# Report on the Real Estate Market Germany 2009 

Numbers, Data, Facts
from the Boards of Expert Valuers
in the Federal Republic of Germany


Arbeitskreis der Gutachterausschüsse und Oberen Gutachterausschüsse in der Bundesrepublik Deutschland

# Report on the Real Estate Market 

## Germany

## 2009

Numbers, Data, Facts

from the Boards of Expert Valuers
in the Federal Republic of Germany
for the Reporting Period 01.01.2007-31.12.2008

Prepared in cooperation with the boards of expert valuers and the state boards of expert valuers in the Federal Republic of Germany

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## Foreword



A transparent real estate market has by now become a vital location factor. With the increase in the number of international investors in the recent years, demand for updated, marketrelevant data is growing. From the international perspective, the German real estate market is often considered to be lacking in transparency. Yet there is no dearth of data on the German real estate market. We have an institution that is unique worldwide, namely the Gutachterausschüsse für Grundstückswerte (boards of expert valuers for land values), whose main task is to manage the collection of purchase price information. This comprises information on all land purchase contracts.

However, the boards of expert valuers, by virtue of our federal structure, have developed quite differently nationwide. This affects the comparability of data on the real estate market and also its availability in many regions. On the initiative of the working group of the chairmen of the state boards of expert valuers, representatives of the boards of expert valuers of all states have come together for voluntary cooperation. For the first time, existing information has become the subject matter of a very informative and nationwide analysis.

An important first step towards harmonising the analysis of purchase price collections of the boards of expert valuers and making their results comparable, has thus been initiated.

Nevertheless, this initial work does contain "white patches", for which no useful data is available.

However, I am confident that this will soon change. Starting on 01.07. 2009 all states are legally obliged to establish state boards of expert valuers or central offices. Their main task is to prepare supraregional evaluations and analyses of the real estate market situation. The second edition of the report on the German real estate market can thus resort to a still broader base in the future.

This report is the outcome of the voluntary cooperation of the representatives of the boards of expert valuers of all federal states, for which I would sincerely like to thank all the participants. I hope that in the future the real estate market report establishes itself as an important source of information for the real estate industry as well as the general public.

Dr. Peter Ramsauer

## beta Camenae

Federal minister for traffic, building and urban development

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## Federal State

Niedersachsen
Bremen
Baden-Württemberg
Niedersachsen
Thüringen
Nordrhein-Westfalen
Hamburg
Bayern
Niedersachsen
Sachsen
Niedersachsen
Brandenburg
Mecklenburg-Vorpommern
Berlin
Nordrhein-Westfalen
Schleswig-Holstein
Saarland
Rheinland-Pfalz
Bayern
Hessen
Sachsen-Anhalt

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## Did you know that ...

... there are 1,380 boards of expert valuers in Germany, of that approx. 1,000 in the federal state of Baden-Württemberg alone?
... the most expensive building plot in the Kaufingerstraße in München comes with a price tag of approx. $€ 50,000$ per square metre?
... with $€ 5$ per square metre, the cheapest building land in Germany can be purchased in the administrative district Uecker-Randow?
... real estate comprising an area of $4,600 \mathrm{~km}^{2}$ is sold per year in Germany - this corresponds to almost twice the area of the federal state Saarland?
... the most expensive apartments in Hamburg are traded at more than $€ 10,000$ per square metre?
... you can buy agricultural land in the administrative district Uecker-Randow for 11 Cent per square metre?
... building plots on the North Sea island of Sylt are traded at $€ 3,500$ per square metre?
... a building plot for single- and two-family homes has an average size of 400 square metres in Frankfurt (Main) and 1,200 square metres in the federal state Brandenburg?
... the total real estate value in Germany amounts to approx. 9 trillion $€$ ?
... that 215,000 freehold apartments were sold in Germany in $2008 ?$


## 1 Objective

## Objective

As the second largest industry in Germany (approx. 400 billion $€$ annual turnover), the real estate market has great economic significance. It also includes companies engaged in planning, construction, finance and property management.

All these companies need basic market information for their work.

The German real estate market is a stabilising factor for the entire economy and has a special significance owing to the current general conditions and its anchoring of people to their "own soil". $52 \%$ of the German population lives in their own homes and has a strong bond with their property.

