

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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Diploma Thesis Abstract

Hedonic pricing of real estates affected by Václav Havel Airport Prague

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SUMMARY

The Diploma Thesis deals with the impact of noise influencing the price of real estates in vicinity of the main and the largest airport in the Czech Republic – Václav Havel Airport Prague. For this purpose the hedonic pricing method (HPM) was selected as the main research tool. The first part, so called the literature overview is based on the theoretical information about the method and its using. Also airport introduction and description as well as the problems connected with higher level of noise caused by the air traffic are described there. The main part is about the research by using HPM. This part is called the own contribution. At the end of the thesis the supplementary part is situated where all the supplements are attached.

Key words: hedonic pricing method, airport, traffic, air pollution, noise, properties, real estate market

INTRODUCTION

There are many factors affecting the quality of living and the real estate market at all. People usually make their final decisions according to these pros and cons. Therefore it is very important to know the real value of any real estate anybody is interested in and also know the reasons. The Václav Havel Airport Prague was chosen because of its scale and importance for the air transport in the Czech Republic. It is the largest airport with the heaviest air traffic in the country. Prague as the capital city is also the area with the highest demand for real estates and it is possible to find various and often very different prices of these houses, flats etc. There are very different opinions on a quality of living in the vicinity of the Václav Havel Airport Prague. The reason why the author decided to focus on this topic is because there are many factors affecting this opinion on quality of living that

should be taken into account. It is also not absolutely and clearly proven if there really is the significant impact of the airport, either negative or positive. The author of the thesis therefore focuses on the possible impact of the Václav Havel Airport Prague on the surrounded real estate market. Recognizing and setting the level of impact is also expected from the author's research. For the purpose of the research and results evaluation the hedonic pricing method (HPM) was selected as the most suitable.

AIMS AND METHODOLOGY

The main aim of the Diploma Thesis is to investigate the relation between the selling price of properties located in the vicinity of the Václav Havel Airport Prague and the significant level of noise caused by this airport. For these purposes the hypothesis was set by the author in the beginning of the thesis writing. According to this hypothesis the selling price of flats and houses located in the vicinity of the Václav Havel Airport Prague is negatively influenced by the higher level of noise in these locations.

Methodology

- Fundamental and important information about the Václav Havel Airport Prague as well as the real estate market in the Czech Republic is analysed in the first part
- Internal attributes of flats gathering and processing by MS Excel in cooperation with RE/MAX and Sreality.cz
- Environmental data (noise) gathering and processing by MS Excel
- Data analysis by MS Excel using the correlation method
- Results analysis by HPM to make the conclusion of the investigation

RESULTS AND CONCLUSION

HPM was applied in relation to the analysis of noise pollution. It has been proven that the enormous level of noise is a significant disturbing element which influences the quality of life. Václav Havel Airport Prague was chosen as the main source of disturbing noise. There are many other potential environmental threats and disturbing elements caused by this airport, but the noise was selected as the most important one. The author is therefore focusing on the impact of the enormous noise caused by the Václav Havel Airport Prague on the locations nearby the airport and he is comparing these areas with localities situated in the different parts of Prague or even outside the capital city, that are supposed not to be influenced by disturbing noise from the airport. In connection with the HPM principle the real estate market was chosen as the most suitable one for performing the analysis. Locations were divided into three zones, where zone A and B are supposed to be affected by the higher level of noise while zone C should not be affected. Also two types of properties were selected – flats for sale and houses for sale. Only the properties with very similar type and area were used. There are 30 properties in each zone, it means that in total 90 flats and 90 houses were examined. The level of noise was derived from the current noise chart of Prague and from the documents published by Letiště Praha a.s., the airport operator. Only the daytime data were used because of the objective results. After the data gathering and the transformation process was done, the internal attributes were examined by the author using the correlation analysis. In case of flats the most important internal attribute, influencing the price mostly is a size of flat (m²). In case of houses it is a status of the house, usually newly built houses are being sold for the highest price. When these factors were taken into account the analysis of environmental factor which is in this case the level of noise was done. The HPM had been applied to find the differences between the mean values and the real values of each property in every zone. After that the correlation analysis was done again, to confirm and prove the results. Because the main hypothesis was not

confirmed, it was therefore not relevant to apply the regression analysis, by which a suitable hedonic pricing function or the implicit price of noise can be set. It means that there was no dependence between the higher level of noise caused by the Václav Havel Airport Prague and examined location confirmed. There was no such relation found in case of both types of properties. There are several reasons why the hypothesis was not confirmed. Some of them are related to the limits of HPM. Another possible factor that may distort the results is the macroeconomic situation. Also the data of noise level in each location can be little bit inexactitude. On the other hand the whole research has discovered that the possible lower quality of environment caused by the airport noise is not reflected on the selling price of any examined property in the target area. It means that on the basis of analysis it is possible to mention that there is no people's willingness to pay for a better environmental quality proven.

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