

Influences of the demographic change on the property market

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Key words: demographic and economic change, interim use, property market, real estate, reconstruction, reuse, urban strategy, valuation, vacancy

SUMMARY

The demographic change in Germany has a lot of characteristics and aspects; occasionally it affects the different property submarkets. Especially the supply-to-demand ratio is changing as a result of the overall declining population in Germany and also as a result of the change of composition of the population. Additionally, there is an increase in single- or two-person households, whereas the number of households with three or more members decreases.

Due to the resultant changed requirements of use, consumption, residential property and living environment, vacancies occur in the different submarkets of the property market as a consequence of oversupply. At the same time the residential buildings and retail buildings do generally not comply with today's standards. In many cases the buildings are not refurbished and equipped modern. Distressed properties are especially multi storey dwellings, residential buildings in high-frequency streets or residential buildings in rural areas.

This problem of vacancy can also affect the value of buildings; sometimes it can even affect adjacent buildings, and finally, can have negative effects on the entire residential quarter. In order to counteract this negative trend (downward spiral) there are several options for urban strategies.

In this article some of these strategies are analyzed with regard to valuation aspects. One possible urban strategy is the demolition of distressed properties and the option to use the area in a new way. Then there are three possible options: interim use, reuse or reconstruction. Another strategy is the adaptive reuse.

All in all the study furnishes proof that it is possible to counteract the problems of vacancy and the associated effects on the value market by means of adequate urban strategies taking into consideration demographic and economic aspects.

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1. INTRODUCTION

In the past years various scientific papers have been published about the demographic change in Germany, with the prediction of the overall declining population till 2025 (BBSR, BBR 2009: 41). Additionally the composition of population is changing: there is a change of the national structure as well as the structure of age distribution of the population. Therewith the population in Germany becomes less, older, multicolored (Birg 2005). There are also different developments at regional level: while the East of Germany is shrinking, the South and South-West parts of Germany increase (www.destatis.de).

The consequence of the demographic change is indicated in umpteen vacancies of residential buildings, retail buildings and commercial properties (Dransfeld 2007: 24). But there are also regional distinctions. This means, that with the change of the national structure and the structure of age distribution of the population the single- or two-person households increase whereas the number of households with three or more members decrease. Additionally the requirements of residential property, living environment and consumption are changing. These economic and demographic developments are indicated in various vacant properties or fallow land. The supply-to-demand ratio is changing. There is a supply surplus on the property market which influences the property prices.

With urban strategies it is attempted in Germany to counteract the urban decline of districts. Particularly these counteractions include the abatement of supply surplus, adaption of properties to requirements (e.g. reuse, adaptive reuse, conversion), activation of fallow land and space between buildings (e.g. interim use), scarcity of new building areas and deconstruction of distressed properties.

These possible strategies have to be applied more frequently and have to be analyzed with regard to valuation aspects. However challenges are the quantification of the values of interim use or the prediction of economic redevelopment of buildings. This article describes the consequences of the demographic change on the property markets in Germany.

2. IMPACTS OF VACANCY

The impacts of demographic change differ from region to region. While in growing regions residential property and consumption is increasing, numerous regions have problems with vacancies of different properties. Especially structural vacancy is problematical for the development of municipals or districts. Structural vacancy means that a property has durable unused space, which as a result of the market situation is not rentable (Simon; Reinhold; Simon 2006: 204). The supply of those properties outbalances the demand of the same one. The development of changed requirement of residential property, living environment and consumption caused by the economic and demographic change enforces the problem of vacancy.

Distressed properties are especially multi storey dwellings, residential buildings in high-frequency streets or residential buildings in rural areas. Particularly the properties do generally not comply with today's standards. In many cases the buildings are not refurbished and equipped modern (e.g. outdated bathrooms, no balcony, bad building fabric). The property market can be supplemented by adding the submarket "vacancy". After all the submarket can be sectioned in: residential buildings, retail buildings, office buildings, infrastructure facilities and outbuildings (Spannowsky, Hofmeister 2009).

Indicator of vacancy buildings, which interacts in different ways', could be merged as follows (Brauer 2008):

- a) macro- and micro-location,
- b) demographic development and change of requirements,
- c) social infrastructure,
- d) technical infrastructure and
- e) adequate supply.

If no adequate counteractive measures are taken vacancy it can even affect adjacent buildings, and finally it can have negative effects on the entire urban district. Finally the willingness to invest into the buildings of the property owner decreases. This leads to an urban decline of districts and perforation of the town. All in all this negative trend (downward spiral) affects land values as well as building values and influences the change of the local property market. Therefore it is an essential task to counteract this negative trend and to sustain the attractiveness of the urban district in a long run and hence to stabilize the property market. The urban strategies thus are to be analyzed with regard to valuation aspects.

