How to Estimate Market Prices of Dwellings When No Sales are Observed in The Reference Period

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Abstract

In cases where surveys of official statistics to measure market prices on housing markets deliver no statistical data because sales of dwellings are missing for a certain area during a reference period, the paper suggests and substantiates the solution to take as equivalent measure the loan values of of this housing market into consideration. Like hedonic methods this estimation provides an observable indicator, but in opposite to these methods it includs prices of a real market (and not of a fictitious one). The underlying analysis is based on a combined theoretical and empirical approach, the latter includes detailed observations of a legal procedure of a forced sale of a dwelling in Berlin/Germany between 1993 and 1995. In addition, the paper concludes that estimations of these (missing) prices based on expert opinions of banks should not be taken into consideration.

Keywords: official statistics, housing market, price indices, data imputing, hedonic methods

Approach

The economic analysis starts within the classical model of a single good market, which presumes the existence of the three specifications supply, demand, and price for a dwelling. And it concludes that this concept fails because of (at least) one missing specification in the case of *no sales*. Nevertheless, this consideration gives reason to observe markets of *forced sales* (of dwellings) which occur because of equivalent (missing) characteristics. Using this analogy between *markets without sales* and *markets with forced sales* the analysis turns to and continues with an empirical one, and it includes results of an detailed observation of the entire legal procedure of a special forced sale in Berlin in Germany during 1993/1995. Hence it derives a measuring concept to get an estimation of the market price of a dwelling in the case of *no sale*. Unfortunately, this concept suffers under the disadvantage that the statistical data which is available in this single case study will not be available in general, with good reasons because these data refer to insider information. Nevertheless, this measuring concept together with the observed statistical data (of this single case, only) gives reason for a second analogy. Using this second analogy an estimation for the market price of a dwelling *without sale* can be substantiated. This final estimation is an observable one and it does not make use of insider information, in addition.

Results

A housing market *without sales* in a special region and within an observed reference period may be treated as an *imbalanced oligopol* of bidders within a *forced sale* of a dwelling. The winner (purchaser) does not only pay the price of the bid award, but also bonus to different bidders. This bonus he pays of his (own) rent which is the difference between an estimated market value (of this dwelling) and the price of the bid award (of this dwelling). The purchaser's rent as well as the bonus to different bidders are result of a covered business between bidders during the oral procedure of this forced sale, hence a statistical estimation and validation of these rent and bonus is extremely difficult. The estimation of the (fictitious) *market price* of a dwelling *without sale* results when additional costs for creating a market and creating bidders, for the estimation of a market

price (under conditions of a sale) are drawn off of the latter one, and the costs for the winner of the forced sale to get a monopol position within the oligopol of the bidders are added to this latter one.

Fitting this measuring concept with available data from the forced sale of the dwelling with reference number K 112/93 of Amtsgericht Charlottenburg in Berlin, we get: The (fictitious) market price of this dwelling without sale is about 60% of the market price (under conditions of sale). The latter price is estimated by an independent expert during the legal procedure of this forced sale and is known to all bidders. The total costs for creating the market and attract bidders are estimated by the costs of the legal procedure including extras. These extras include costs of advocates, costs of public announcements during this procedure (of the day of forced sale etc.), costs of the estimation of a market price of this dwelling (under conditions of sale) estimated as costs of the public expert opinion (during this legal procedure). In addition, these total costs include the rent for the purchaser (that he buys) as well as the bonus for different bidders (that they refuse or stop bidding). The latter costs, usually insider information, can be included because of these payments are documented in this single case.

In order to validate this fraction of about 60%, there should be further empirical investigations, surely. But this fraction is (nearly) equal to the (different) fraction which banks take from the (real) market price of a dwelling to estimate its loan value. Usually, this loan value is asked for by a client with banks in order to finance a special object (dwelling) before a sale of this object (dwelling) when the (real) market price is known. In such a situation, there does not exist an estimation problem. And in the case of the same dwelling (of the forced sale in 1993/1995), the Berlin Bank provided a loan to the purchasers in 1974. Surprisingly, the empirical control of the still existing data (of 1974) shows nearly coincidence of both fractions (maximum likelihood principle ?).

Furthermore, there are good economic reasons for the equivalence of both fractions, and hence for the equivalence of the *market price of a dwelling without sale* and its *loan value*. Not only because of banks want to be sure that they make a business also in this case of a credit business when the payments of the clients stop and the banks refer to the object of security (this dewelling for instance), but also because this percentage of about 60% (for the loan fraction) may be impact of the long-term experience of banks. Therefore the final conclusion is: **The market price of a dwelling (without sale) may be estimated by the loan value of this dwelling**. This estimation, finally established with economic reasons, avoids extremely difficult statistical estimations of the fraction about 60% (via observations of forced sales). And there is an empirical base to measure the loan value of a dwelling, the object (dwelling) itself and special instructions how to create loan values.

It is surprising that a single case study comes up to this conclusion which is not taken into consideration by official statistics until now. Furthermore, the analysis concludes that estimations oriented at expert opinions of serious banks only, are not sufficient, and the attribute *serious* of the bank cannot be transferred to the estimation of the price of a dwelling. The latter because the estimation of banks are (usually) not untertaken without an interest (of this bank), and this interest influences the estimation itself, in both directions. Viewing neutrality, official statistics should better not refer to expert opinions of banks.