Nationwide market transparency is a basic requirement of the people, the policy advisors, the administration and the companies operating in the real estate market.

Demands currently imposed for real estate market transparency are varied. The basic requirements not only include information about market functions and their effects on general conditions but also the provision of orientation aid to market participants. Information pertaining to indicative land values, indicative real property values or average prices should be available to property owners, buyers, property developers, credit institutions or local and state authorities.

Additionally, market transparency is used for current market valuation reports, rent tables and increasingly for web-based real estate valuations. Ideally, all data should be comprehensive, up-todate, reliable, standardised and cost-effective.

With the introduction of the 1960 Federal Building Act, the legislature has entrusted to the state boards of expert valuers amongothers the task of bringing transparency to the real estate market. For this reason, copies of all purchase agreements related to real estate are sent by the notary to the state boards of expert valuers. Since the amendment of the building regulations in 1986 and their summarisation in the Building Code (BauGB), the relevant provisions can be found in articles s. 192 to s. 199 of the BauGB. By dint of s .195 BauGB, every authority registering transfer of ownership of a property is obliged to send a copy of the documentation to the pertinent board of expert valuers. The resulting collection of information on purchasing prices forms the basis for all valuations of the boards of expert valuers. Moreover, puchase price
collection is also available to eligible interested parties. Data protection requirements are met by a corresponding anonymisation of the case data on purchases.

In accordance with the requirements of BauGB, comprehensive and uniform nationwide information pertaining to the real estate market must be made available to interested users. In particular, a clear, concise and understandable picture of the real estate market suitable to the requirements of valuation and the users should be provided to market participants and interested parties.

Particular attention is paid to the publishing and release of uniformly conceived and contextually agreeing real estate market information, which is presently provided by the regional reports on real estate markets prepared by the individual state boards of expert valuers and also by individual reports on the rural real estate market by the top boards of expert valuers.

The Report on the German Real Estate Market is a step towards improving nationwide market transparency. For this purpose, state data is aggregated for for nationwide statements on the real estate market. The Report on the German Real Estate Market with its versatile analysis should provide the real estate industry with an answer to economic questions for future decisions. Primarily, the developments in the years 2007 and 2008 are analysed. Provided they are meaningful, long-term trends are also considered. This data facilitates a statement on the general development for average, markettypical objects.

High market transparency is an important location factor for investments, which, in the past few years has contributed towards the increasing importance of Germany as a target market for domestic as well as international investors. Globalisation and a willingness to invest are not restricted by the national borders; on the contrary, boundaries are often defined by the lack of market transparency. Data on real estate markets must facilitate nationwide comparisons of locations, reinforcing the necessity of nationwide analyses. Target groups for the current report are policy advisors (as a basis for housing and economic decisions), public administration, the real estate industry, banks and international and domestic players in the real estate market.

The Report on German Real Estate is published by the chairman of the top board of expert valuers in Germany, the chairmen of the boards of expert
valuers of Berlin, Bremen and Hamburg, the heads of the central offices of the boards of expert valuers in Hessen and Saarland and other concerned federal state boards. The publishing cycle is biannual in spring and/or early summer.

## 2 Federal Republic of Germany

### 2.1 General Information

Real estate markets are affected by various regional factors. Geography, traffic infrastructure, land use, population density, demographic development and economic potential are all factors that affect the real estate market situation and thus have a noticeable impact on its value.

It is generally not just one of these influence dimensions that is decisive, but the interaction and the interdependence of the various factors.

III. 2-1: Federal States of the Federal Republic of Germany (Administrative Boundaries)

## 2．1．1 Establishment and structure

The Federal Republic of Germany was established on 23rd May 1949．The federal capital is Berlin．According to its constitution， the Federal Republic considers itself a social， constitutional，and federal democracy．It is a founding member of the European Union and has，with more than 82 million people，the highest population within the union．Germany is also a member of the United Nations，the OECD （Organisation for Economic Co－operation and Development），NATO（North Atlantic Treaty Organization），OSCE（Organization for Security
and Co－operation in Europe）and the G8（Group of Eight）．After the United States，Japan and the Peoples＇Republic of China，Germany is the fourth largest national economy in terms of gross domestic product．