3. URBAN STRATEGIES

Since a few years in Germany different strategies and aid programs are applied to counteract the urban decline of districts and the loss of functions. However, activities concerning „vacancy abatement“ have to be intensified. Possible existing strategies are particularly:

- a) scarcity of new building areas
- b) activation of fallow land, space between buildings and vacancies.

Finally the strategies can be divided into: aid programs, utilization concepts and mandatory instruments (cf. Illustration 1). The first strategy conduces to preserve and modernize the property by subsidy (aid program). But it is only an indirect strategy for the abolishment of vacancies. Direct strategies to remove vacancies are either focused on a short-run period (e.g. plantation of space between buildings, design of facades) or on long-run period (e.g. redevelopment, reuse, deconstruction). Additionally in Germany there exist mandatory instruments, which allow the municipality to prescribe the property owners to modernize or repair their property (BMVBS, BBSR, BBR 2009). But in practice it's difficult to realize these instruments. It is more effective to make agreements between the property owners and the government.

activation of fallow land, space between buildings and vacancies			
aid program	utilization concept		mandatory instruments
urban development promotion program	preservation	demolition	modernization order
promotion programs to return to use	interim use	interim use	reinstatement order
	conservation	conservation	deconstruction order
	redevelopment of buildings	new construction	

Illustration 1: possible strategies.

Due to the objective to decrease vacancies and to adapt the offer to the requirements of users in the different property submarkets, there arise two basic strategies: either to preserve the properties or to demolish them. If so it is necessary to make an economic feasibility study (cf. Illustration 2). Within the scope of valuation it is furthermore possible to compare how modernization, reinstatement, interim use, conservation or redevelopment affect land values as well as building values. In addition a comparison between these possible strategies and the actual situation (vacant property) is made. According to regional circumstances it's to choose between the different strategies. By means of valuation the property owner can decide which strategy is the most efficient and most sustainable one for him. E.g. it could be more efficient to demolish a property than to preserve and to modernize the same one. This depends on the circumstances of each case.

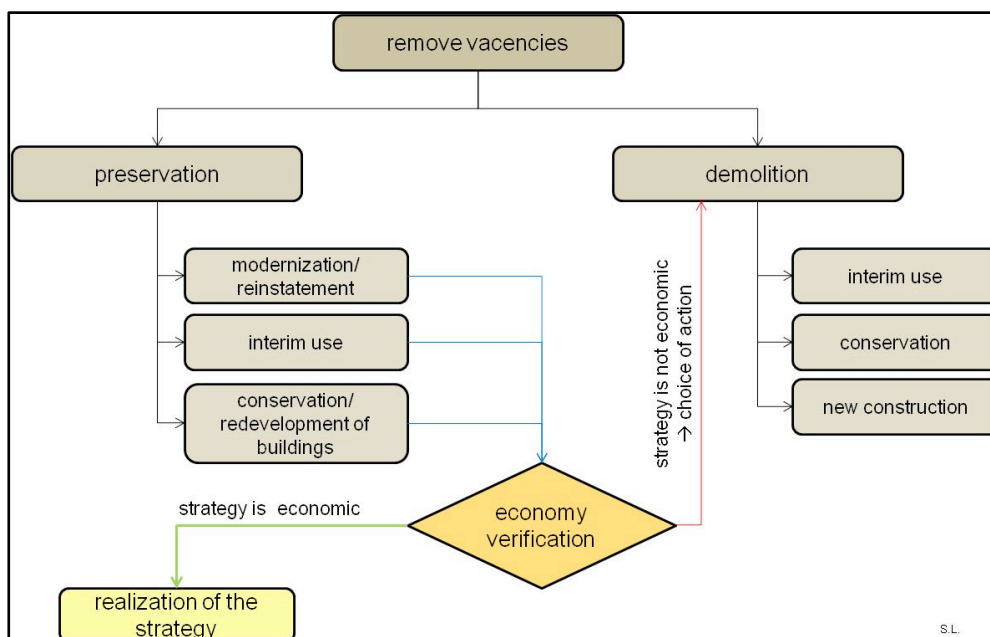


Illustration 2: economic verification of possible strategies.

In the following particularly the strategies interim use and redevelopment of vacant buildings as possible strategies are described.

3.1 Interim use

The interim use is a temporary form of utilization and designing of fallow land or vacant buildings, without property transfer and change in planning law. Additionally it's all the time possible to reuse the land or the building as previously. By then the interim use attenuates the urban deficit and is a reasonable strategy to obtain new attractiveness and qualities in the quarter (BBR 2004: 4). Theoretically it would be possible to use the area optimally because of the planning law, but in practice it seems, due to economic aspects, that there is no demand for using the area completely according to the planning law. The period of interim use is contracted between the owner and the user or occupant. So the interim use can be arranged for only a few months, but also for several years. This depends also on economic aspects. Even if it's not possible to receive high rent in favor of the fallow or building, the costs of ownership can be reduced.

