Planning**

However, efforts to solve location issues are focused not only on private entities, but also on the public sector, where it takes the form of spatial planning. Some examples are briefly shown below.

#### **Sweden**

Local municipalities and regions have fairly wide powers. They are responsible for activities clearly allocated to them by law. Almost 70% of public services are financed from the budgets of local and regional public administration bodies. The areas for which they are responsible include primary and secondary education, care of children and seniors, welfare payments and fire safety. Other activities are voluntary, including, e.g. housing, local transport or adult education. Local municipalities and regions also support the development of culture, leisure facilities and local businesses. The main area of responsibility at the regional level is health care. In addition, regional governments also address the issues concerning regional co-operation in regional planning, public transport, social security, education and culture. Devolvement of powers and responsibility is supported by devolvement of budgets (Jílek, 2007).

Spatial planning (*fysisk planering*) is a distributed and devolved process in Sweden. The general rules for spatial planning are defined at the national level, but the interpretation and decision-making take place at the local level, for the most part (Ministry of Environment, Forest and Nature Agency, 2004).

Municipalities have municipal comprehensive plans, *översiktsplaner*), which cover the entire territory of each municipality and are strategic, rather than detailed. For each municipality it is mandatory (required by law) to have such a plan. The municipal comprehensive plan must be regularly reviewed and updated to reflect the legislation in force. It offers an insight in the functions existing in the territory, including the long-term objectives of its management. Although the provisions of the municipality comprehensive plan are not binding, they are respected. Spatial planning at the local level is guided by national and regional directives, which are formulated very generally and offer much scope for implementation at the municipality level (ČVUT, 2006).

Detailed physical plans (*detaljplan*), which become parts of the municipal comprehensive plan, may be drawn up for separate parts of the municipality's territory. The detailed plan, which is binding, defines the details of how the territory is to be utilised. It covers only the

areas suitable for development in the near future and is obligatory where new areas are to be developed. Building permits are issued on the basis of the detailed physical plan, which also serves as a tool for ensuring the care of heritage sites and properties. The Planning and Building Act describes in detail where and when a detailed physical plan is to be adopted.

### **Denmark**

Under Danish legislation, the main principles of spatial planning include the principle of public involvement in the preparation of plans and the principle of power devolvement in approving the plans. Any plan that is submitted must be published and the public are entitled to file objections and propose amendments. The Minister for Environment is responsible for national planning.

There are specific committees at the level of the Lands and districts that are responsible for the processing of the information needed for preparing the national plans and provided by public authorities and private companies. The land and district committees co-operate in preparing the regional, district and local plans.

In spatial planning at the national level, Denmark is being increasingly influenced by spatial planning in the neighbouring countries and the EU. International (EU) co-operation takes place at the level of regions and cities and in the environmental area. Denmark also focuses on co-operation with the Baltic and North Sea regions.

The spatial plan of a region specifies the details of the national objectives in the area of regional and rural development. It is an all-round plan and includes a general map of the use of land. It contains directives for land use in the region and for administration in the plan areas, and sets out priorities.

### **The Czech Republic**

Unlike in most of the countries in Western Europe, there is no integrated spatial planning in the Czech Republic. There are two documents at the central level that most clearly address the spatial planning issues: the “Physical-planning Development Policy” as a basic strategic document for physical planning and the “Regional Development Strategy” as a basic document for regional policy. Hypothetically it can be assumed that a plan of spatial development could be created if these two documents were combined.

### **Regional Development Strategy**

The “Regional Development Strategy of the Czech Republic” is based on Act No. 248/2000 on Support for Regional Development, which requires, under the Strategy, to analyse regional development, characterise the strengths and weaknesses of development in each region and district, set out the strategic targets for regional development in the Czech Republic, define the regions to be supported by the State, and prepare recommendations for the central and regional administration authorities as to the focus of development in the areas within the range of their responsibility.

The Regional Development Strategy is a key document of regional policy.

The vision of the “Regional Development Strategy for 2007 to 2013” is defined as follows: “By the end of 1013, the Czech Republic wants to develop into an active, economically efficient and competitive country with a good environment, which, in compliance with the principles of sustainable development, meets EU standards in all basic criteria (knowledge-based economy, per-capita GDP, employment, social security etc.) and ensures the growth of the quality of life of its inhabitants.” The Strategy also sets out the global target defining the basic focus of long-term regional development in the Czech Republic. This global target is a well-balanced, harmonic and sustainable development of regions, conducive to improvement of the population’s quality of life.

The priorities and measures under the Strategy are primarily focused on improving the institutional environment in regions, strengthening their competitiveness, supporting the development of human resources and infrastructure, improving the quality of environment, and supporting the development of tourism.