The Federal Republic of Germany as a federation comprises 16 federal states（III．2－1 and Tab．2－1）． The federal states，in turn，are structured in regional administrative areas．

| Code of Arms | Federal State | Area ［km²］ | Population ［Mio．］ | Population Density ［P／km²］ | Administra－ tive district／ independ－ ent cities | Capital |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Baden－Würtemberg | 35.751 | 10.75 | 301 | 44 | Stuttgart |
| BH | Bayern | 70，552 | 12.52 | 177 | 96 | München |
| （1） | Berlin | 891 | 3.42 | 3，834 | 1 | － |
| 茅䊾 | Brandenburg | 29，480 | 2.54 | 86 | 18 | Potsdam |
| 橎 | Bremen | 404 | 0.66 | 1，640 | 2 | － |
| （1） | Hamburg | 755 | 1.77 | 2，344 | 1 | － |
| 运 | Hessen | 21，115 | 6.07 | 288 | 26 | Wiesbaden |
| （2）3 | Mecklenburg－ Vorpommern | 23，185 | 1.68 | 72 | 18 | Schwerin |
| 2 | Niedersachsen | 47，625 | 7.97 | 167 | 46 | Hannover |
| （3） | Nordrhein－Westfalen | 34，086 | 18.00 | 528 | 54 | Düsseldorf |
| 18 | Rheinland－Pfalz | 19，854 | 4.05 | 204 | 36 | Mainz |
| （\％） | Saarland | 2，569 | 1.04 | 404 | 6 | Saarbrücken |
| \％ | Sachsen | 18，419 | 4.22 | 229 | 13 | Dresden |
| 年 | Sachsen－Anhalt | 20，447 | 2.41 | 118 | 14 | Magdeburg |
|  | Schleswig－Holstein | 15，799 | 2.84 | 180 | 15 | Kiel |
|  | Thüringen | 16，172 | 2.29 | 142 | 23 | Erfurt |
|  | Federal Republic of Germany | 357，104 | 82.23 | 230 | 413 | Berlin |

### 2.1.2 Geography and climate

Germany is situated in the centre of Europe. The country has nine neighbouring countries and is therefore the country with most European neighbours.

Germany has a 67 km border with Denmark in the north, a border with Poland ( 442 km ) in the northeast, with the Czech Republic ( 811 km ) in the east, with Austria $(815 \mathrm{~km})$ in the southeast, with Switzerland $(316 \mathrm{~km})$ in the south, with France ( 448 km ) in the southwest, with Luxembourg ( 135 km ) and Belgium ( 156 km ) in the west and with the Netherlands $(567 \mathrm{~km}$ ) in the northwest. The total length of the borders to neighbouring countries amounts to $3,757 \mathrm{~km}$.

Germany is characterized in terms of natural spaces by the Northern German lowlands, the central low mountain ranges and the foothills of the Alps with the Alps. The highest point is the Zugspitze summit at $2,962 \mathrm{~m}$ above sea level. The lowest accessible German land point is at 3.54 m below sea level in a depression near the parish of Neuendorf-Sachsenbande in the Wilstermarsch region of the state of Schleswig-Holstein.

The climate in Germany is determined by its location within the moderate zone, which is marked by frequent weather changes. Predominantly western winds and precipitation at all times of the year are typical.


### 2.2 Structural data

### 2.2.1 Population

The Federal Republic of Germany currently has a population of approx. 82 million people living within an area of approx. $357,000 \mathrm{~km}^{2}$. This corresponds to a population density of 230 per $\mathrm{km}^{2}$, which makes Germany one of the most densely populated territorial states in the world. The comparative figure for the European Union is $116 / \mathrm{km}^{2}$. Approx. 75 million people ( $91 \%$ ) are German citizens. Approx. 7 million of these citizens are from immigrant families.

The population figures have developed quite differently in West and East Germany since 1950 (III. 2-2). In the former "West Germany", population increased from 51 million to 62.1 million between 1950 and 1973. During that same period, it decreased from 18.4 million to 17 million in the former German Democratic Republic (GDR). The population figure subsequently stabilized at

61 and 62 million in the West and between 16 and 17 million in the East. Since November 1990, it began to increase again in the West and to decline in the East.