Examples (cf. Illustration 3) in favor interim use are art exhibitions, jumble sales, plantation of space between buildings, design of facade or beach bars (BBR 2004).



Illustration 3: Examples of interim use.

In order to decide whether the interim use is an economic strategy for the property owner or not, it's necessary to ascertain the fair market value of interim use. Thereby the following value-influencing parameter to be considered (Dransfeld 2007): allowable extent of development, applicable and futurity planning law, reconstruction and planning costs as well as vacancy and collection loss.

A possible approach to appraise the fair market value of interim use is the following formula (Dransfeld 2009: 31):

$$N_z = N_n + N_z - N_n \cdot (1 + r)^t$$

Therein contained is the value of interim use (N_z), the difference of values between the future use (N_n) (according to the planning law) and interim use (N_z), discounted by the continuance of interim use (the second term).

The challenge is to appraise the value of interim use, to appraise the duration as well as to appraise the future use according to the planning law. So it's easy to follow, that the fair market value of the property depreciates subject to the period it is not use according to the planning law (cf. Illustration 4). Additionally the fair market value for interim use will always be lower than the fair market value for a future use according to the planning law.

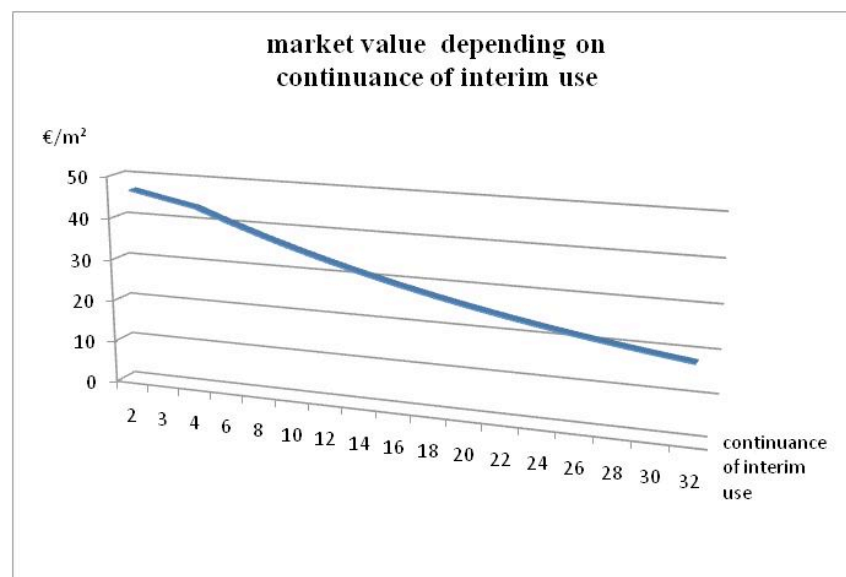


Illustration 4: market values of interim use depends on continuance.

However, it is assumed that the interim use of property causes positive effects, whereas it would be possible to achieve higher land values by a maximum utilization according to the planning law. But with these positive effects it's possible to obtain new attractiveness and qualities in the quarter and therewith to stabilize the property market.

3.2 Adaptive reuse

The Adaptive reuse as a strategy means to adapt the same object for new use, taking into consideration possible modernizations or replacements. Particularly the planning law is to be observed. The aim of adaptive reuse is the adaption of existing building stocks to the requirements of tenants. Thus it's necessary to analyze the requirements of every concrete location and to compare possible variables with regard to general economic aspects such as efficient and marketability. The valuation (e.g. income approach) is finally used in concrete cases, to ascertain the yield of the object. According to the German Valuation Ordinance: the adaptive

reuse has to be foreseeable and verifiable. The challenge is to predict the efficient and sustainable adaptive reuse of several properties in different locations. Non-provable predictions are contradictory to the German Valuation Ordinance.

Adaptive reuse of the objects according to demand and vacancy reduction takes into consideration the demographic development. These aspects have to be considered in the process of valuation.