The new “Regional Development Strategy” has slightly modified the structure of regions enjoying priority support from the state. These include the structurally disadvantaged regions (districts of Most, Karviná, Chomutov, Teplice, Ostrava-City, Frýdek-Místek, Nový Jičín, Sokolov), economically weak regions (districts of Hodonín, Znojmo, Třebíč, Bruntál, Opava, Jeseník, Přerov, Šumperk, Svitavy, Louny, the former military training areas Ralsko and Mladá), regions with high above-average unemployment (districts of Děčín, Ústí nad Labem, Litoměřice, and municipalities with extended powers – Ostrov, Frýdlant, Králíky, Bystřice n. Pernštejnem, Bučovice, Mikulov, Šternberk, Uničov, Kroměříž, Rožnov pod Radhoštěm, Valašské Klobouky). These regions cover about 30% of the total area of the Czech Republic and about 32% of the population.

These regions have been identified as such on the basis of an index, which covers the indicators of unemployment (unemployment rate, long-term unemployment and number of job applicants per vacancy – weight 0.4), purchasing power (weight 0.3), tax revenue per head of population (weight 0.15) and the number of businesses per 1000 inhabitants (weight 0.15).

### **Physical-planning Development Policy**

The Physical-planning Development Policy is the other basic strategy document for physical planning in the Czech Republic and the main strategic document for physical planning. It is based on Act No. 183/2006 on Physical Planning and on Building Regulations (the Building Act).

The strategic document “Physical-planning Development Policy” was adopted to meet the need for a document at the central level, which provides a co-ordinating framework for physical planning documents at lower levels. It is intended to serve as a tool for physical planning. Besides co-ordinating the activities of the physical planning activities of regions and municipalities, it can also serve for the co-ordination of other sectoral policies in terms of sustainable development in the territory, based on balanced relationships among the conditions underlying a good environment, economic development, and cohesion of the population in the territory. It sets out general conditions for the planned placement of development objectives within the defined spaces, axes, corridors and areas, thus enabling to maximise the benefits and minimise the adverse impacts they produce. In addition, it defines the areas and corridors of transport and technical infrastructure, which are of both international and national importance or exceed the boundaries of a region, and determines – in the defined spaces, areas and corridors – the criteria and conditions for deciding on the possible options or variants of changes in the territory and for the assessment thereof with particular respect to their future importance, possible development, decline, preferences and risks.

The national physical planning priorities to ensure sustainable development under the PÚR (Physical-planning Development Policy) are as follows:

Provide prerequisites for sustainable development of the territory, based on balanced relationships in respect of the physical conditions for a good environment, for economic development, and for the cohesion of the population in the territory;

Improve the integration of the Czech Republic in the Central European space of the EU. For that purpose, create conditions in the territory for improving public infrastructures including, but not limited to, transport connection with neighbouring states;



Support the polycentric development of the settlement infrastructure. Provide prerequisites for strengthened partnerships between the urban and rural regions and improve their competitiveness within the EU;

In public interest, protect and develop the natural, civilisation and cultural values of the territory, including the urban, architectural and archaeological heritage. Preserve the unique character of any specific urban pattern, settlement structure and cultivated landscape in the territory, which characterise the territory's identity, history and traditions. Territories with such a unique character are highly valuable, for example as tourist attractions. However, their protection should not exclude or substantially hinder economic exploitation. Targeted protection of places of special interest is necessary in certain cases, while in other cases entire landscape complexes need to be protected or restored. Landscape restoration or a creative approach to its further development are sometimes more important than the conservation of the status quo. Sometimes a rural landscape may deteriorate due to lack of human intervention;

The factors to be taken into account when determining the functional use of the landscape must include nature protection as well as economic development and the people's standard of living. Seek balanced solutions in co-operation with the local citizens and other uses of the territory;

Create conditions for the location of areas to be built up in the structurally disadvantaged and economically weak regions and contribute in this way to addressing the issues that affect such territories, particularly the high unemployment rate;

Set out the conditions for efficient use of built-up areas and protect the areas that are not built-up. Provide specific prerequisites for the new uses of the abandoned premises and areas ('brownfields' of industrial, agricultural military and other origin);

In the development areas and along the development axes, create conditions for territorial systems of environmental stability as well as conditions for zones of unbroken greenery, accessible to the public (the green belts), in order to ensure the permeability of the landscape and its recreational use and to preserve its reproduction capacity; create conditions for the development of forest stands;

Create conditions for the development various forms of tourism in the landscape (e.g., cycle tourism, agro-tourism, sightseeing tourism) with focus on specific regions, thus contributing to preserving and developing the landscape's values. Encourage the construction of tourist routes to connect attractive sites and to support the use of the territory for various forms of tourism all over the season (e.g., on foot, cycle, ski, horseback);

Depending on the local conditions, create prerequisites for better accessibility of the territory and for a better technical infrastructure, with respect to the permeability of the landscape. Everywhere it is useful, build corridors to co-locate the transport and technical infrastructure in order to minimise fragmentation of the landscape.

