

Property prices as a land differentiation indicator of the business environment quality

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Abstract

The main evaluation factor groups consist of business, infrastructure, labour, local, price and environmental factors and the business environment quality evaluation is focused on the micro-regional level of land districts of the 3rd degree level municipalities. Building site price of a particular designation is influenced especially by its macro-economic and to a smaller degree by its mezo-economic location. Collected data confirm the stochastic relationship between land prices and town sizes. Office areas rental prices are an important cost factor characterizing an business environment from the productive services development viewpoint. Average prices of the net annual office areas rental minus operating costs have been the input data for this factor's identification. Real estate prices represent a significantly specific group of factors within the set of factors determining business environment quality. Hierarchical segmentation is a dominant feature of a spatial real estate market organization and it reflects their economic advantages expressed by the income generated in a certain location.

Key words: Czechia, land prices, business environment quality

Introduction

Economic meaning of property prices may be viewed in many various ways. From the macroeconomic point of view, for example, their role as one of the long-term economy indicators is often emphasised. In this article the property prices are interpreted (as a part of a price factor group) from the viewpoint of business environment quality, which is one of the main goals of the research plan called "Factors of regions' development efficiency" that is being dealt at the Department of regional economics and administration of the Faculty of Economics and Public Administration of the Masaryk's University in Brno. This is, in particular, a matter of a multiple evaluation of business environment quality, considering processing industry and productive services branch groups and this consideration is methodically based on modern, localisation theories. The main evaluation factor groups consist of business, infrastructure, labour, local, price and environmental factors and the business environment quality evaluation is focused on the micro-regional level of land districts of the 3rd degree level municipalities. As far as the predicative meaning of the price factors, we prefer especially their role as land differentiation indicators in the business environment quality, reflecting the economic rules of supply and demand in the production factor market. As far as property market

it is necessary to emphasise that its development is influenced not only by economic factors but also by many non-economic factors and in accordance with this we can say that it is rather imperfect. This fact, naturally, makes it difficult not only prediction of its development but also analysis of its main, especially price parameters. In the following section we present, in accordance with the branch specialisation of the above mentioned research, the results of areas oriented analyses of two property market factors – a building site price factor and an office areas rental price factor.

Building site prices of lands marked for manufacturing and storage facilities constructions

In this first section we will focus on the price factor evaluation of the building site prices of lands marked for the construction of manufacturing (or storage) facilities. Generally, it is possible to declare that a building site price of a particular designation is influenced especially by its macro-economic and to a smaller degree by its mezo-economic location. Location influences of lower hierarchical order are demonstrated with significantly lower intensity then in case of building sites marked for residential construction.

Average site offer prices have been input data for the factor identification. The price analysis has been preferentially oriented on site offers within industrial zones, which are the most attractive segments of the prepared development areas – the corresponding data are usually a part of industrial zones databases (Czechinvest, Prague Business Journal etc.). These data have been verified and amended from the offers of various real estate agencies in the areas of commercial lands presented on the internet and in other media (real estate bulletins) and also from information sources presented by various cities and communities. In this context it is necessary to emphasise the fact that these data are of reference character only since in reality there are often great differences between offer and purchase prices. Site prices in some industrial zones are also influenced by the realisation of a program of the Ministry of industry and commerce, called “A system of industrial zones’ development support”. This program has been a channel for relevant distribution of structured subsidies to municipalities (a returnable financial help of up to 60% of the total costs of the industrial zone construction or possibly land transfers from the Land fund into the municipality ownerships for the prices of agricultural lands). Deliveries of industrial lands for low prices are in this sense a part of the investment incentives offered by the Czech Republic. As far as municipalities are concerned it is possible to declare that land offer prices are usually based on administrative prices (see Act 151/1997 Coll. in the current wording) or on the current price maps, adjusted to the available data on previously realised sales (currently, about 50 cities have these price maps). In case of private properties the offer prices primarily reflect subjective ideas of the property owners about optimal prices. Objectivity degree of such ideas is logically connected with the size of the particular municipality and in this context it is possible to present a hypothesis stating that this process is more developed in case of larger cities with a higher circulation at the particular property market segment.