In 2009, the Bundesinstitut für Bau-, Stadtund Raumforschung (BBSR) (Federal Institute for Research on Building, Urban Affairs and Spatial Development) published projections on the population changes between 2005 and 2025 (III.2-3). It is obvious that the migration rate in East Germany is increasing and that the population is growing in areas around Berlin and München.

The population age structure indicates the development of the ratio between younger and older generations. Already today, the Federal Republic of Germany - as most other industrialized nations - is characterized by a relatively low number of younger people. Life

III. 2-2: Population development in Germany since 1950

III. 2-3: Future population dynamics from 2005 to 2025
expectancy is increasing which causes the age structure to shift towards older people (III. 2-4). There already are more 65 -year-old people living in Germany than those age 15 and younger. (III.2-5). This demographic change is mainly
affecting Germany's economic competitiveness and the future of the social insurance systems.

The birth rate development, but also the development of marriages and divorces, reflects

III. 2-4: Age structure development in the Federal Republic of Germany since 1950

III. 2-5: Age structure in Germany 2005 and 2030
a society's attitude towards family and children. Lower birth rates and a decline in the willingness to get married have a further effect on the size of households which has already been shrinking in Germany for a number of years now. There are hardly any households with more than five persons. The number of single-person households is increasing, particularly in larger cities.

In 2006, Germany had 39.8 million households with an approx. total of 82.6 million household members. The number of private households has thus grown by $13 \%$ since April 1991, the number of household members by $3 \%$. However, the size of the average household was in decline: In 2006, an average of 2.08 persons were living in a household (III.2-6), in April 1991 this figure was 2.27 persons.

All current forecasts anticipate an aging population. Thus, a trend towards smaller, senior citizen households appears to be predetermined. Together with the trend towards more single
households - this especially in the bigger cities - the process of household downsizing is thus fostered. It is expected that the household size will continue to decline further and that there will be an average of less than 2.00 persons per household by 2025. The number of households will therefore continue to grow. This process will, however, be limited by the anticipated population decline in Germany. But the development will not be consistent throughout Germany; eastern Germany will be more affected by this development than the other areas of the country.

The new housing construction has clearly lost its significance as an indicator for the demand for residential space. It was replaced by measures within the existing housing stock, such as redevelopment and modernization. In the future, the housing demand will experience a very differentiated development as a result of the interaction of demographic and economic developments, qualitative demand changes and the level of adaptation within the existing housing stock.

III. 2-6: Private households by household size

### 2.2.2 Traffic

In a modern industrial and service economy such as Germany, the traffic sector is of crucial importance. There is a very close correlation between traffic on the one hand, and the economy and society on the other. Traffic facilitates the national and international division of labour, tourism and leisure activities. But traffic is also a burden: for example in terms of accidents, noise and air pollution. An efficient traffic infrastructure is an important location factor.

Germany has a public railroad network of approx. $41,500 \mathrm{~km}$. Approx. $48 \%$ of that was electrified (end of 2003).

The non-local road network (motorways, federal, state and district roads) is approx. $231,000 \mathrm{~km}$ in length; motorways account for approx. $5 \%$ of that. Germany thus has, after the USA, one of the longest motorway networks in the world and the longest one within Europe.

### 2.2.3 Labour market

The number of persons employed and whether a person has a job or has left the employment cycle is very important within German society. The effects on securing the livelihood of the individual, the classification of the individual within the social fabric and on economic growth and social services is unmistakably significant.

2007 was marked by an economic upturn and a recovery of the German labour market. The real gross domestic product increased by $2.5 \%$. The upturn was carried by both, foreign as well as domestic demand. 2008 was still benefitting from the good economic conditions of the previous years. The real gross domestic product increased by $1 \%$ on average but declined over the course of the year. The annual average shows a clear increase in employment, even though the first signs of a slowdown could be observed towards the end of the year.

The official figures of registered unemployed persons that are collected and published by the Federal Employment Agency (Bundesagentur für Arbeit) are an important indicator for the degree of employment. The unemployment rate was $9 \%$ in 2007 and $7.8 \%$ in 2008 (III. 2-7).