Improve accessibility mainly within the development areas by extending environmentally friendly public transport networks.

Create conditions for preventive protection of the territory against potential risks and natural disasters (floods, landslides, erosion etc.) in order to minimise the damage, of any. Pay special attention to the protection of the areas where flood protection measures are to be taken and to the delineation of the areas where flood water is to be allowed to overflow. Allow building in flood-exposed areas only in exceptional and specially justified cases. Delineate and protect the areas that are to be built up as a result of re-location from the areas exposed to a high risk of flood damage. Ensure that conditions are provided for alleviating the consequences of abrupt economic changes.

In the planning documentation, define detailed conditions for the utilisation and layout of the territory in terms of areas, axes and corridors in compliance with their designation and nature.

Where the urban environment is being created or changed, prevent any segregation in social and territory terms with adverse impacts on the social cohesion of the population.

The national priorities of physical planning are specified in the PÚR of the Czech Republic.

### **Regional and municipal self-government**

At the central level, spatial planning is divided into regional (strategic) planning and physical planning (planning for the territory). A similar division is applied at the regional and municipal levels. At the regional level, a document entitled “Principles of Physical-planning Development” is drawn up as the basic document for physical planning, and document entitled “Development Programme for the Region” as the basic document for regional (strategic) planning.

The process of spatial planning is not related to the locational decision-making process in the private sector. This gap is certainly a great problem for efforts to seek conformity and harmony.

## **4 Conclusion**

J. H. von Thünen was the first theorist to address the location issue in detail. His theory focuses on issues related to agricultural activities. Another important location theory is the theory of location of industrial activities (industry), which was developed by A. Weber. As the entire economic science was changing, location theories were modified. A modification based on the monopolistic competition concept was proposed, for example, by T. Palandek, who studied price as a factor determined by the seller’s market position and the size of the seller-dominated market. In compliance with the monopolistic competition theory, A. Lösch identified the sales market as the key location factor; transport and labour cost minimisation and agglomeration cost minimisation remained ancillary location factors. A. Lösch’s model reflects the economy of the first half of the 20<sup>th</sup> century, which differed significantly from the economy of the 19<sup>th</sup> century. The location theory is not solely focused on the issues of the location of businesses. An example to this effect is the theory of central places (centres), addressing the relationship between the size, number and location of cities. This theory is also referred to as the service location theory, as follows from W. Christaller’s conception. W. Christaller stated that a central place is characterised by the services provided. An economic approach to service location was also used by W. Sombart, who divided cities into two groups: cities focusing on city-forming services and cities focusing on city-serving services. Polarisation theories represent another trend within the location theory. Francois Perroux is referred to as the founder of the polarisation approach. He stated that strong economic units are the poles of growth. The issues of polarisation of economic growth were also addressed by G. Myrdal and A. O. Hirschman. However, the most important role in further development of polarisation theories was played by the French-Belgian polarisation school (J. R. Boudeville, L. E. Davin and J. Paelinck), which considered the centre (city, agglomeration) as the focus (centre) of growth that integrates (thanks to the demand for activities) the adjacent space and its inhabitants.

Some economists (especially those who also focus on sociology) challenge certain assumptions of the rational behaviour of individuals and firms. They emphasise that there are high transaction costs and there is no complete or sufficient availability of information.

Other (more recent) theories work with value added. This concept was developed by B. Hayter, who analysed an economic situation involving changes in the production area.

Empirical investigation performed in the Czech Republic is presented. Search for location factors is a basis of all location theories.

Location factors can be divided into several types. B. Grabow, D. Henckel and D. Hollbach-Grömig divide them into hard location factors (which are measurable) and soft location

factors (non-measurable, being of psychological or sociological nature). This is based on an older classification of economic (objective) and non-economic (subjective) factors.

In another classification the location factors are divided into general and specific. General location factors are involved in any economic decision-making process concerning location. For example, industry can be divided into three types (Kuciński, 2004):

- Production factors (including, in particular, the costs of raw materials and energy, transport, labour and capital);
- Sales factors (particularly the nearness of the market),
- Organisational factors (including, in particular, concentration, specialisation and co-operation).

Most location theories address the issues of location of business entities and neglect the issues of location in the public sector, where location takes the form of spatial planning. Separation of these two processes, which, because of their very essence, belong together, can be considered undesirable. Consideration could therefore be given to the possibility of applying the findings related to location to the processes of spatial planning.

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