Collected data confirm the stochastic relationship between land prices and town sizes. The highest average prices can be naturally found in the Prague region where common

prices are between 900–1500 CZK/m². In case of four remaining cities with more than 100 thousand inhabitants (Brno, Ostrava, Plzeň, Olomouc), the corresponding average prices were about 600 CZK/m², in case of cities with 50 to 99 thousand inhabitants they were about 350 CZK/m², in case of cities with 25 to 49 thousand inhabitants about 275 CZK/m², in case of towns with 10 to 24 thousand inhabitants about 225 CZK/m² and in case of towns with less than 10 thousand inhabitants about 150 CZK/m². A comparison of this data with the corresponding data from 1997–98 shows a general trend towards a decline of average prices by about 10% with the exception of the largest city category where the prices have remained about the same¹. The above-presented development suggests a certain overhang of supply above demand and simultaneously it reflects also the support of the industrial zones construction from public resources and probably also a more realistic offer price creation in the category of towns with less than 25 thousand inhabitants.

Considering the city size category there are significant positive deviations from the average values, especially in the micro-regional centres of the Central-Bohemian (especially smaller centres near Prague, e.g. Říčany, Benešov, Beroun, Kralupy nad Vltavou; Prague land-use plan doesn't contain separate development areas for industry and the relevant supply is localised in the surrounding municipalities and those municipalities located near the motorway are in a privileged position among them) and South-Moravian regions (especially centres located near Brno or along the main transportation corridors e.g. Vyškov, Rosice, Hustopeče, Slavkov u Brna, Pohořelice). You can find positive deviations also in other regions but in those regions you can see a marked polarisation documented by the concurrent appearance of negative deviations. The most significant, considering the positive deviations, are Plzeňský (e.g. Rokycany), Liberecký (Jilemnice), South-Bohemian (Český Krumlov) and Vysočina/Highlands (Humpolec) regions. An opposite trend i.e. a predominance of negative deviations can be found in Ústecký (Chomutov, Most, Litvínov, Bílina) and Moravian-Silesian (Karviná, Frýdek-Místek, Havířov, Orlová) regions. Commercial lands market situation therefore documents wider economic problems of these regions connected with the current industry restructuring. For the purpose of basic orientation the average land prices for the separate regions are presented in Table 1. These prices naturally reflect also regional differences in the conditioning characteristics, especially differences in the urban development degrees.

Considering the development of the particular property market segment there is a purpose in highlighting the difficulties with selling the old industrial and storage facilities even though in this case we deal with stabilised lands offered for about the same prices as un-built lands. The following are the main reasons: limited use, presence of old environmental burdens, usually high energetic requirements of the old facilities and encumbrances by rights of lien. Under these conditions the costs required for the reconstruction of these old industrial lands for the purpose of their renewed usage are hard to estimate and this is logically reflected in the long-term decline of demand

¹ See Viturka, M. & Coll. Investment attractiveness of selected cities of the Czech Republic, MU Brno, 1998.

Tab. 1 Reference data on average prices of industrial lands by regions

Region	Average price in CZK/m ²	Price range in CZK/m ²	Average size of centres in thous. inhabitants
Prague	1200	900–1500	1160
Central-Bohemian	295	100–700	18
South-Bohemian	215	100–650	18
Plzeňský	230	100–700	20
Karlovarský	260	100–600	23
Ústecký	190	100–350	31
Liberecký	210	100–500	25
Královéhradecký	200	100–550	18
Pardubický	180	100–500	17
Vysočina/Highlands	190	100–500	16
South-Moravian	275	100–1000	32
Zlínský	245	100–800	22
Olomoucký	240	100–600	26
Moravian-Silesian	170	100–550	40