III. 2-7: Unemployment rate in Germany

### 2.2.4 Farming and forestry

Germany is one of the largest agricultural producers in the European Union. More than half of the country's area, almost $190,000 \mathrm{~km}^{2}$, is used for agricultural purposes. Nearly one out of every ten gainfully employed persons in Germany works in a sector that is directly or indirectly related to farming, forestry and fishery. Agricultural production is, despite its low share of approx. $1 \%$ in the economic overall performance, of great importance in securing an adequate food supply for the population at reasonable prices. It is thus possible to satisfy $80 \%$ of the food demand from domestic production. The farming and forestry sectors also provide services that are not considered in economic calculations. These include, for example, preserving and maintaining the land that was developed and cultivated by man and the safeguarding of natural habitats; this affects society's quality of life to a high degree.

Approx. $30 \%$ of the German surface area is covered by forests. Forests provide the important supply of the environmentally friendly resource timber, they improve ground, air, water and climate, are important habitats for diverse plant and animal life and finally serve as valued recreational and relaxation spaces.


### 2.3 Economic indicators

### 2.3.1 Public finances

Financial statistical data provides the basis for important financial, economic and monetary policy decisions. Accordingly, the share of public expenditure in the gross domestic product amounts to approx. $42 \%$. Important target figures for the European stability pact include the limits for the national deficit ( $3 \%$ ) and public debt $(60 \%)$, measured in respect of the gross domestic product.

Since the 1950's, public expenditure largely exceeded the income such that government budgets had, with the exception of a few years, budget deficits. Public debt has almost tripled since the German reunification.

The public debt of the overall government budget on 31st December 2008 was, at $€ 1,517.6$ billion, $1 \%$ higher than that it was at the end of 2007.

### 2.3.2 Foreign Trade

The German economy is, to a large degree, export-oriented and therefore also depends on exports. Germany, as a country that is lacking raw materials, is, however, at the same time also dependent on imports - in particular within the energy sector. In 2008, Germany exported goods amounting approx. $€ 994.9$ billion and had imports amounting to approx. € 818.6 billion. Both exports and imports were higher than ever before that year. The foreign trade balance reached a surplus of $€ 176.3$ billion.

### 2.3.3 Consumer Price Index

The consumer price index captures the average price development of all goods and services that are purchased by private households for consumption purposes, such as food, clothing, rents but also motor vehicles and services such as hairdressers or repairs ("shopping basket").

The consumer price index provides an overall picture of price increases in Germany and is therefore an important indicator for the evaluation of monetary development in Germany (III. 2-8).

III. 2-8: Consumer Price Index

### 2.3.4 Services

Technical progress and the increase of work productivity in the economy of an industrialized nation is accompanied by far-reaching structural changes. The service industry, also referred to as "tertiary sector", has been gaining more and more significance over the past decades. As a result, the number of people employed in the sector has continually grown recent years. In contrast, the significance of traditional sectors such as farming and forestry and the manufacturing trade has declined.

While approx. $45 \%$ of the 26.6 million gainfully employed persons in the former West Germany worked in the service industry in 1970, this figure had risen to more than $72 \%$ in 2006. During the same period, the percentage of employees in the manufacturing trade declined by 21 percentage points from $46.5 \%$ to $25.5 \%$.

There were also changes within the service industry itself. While the focus used to be on trade and hospitality, it is now on B2B services.

Completely new service sectors have emerged. Information and communication technologies play a key role today. Advisory services as they are provided by legal, tax and management consultancies are, for example, indispensable in a functioning market economy.

### 2.3.5 Tourism

Tourism is an important industry that experienced strong growth during the past decades. It is one of the future industries with good growth expectations.

As a cross-section industry incorporating various industries, tourism in Germany in 2008 had an aggregate production value of $€ 185$ billion and an added value of $€ 94$ billion. The industry therefore accounted for approx. $8 \%$ of the gross domestic product (GDP). This is primarily achieved by small and medium-sized businesses, for example in the approx. 53,000 establishments within the accommodation industry; it currently provides employment for 2.8 million people.

With a total of approx. 370 million overnight stays and an increase of $2.1 \%$ over the previous year, the domestic accommodation industry had achieved an increase in sales at the end of 2008 (III. 2-9). The number of overnight stays by Germans within their own country increased by $2 \%$ to more than 313 million, that of foreign visitors by even $3 \%$ to more than 56 million.