But there is still the question how and where vacancies and adaptive reuses and other parameters have to be considered in the standardized valuation method. According to German law object-specific features are determined after the adjustment of the market. Here eventual constructional defects and structural damages, but also differences between sustainably profitable earnings and deviating earnings can be taken into account. The vacancies can be subsumed to the deviating earnings. Thereby it is to differentiate between temporary vacancies and structural vacancies. Here the structural vacancies are especially interesting, because they are the basis for the deriving an adaptive reuse. In order to identify possible adaptive reuses first of all scenario planning can be applied (cf. Illustration 5). This is a method originating from economic science which bases on the analysis of possible future developments (Scholles 2008). Extreme situations (best case and bad case) are examined. For this purpose a data base is necessary, e.g. information from the vacancy cadastre and the real estate market report. Possible future utilization alternatives are expected to dispose of "sufficient certainty due to ascertained facts" (ImmoWertV). Subsequently the income approach is applied for selected adaptive reuse scenarios. Finally the results of "vacancy valuation" can be compared with the results of "adaptive reuse valuation". In this way the efficiency of adaptive reuse can be verified.

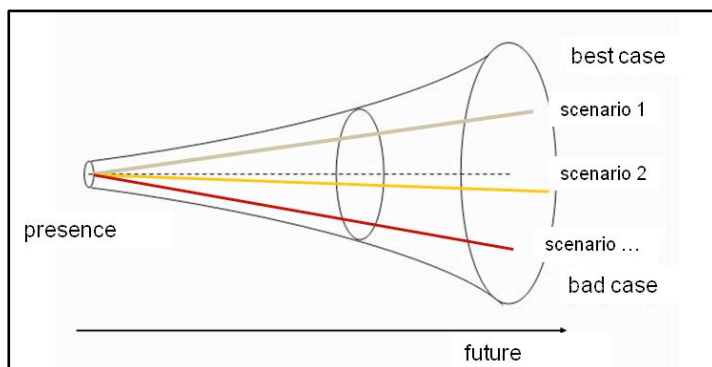


Illustration 5: scenario planning

For the appraisal of potential adaptive reuses the following parameters are to be considered in the valuation method: demographic development, changed requirements of users (lessee), fiscal incentives, urban subsidies, type of previous use, change of building laws (MSWV 2009: 53), possible inherited pollution burden, condition of a property, costs alteration measures as well as energetic requirements.

Actual adaptive reuse trends in Germany of old factory buildings are apartments, cafés or offices (cf. Illustration 6). However, alteration measures and fire-protection, energetic requirements, planning costs as well as the other aspects can cause considerable costs, which must

be taken into account. In any case, advantages are the existing infrastructure, the positive effect for the development of the district and the preservation of the townscape.



Illustration 6: E.g. for redevelopment of buildings.

3.3 Intermediate conclusion

In this context it is the task of the valuation to record the valuation influence of urban strategies on land values as well as building values in order to determine the most efficient alternative of interim use or adaptive reuse to reduce vacancies.

Challenges are to estimate the value of interim use, the appraisal of duration as well as the appraisal of future usages according to the planning law. Both parameters have a considerable influence on the fair market value.

Concerning the valuation of vacant properties respectively the valuations of adaption reuses challenges are the partly insufficient market information as well as the appraisal of adaption reuse (Reuter 2009: 4). In conclusion adaption reuses have to be estimable with sufficient certainty due to ascertained facts. This means that future developments must not be based on simple predictions, but have to be comprehensible and provable. On the basis of this demand for new ordinances for valuation the valuation methods have to be further analyzed with regard to the valuation of adaptive reuses.

4. CONCLUDING REMARKS

It must be analyzed in detail which of mentioned strategies is the most efficient and most sustainable one. Especially two strategies have been presented: the interim use and the adaptive reuse.

Regarding interim use it's not possible to achieve higher land values by a maximum utilization according to the planning law, but it's possible to obtain new attractiveness and qualities in the district and therewith to stabilize the property market. Moreover, in general it cannot be negated that interim use cause rising property values.

The challenge is to appraise the value of interim use, to appraise the duration as well as to appraise the future usages according to the planning law. Thus alternative investigations are necessary.

Adaptive reuse is a long-run strategy. On the basis of an analysis of needs and valuation the most efficient and most sustainable adaptive reuse is determined. Thereby the prediction of future usages has to be traceable and verifiable. The appliance of scenarios is helpful for determining future trends. However, the challenge is to appraise the efficient and long-run redevelopment of buildings and the integration of these aspects in German valuation methods.

All in all the study furnishes proof that it is possible to counteract the problems of vacancy and the associated effects on the value market by means of adequate urban strategies taking into consideration demographic and economic aspects.

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BIOGRAPHICAL NOTES

Verm.-Ass. Dipl.-Ing. Silja Lockemann graduated in Surveying at the Rheinische Friedrich-Wilhelms-Universität Bonn (Germany). After that she made her assessor in geodesy at the administrative district Düsseldorf in North Rhine-Westphalia. Since April 2009 she has been working as a scientific assistant with Professor Dr.-Ing. H. J. Linke at the Institute of Geodesy, Department for Landmanagement, TU-Darmstadt. Her main research field focuses on real estates.

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