(relevant property tax rate for industrial areas is from 1.50 to 22.50 CZK/m² and it is dependent on the ratio determined by municipality size groups). Therefore a creation of a room for more significant industrial land price movements doesn't seem to be likely in mid-term prospect and we can rather expect their general stagnation. From the regional point of view this development will certainly be differentiated also in the future with positive deviations in the economically most profiled areas (especially around Prague and to a smaller degree also around Brno, where there is currently an increase in the demand for storage areas). Many specialists also expect an increase in prices along the Czech border with Germany and Austria connected with the entrance of the Czech Republic into the European Union and the consequent increase in demand from smaller industrial companies. On the other hand in the economically marginal regions we have to count on the increases in the negative deviations in the price development (with the negative impacts on the efficiency of means invested into the construction of the industrial zones).

Office areas rental prices

This second part deals with office areas. Office areas rental prices are an important cost factor characterizing a business environment from the productive services development viewpoint. As far as the general property market development in the Czech Republic is concerned the business environment in this field may be considered stable and favourable, according to the opinion of foreign real estate agencies operating in the Czech market. This corresponds with an increasing interest of foreign investors

in most segments of the Czech real estate market. Office areas rental is considered as one of the most attractive segment of this market, besides residential real estate.

Average prices of the net annual office areas rental minus operating costs have been the input data for this factor's identification. These data have been collected from office or non-residential areas rental price offers published by real estate agencies on the internet (from among the relevant web pages we would like to present especially www.reality.cz unifying offers of more than 600 real estate agencies) and also from other media. For this purpose we have also used data acquired by means of a selective questionnaire investigation². The situation of particular micro-regions has been evaluated by means of data characterizing the situation in their regional capitals since these regional capitals are the main areas of the corresponding supply and demand concentration. With the exception of the largest cities (Prague, Brno, Ostrava, Plzeň) there was a preference for office areas in the city centres. In case of the largest cities the price range includes both the average offer prices in the city centre and the offer price in transportation well-accessible locations out of the centre (Prague) or in areas adjacent to the centre. The biggest problems with data accessibility naturally occurred in case of the smallest towns where the rate of the acquired data didn't usually exceed the level of three offers (including offers for non-residential areas rental). In the extreme cases where no presentation of a relevant offer was found the method of analogy with size- and location – similar municipalities was used.

The collected data confirm a strong relationship between rental prices and the sizes and natural hierarchical situations of regional centres. The capital Prague has a rather exceptional position. The total offer of this most developed regional office areas market in the Czech Republic represents more than one million m² of office areas (more than half of the areas is located in modern, recently constructed office buildings of the A class) and the usual price range of their rental per year is between 6 and 9 thousand CZK/m², and there is an annual increase of 100–150 thousand m² in newly built office areas³. In case of the remaining four cities with more than 100 thousand inhabitants (Brno, Ostrava, Plzeň, Olomouc) the corresponding average price was about 2650 CZK/m², in case of cities with 50 to 99 thousand inhabitants it was about 2100 CZK/m², in case of cities with 25 to 49 thousand inhabitants about 1600 CZK/m², in case of towns with 10 to 24 thousand inhabitants about 1300 CZK/m² and in case of towns with less than 10 thousand inhabitants the average price was mostly in the range of 700 to 800 CZK/m². Within the separate regions the highest rental price level can be found in the regional capitals and the smallest differences between the regional capitals and towns with the second highest levels have been found in the following regions Ústecký (Teplice), Vysočina/Highlands (Třebíč) and Liberecký (Jablonec n. N.).

A scale with progressively increasing interval lengths was used for the purpose of a specific delimitation of the separate groups – the following values have been found to be the group limits: 3800, 2300, 1400 and 850 CZK/m². The first group consists only

² See Viturka, M & Coll.: Investment attractiveness of selected cities of the Czech republic, ESF MU, 1998.