Major destinations for domestic tourism are mainly the North and Baltic Sea regions and the Alps in Bayern and Baden-Württemberg. More than one out of every five domestic holiday travellers (22.9\%) in 2008 spent time in Bayern, followed by the Baltic Sea ( $20.1 \%$ ) and the North Sea coast and its islands (14.8\%). Approx. $7.7 \%$ went to Lake Constance and the Black Forest.

III. 2-9: Number of overnight stays 2008 (in millions)


### 2.4 Building and living


III. 2-11: Planning permissions for building constructions (new developments and redevelopments)

III. 2-12: Planning permissions for the construction of new residential and non-residential buildings
is mainly attributed to the positive development in non-residential construction. In this sector, the volume increased by almost $16 \%$ to $€ 32.3$ billion and therefore accounted for approx. $55 \%$ of the total turnover. By comparison, the construction of residential buildings was in decline and fell by $1.5 \%$ to $€ 26.7$ billion. One particularly noticeable factor in this development was the expiration of a state subsidy in 2006 that was available to people
for buying a home. This caused a significant drop. A new home owner pension subsidy ("WohnRiester") that was introduced in 2008 appears to be too low to compensate for the discontinuation of the previous subsidy, and therefore to provide residential construction with a sustainable stimulus.

In parallel with the permissions for new residential buildings, the number of approved apartments in new residential buildings also declined; compared to 2007 , it fell by $5.8 \%$ (III.2-13). In this respect, the drop in planning permissions for dwellings in detached and two-family homes ( $-6,8 \%$ ) was larger than that for apartments in multiple dwelling units. During the same period, the total approved residential area dropped by approx. $5.3 \%$ (III. 2-14).

III. 2-13: Approved apartments in new residential buildings (excluding hostels/residential homes etc.)


[^0]
### 2.4.2 Construction Cost Index

In the construction industry, construction cost indices reflect the development of prices for new construction and the maintenance of buildings. The following development can be observed in relation to the conventional development of new houses in the residential construction sector (III. 2-15):

III. 2-15: Development of the construction cost index of residential buildings

### 2.4.3 Urban and regional development characteristics

The Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) im Bundesamt für Bauwesen und Raumordnung (BBR) (Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) within the Federal Office for Building and Regional Planning (BBR)) classified in its spatial development report Raumordnungsbericht 2010 the spatial structures in Germany according to various criteria. One of these classification categories is the distinction by actual development patterns in accordance with urban and regional development characteristics:

- rural
- partially urban
- predominantly urban.

The BBSR categorized all 413 administrative districts and independent cities in Germany according to these characteristics; the overall result is shown in the illustration III. 2-16 below.

III. 2-16: Urban and regional development characteristics of administrative districts and independent cities in Germany

This classification will be used on several occasions throughout the following chapters for analysis purposes in order to examine potential
effects of urban and regional development characteristics on the pricing of developed and undeveloped land.

## 3 Land Market in Germany



### 3.1 Data collection

### 3.1.1 Purchase price collections

The basis of any analysis in the course of official evaluation of the real estate market in Germany is purchase price collection, i.e. the German digital property transactions inventory (Kaufpreissammlung). There have been ongoing periodic collections of real estate purchase prices in Germany since the middle of the 19th century. Initially they primarily served for taxation purposes and were kept either by the revenue offices or the land registries.

It was only with the passing of the federal building code Bundesbaugesetz in 1960 that the collection of purchase price information became one of the tasks of the newly established boards of expert valuers. After the removal of price maintenance in real estate transactions, the legislators intended, by establishing boards of expert valuers and purchase price collections, to create an instrument for the generation of market transparency. The structure and organisation of the boards of expert valuers in Germany are explained in see Chapter 6.1. Addresses and contact details can be found in see Chapter 7 of this report.

The current building code (BauGB) obliges, under s. 195 BauGB, the certifying body to submit a copy of all contracts by which a party undertakes in exchange for payment to transfer an interest in land or to create a hereditary building right (Erbbaurecht) to the responsible boards of expert valuers for inclusion in the purchase price collection. The purchase price collection thus provides an accurate reflection of the real estate market situation.

Purchase price collections are databases in which purchase contracts are recorded to the extent necessary; this includes the essential contractual data, identification codes and the characteristics determining price and value.

This information from the purchase contract is supplemented by information on general development plans and in the land survey register, as well as notifications from municipalities on the collection of recoupment charges for local public infrastructure. Other property data, that cannot be directly derived from purchase contracts, is obtained by the boards of expert valuers by sending questionnaires to the owners.

