Factors affecting the market value of residential real estate

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Introduction
Real estate can be legally defined as a piece of land and its components, whereby the piece of land is defined as a limited part of the earth’s surface.

From an investment theory perspective, however, the property is characterized by a four-dimensional form. The physical appearance (three-dimensional object) receives its monetary value by allowing for a certain usage over time (the fourth dimension). For commercial real estate the value of this usage can be directly quantified through the income of the real estate [1].

As shown in Figure 1, there are different perspectives for real estate development. In the perspective of usage, a distinction can be made between the object operation and the function operation.

While the functional operation generates the revenue of the object through its specific usage, the object operation as well as the construction of the object itself generate the costs of the object [2].

The market value and thus the revenue resulting from the functional operation represent the research subject of this work.

Fig. 1: Perspectives in real estate development [3].
State of research
The representative table of rents (Mietspiegel) for a certain area represents the local comparative rent and is created by the local authority. There is no legal obligation to develop a representative table of rents. Therefore not every area has a representative table of rents. The representative table of rents distinguishes between different housing characteristics, which are the basis for calculating the local comparative rent for a certain object.

However, there is no statutory procedure for the development of this rent table. According to § 558d BGB a representative table of rents must be developed according to the accepted scientific principles, without further specifying them. In practice the “table” and the “regression” model are the standards for a representative table of rent.

Due to the lack of regulations, the individual tables differ with respect to their type, the housing characteristics and the level of detail and are therefore not comparable.

There is no equivalent similar to the representative table of rents for the market value of residential real estate. In order to determine the market value the “ImmoWertV” specifies three methods. These standardized methods are the „Vergleichswertverfahren“, the „Ertragswertverfahren“ and the „Sachwertverfahren“. However, these valuation methods are also subject for criticism.

Research method
The factors influencing the market value and the revenue of residential real estate are the subject of the investigation and shall be quantified using a multivariate regression analysis. In addition to the object characteristics, its location shall be analysed as well. The multivariate regression explores the influence of several independent variables on a single dependent variable [4].

The data is based on a Germany-wide empirical data collection of online real estate advertisements.

Objective
Development of a model to directly predict the market value, as well as indirectly predict the market value through the prediction of rental revenue, based on the object’s characteristics and its location.

References
[1]: Zimmermann, Josef; Mauer, Christina; Schlachter, Maximilian: Bewertung von Immobilien unter Anwendung allgemeiner finanzmarktorientierter Verfahren. Teil I., In: Immobilienbewerter, Bundesanzeiger-Verlag. Ausgabe 12/2017