³ Rental prices in the historical centre are about 1/4 higher than in other attractive localities (Flora, Pankrác, Budějovická, Anděl, Dejvice, Vokovice, Karlín), which are due to their better transportation location and parking possibilities, increasingly attractive for investors.

of Prague where the majority of demand of foreign and financially strong domestic investors is concentrated. Available data about the structure of demand for office areas in Prague show that the following are the most important subjects: telecommunications (40%), followed by financial services (24%), industry and agriculture (10%), legal and consulting services, drug distribution, other services, informatics, advertising services including public relations and retail services.

There are ten centres in the second group. Besides the above mentioned four cities with more than 100 thousand inhabitants there are all other regional capitals with the exception of Ústí n. L. (rental prices have been influenced by a poor economic performance of the whole North-Bohemian region), Liberec (price decline has been conditioned by an uneven development of supply and demand since the end of the 90's) and Jihlava (poor hierarchical position of the regional capital) and Mladá Boleslav. The highest average rental prices can be found in Brno, which is the second most attractive city, considering the office areas market in the Czech Republic (average rental prices in the range of 2750–4250 CZK/m² show the city's great following distance from Prague). Mladá Boleslav's presence in this group is a very interesting fact reflecting the consecutive effects of a large industrial company's localisation (Škoda Auto a.s. is the most important Czech company from the economic point of view).

The third, "average", group consists of 46 cities, i.e. about 23% of the total number of micro-regional centres. Besides the above mentioned three regional capitals there are all other cities with more than 50 thousand inhabitants except for Most, further, 3/4 of cities with 25–49 thousand inhabitants (cities with a distinctive rural backgrounds and cities located in areas devastated by coal mining) and 1/5 of towns with 10–24 thousand inhabitants (especially Central-Bohemian towns around Prague, spa and other visitor attractive towns in other regions).

The most numerous fourth group contains 91 towns and its share in the investigated towns is almost 45%. North-Bohemian Most is the largest city belonging into this group and its comparatively low average rental prices have been conditioned by a strong overhang of supply of old office buildings in the context of a low company demand for office buildings in an unattractive mining centre. This group further contains the 4 above-characterised cities from the group of 25–49 thousand inhabitants, almost 3/4 of towns with 10–24 thousand inhabitants and 1/3 of towns with less than 10 thousand inhabitants (Central-Bohemian towns and also towns in other regions, advantageously located from the geographic or transportation points of view).

The last, the fifth group, consisting of micro-regional centres with the lowest prices of the offered rentals, includes 55 towns, i.e. about 27% of the investigated number of towns and cities. This group consists, besides 4 towns with 10–24 thousand inhabitants (typical especially by their marginal locations) of about 2/3 of towns with less than 10 thousand inhabitants. This group is typical by a generally low level of office areas demand, which is created (with exceptions) by companies with local or possibly regional reach and by the resulting low quality of relevant supply.

Considering the separate regions, except for the Prague region, the most developed one (a higher actual level of supply rental prices than the corresponding theoretical level deduced from the membership of micro-regional centres in the particular size groups) seems to be the office areas market in the Central-Bohemian region. This fact

undoubtedly reflects the strong influence of Prague as an unrivalled regional office areas market showing not only in the capital's close surroundings but also along the arising development axes. South-Moravian and Královehradecký regions can also be considered as rather developed in this sense since positive impacts induced by their centres in combination with other influences have been identified there (certain indications of these effects can also be seen in Plzeňský and South-Bohemian regions)⁴. On the other hand there are the economically troubled Ústecký and Moravian-Silesian regions (significantly lower actual than theoretical level of supply rental prices in case of 6 out of 16 and 7 out of 22 micro-regional centres, respectively).⁵