The purchase price collection therefore provides the boards of expert valuers with an extensive data collection, which enables them by way of suitable analysis methods to draw conclusions on the influence of certain property characteristics on the purchase price.

Within the purchase price collections, the purchases are first of all sorted by real estate type, such as developed or undeveloped spaces, freehold flats, agricultural spaces etc. Further distinctions, in case of developed land by singleand two-family houses, terraced houses/semidetached houses or apartment blocks for example, ensure that it is possible to subsequently carry out specific evaluations of the purchase contracts by the respective real estate type. The purchase price collection contains a large number of characteristics for each sale; some of these are the same for all real estate types, while others are collected for the respective real estate type only. These characteristics include information on the time of purchase, location, plot size and development condition, in case of developed land also the floor area, basement spaces, roof shape, installations etc.

Based on the purchase prices, the boards of expert valuers determine indicative land values and other data that is required for proper valuations. Such other data includes rental yields, index series, adjustment factors for the cost approach, conversion factors for the relative value of land of the same kind and comparison factors for developed land. Valuations are carried out with the help of mathematical-statistical
processes such as regression analysis in order to be able to explain any differences between the purchase prices in an optimal manner on basis of certain influencing factors. The results obtained in this manner can then be used to properly determine the current market value.

The purchase price collection therefore essentially serves two purposes:

1. Generation of general market transparency through quantitative statistical analysis and
2. individual determination of the current market value through derivation of specific data that is relevant for valuation purposes.

In most federal states, purchases are analysed for the area of an administrative district or an independent city; the obtained results are then published in real estate market reports. In addition, many federal states publish state real estate market reports that summarise the regional market evaluations and present trends and developments that can be observed on a state-wide level.

The purchase price collection is not only used for analysis of the real estate market but also for statistical purposes; in particular by fiscal authorities, the state statistical offices and the Federal Statistical Office.

Automated purchase price collection is therefore a prerequisite for the generation of general market transparency and also extensively facilitates the valuation work of independent valuers.

### 3.1.2 Working Group of the Boards of Expert Valuers and State Boards of Expert Valuers in Germany

Apart from the boards of expert valuers, which work on a regional basis, the bodies dealing with the transparency of the real estate market in Germany also include private enterprises in the real estate sector and individual state or semistate institutions and universities. However, their studies often cover only certain market segments or parts of the real estate market activities; also, the quality of the base data is not always sufficient for conclusions on a federal level.

The official valuation is the responsibility of the individual federal states. Accordingly, the structure and areas of responsibility of the boards of expert valuers are regulated in different ways. So far, not all federal states have state boards
of expert valuers or central offices, which would be able to provide a state-wide overview of the real estate market. It was only with the reform of the Inheritance Tax Act and the associated amendment of the Building Code in 2009 that the establishment of central institutions for boards of expert valuers became obligatory within the federal states with the exception of the city states.

The absence of a separate, central institution in Germany made it impossible to provide a comprehensive overview of the real estate market in Germany as a whole in the course of an official evaluation that would be based on the actual purchases, similar to the already existing state real estate market reports. The demand for supra-regional analysis is, at the same time, growing from year to year. There have been calls for a long time - from the real estate industry in particular - for a nationwide, uniform, comprehensive and differentiated provision of up-to-date real estate market data.

Because of that, representatives of the official boards of expert valuers in several federal states convened in Hannover in 2007 to exchange their experiences and, with the objective to merge the data that is available from the boards of expert valuers in the individual states, to develop nationwide data on the real estate market from this merged information and to publish the results for the first time in a real estate market report for Germany. This working group is now well established as the Arbeitskreis der Gutachterausschüsse und Oberen Gutachterausschüsse in Deutschland (AK-OGA) (Working Group of the Boards of Expert Valuers and State Boards of Expert Valuers in Germany). Members include the chairpersons of the state boards of expert valuers or members from official evaluation agencies that have been appointed by the federal states. In the meantime, all federal states are represented in the working group.

Various committees were established by the working group. These committees have the task of comparing the procedures that are used within the individual federal states to determine relevant valuation data and of developing recommendations for uniform valuation models and determination standards.