Considering the future development it is possible to declare that the office areas market still keeps a comparatively big growth potential due to Prague's appeal. After the rapid rental price increases in the first half of the 90s (insufficient supply) and the following significant decline between 1995 and 2001 (the process of levelling between supply and demand) we expect future stagnation or a slight increase in prices⁶. At this place it will be useful to note that the rental price is influenced, besides the macro-economic factors, also by the influence of regional (urban development stage, regional infrastructure quality) and local factors (urban environment quality, ownership structure of buildings to be rented – usually lower prices in buildings owned by a municipality)⁷. The dominant role of Prague in the office areas market will undoubtedly remain the same and possibly it will even be strengthened due to developers' activities (Prague has an internationally significant position in this sense, which is proved by its position between the 15th and 20th place as for the average rental price level). It is also possible to expect that the supply of European standard office areas (class A areas) will be limited, besides Prague, almost exclusively to bigger cities and within this group to the regional centres. Outside the regional capitals the demand level for office areas will be generated especially by a demand from the industrial and consulting companies, possibly also by a specific demand of companies active in other services in accordance with the economic profile of the particular micro-region. Considering the areas differentiation of this demand there will probably be a trend towards its deepening due to the expected increase in demand from German and Austrian companies. In accordance with this fact we can most likely expect increasing rental prices in various attractive locations close to the German, or rather Bavarian, and Austrian borders (Karlovy Vary, Cheb, Mariánské Lázně, Plzeň, Domažlice, Klatovy, České Budějovice, Český Krumlov, Jindřichův Hradec, Brno, Břeclav, Znojmo).

⁴ More significant positive deviations in the rental prices can also be found in the Krkonoše mountains foothill urban belt ranging from the Semily areas (Liberecký region) to the Trutnov areas (Královehradecký region) – especially Vrchlabí and Jilemnice.

⁵ In case of Ostrava, characterised by a general abundance of office areas (located especially in previously constructed administrative buildings), we have preferred the supply and the relevant price relations of office areas in the city centre due to the wide-spreading city areas interrupted by many land barriers represented by functional or abandoned industrial complexes.

⁶ Within the separate supply groups there is an exception from the general trend in case of the projected development of rental prices in the older, reconstructed buildings. These prices will tend to continue to decline (currently, e.g. in the centre of Prague there is the price level of reconstructed class B buildings lower by about 60% in comparison with the recently constructed class A buildings).

⁷ Municipalities are on the other hand forced to populate their office areas in accordance with public competitions, i.e. in comparison with real estate agencies offering office areas rental in buildings in private ownership their establishing of contractual relationships with the renters is much less flexible.

Conclusion

Real estate prices represent a significantly specific group of factors within the set of factors determining business environment quality. Hierarchical segmentation is a dominant feature of a spatial real estate market organisation and it reflects their economic advantages expressed by the income generated in a certain location. The above-described price analyses suggest that from the viewpoint of the separate regions there has been a positive development of an effective demand in case of building sites for industrial construction especially in Prague, Central Bohemian and South-Moravian regions and on the other hand there is a negative development in the Ústecký and Moravskoslezský regions (it is possible to say that in these regions there occurs an inhibition of general laws concerning the influence of the location income by means of a negative influence generated by the economic development). Leaving alone the absolutely dominant position of Prague, it is possible to evaluate the interaction of supply and demand in case of the office areas market in a similar way and the Královehradecký region can be added to the regions with the most positive development. After the Czech Republic will have entered the European Union it is likely that there will be a certain, general increase in demand in the real estate market in the Central-Bohemian, South Moravian, Plzeňský and South-Bohemian regions (in case of building sites for industry also the Liberecký and Vysočina/Highlands and in case of office areas the Karlovarský and Královehradecký regions will become members of this group).

References

- Netherlands Economic Institute: Positioning of regions in the Community. In: Cadmos – European scenarios on technological innovation and economic and social cohesion. Madrid 1991.
- SPĚVÁČEK, V. et al. (2002): Transformation of the Czech economy (political, economic and social relations). LINDE Praha
- VITURKA, M. et al. (1998): Investment appeal of selected cities in the Czech Republic. ESF MU Brno, 1998.
- www.czechinvest.cz
- www.pbj.cz
- www.reality.cz