Editorial and distribution offices are required for the publication of the real estate market report for Germany. These are provided for every edition by the individual federal states in rotation. For the first real estate market report, the federal state of Niedersachsen with its offices of the state board
of expert valuers agreed to handle the necessary work for both bodies at the same time.

The editorial offices are of particular significance. Not only do they merge and process the data that was collected in the federal states and make it available to the individual authors of the real estate market report for analysis purposes, the editorial offices also develop the layout, coordinate the individual articles and merge all articles into one comprehensive report.

### 3.1.3 Description of the collected data

In pursuing the objective of reducing any deficits in real estate market transparency on a nationwide level, this report should include both nationwide analysis reports as well as observations on the state level and regional evaluations; it must therefore be based on the data and professional competence of all boards of expert valuers in Germany. The most important basis of the German real estate market report is therefore the information obtained from the purchase price collections of the boards of expert valuers.

Another prerequisite for the description of the real estate market on a nationwide level is the comprehensive and uniform availability of the necessary data for the same reporting periods. This requires the preparation of a data catalogue which describes the type and extent of the required data. In order to obtain a reliable base of data, the necessary data was collected with the help of this data catalogue over the course of a survey among the boards of expert valuers in Germany.

The data catalogue provided for 2007 and 2008 as the reporting years for which market data was to be collected by the boards of expert valuers. The analysis periods range from 1st January to 31 st December of the respective year.

The data catalogue furthermore defines the market segments and the criteria for and according to which information must be collected. For this reason, the data catalogue is divided into the following six sections under which the various segments of the real estate market are examined:

1. Structural data: General information on the respective areas of responsibility of the board of expert valuers; population, area size, overview of the availability of market data in this region.
2. Turnover: Queries on the numbers of purchases and the financial and area turnover for the various market segments of developed and undeveloped land, price developments.
3. Prices for developable land: Indicative land values for developable land that is free of local infrastructure charges for the construction of individual residential properties, multi-storey multiple dwelling units and for commercial use in various locations.
4. Index series: Enquiries on index series for undeveloped sites that are free of local infrastructure charges for the construction of individual residential properties for the period from 1980 to 2008.
5. Developed land: Average purchase prices for land developed with individual residential real estate, multi-storey multiple dwelling units and for commercial use (separated by construction year classes), adjustment factors, rental yields, gross income multipliers.
6. Residential property ownership: Average purchase prices for freehold flats and apartments for various construction year groups.

### 3.1.4 Organisational structure of the data collection procedure

Because the German real estate market report concept does not only make provision for nationwide analysis but also for evaluations on the state and regional level, the relevant market information had to be collected for an area that corresponded to an administrative district or independent city respectively. In order to obtain as much feedback as possible, data collection did not take place directly and through the editorial office only, but with the involvement of the individual federal states. For this purpose, a state representative was appointed for each federal state and was given the responsibility to collect the data in the respective state.

The editorial offices made the survey form for the collection of the information available to the state representatives, who, in turn, distributed it to the individual boards of expert valuers. Data collection therefore took place directly through the boards of expert valuers or through the state boards of expert valuers or the central
offices of the states, provided that such a central institution had been established. In so doing, the information for one administrative district or for one independent city was summarised by the boards of expert valuers in one data record, which represented the smallest aggregate level.

Subsequently, another data collection took place, at first once again on the state level; in the course of this process, the state representatives merged the data from the boards of expert valuers into one set of state data. These data sets were then aggregated by the editorial offices into one federal data record which provides the basis for the evaluations and analysis contained in the German real estate market report.


### 3.2 Numbers, data, facts

### 3.2.1 Data situation

Data from all 16 federal states for the years 2007 and 2008 was available for the first report on the German real estate market.

For 2007, there was comprehensive data for 11 federal states. There is a coverage of approx. $60 \%$ to $90 \%$ for the federal states of NordrheinWestfalen, Mecklenburg-West Pomerania and Bayern; only the data situation for the federal states of Baden-Württemberg and Sachsen is bad - statements on the real estate markets in these states are hardly possible.

The situation is the same overall for 2008 information is missing for parts of Thüringen, but
the situation with respect to Baden-Württemberg has improved slightly.

The table Tab. 3-1 and the two illustrations III. 3-1 and III.3-2 illustrate the data situation that was described above.

It is therefore now possible for the first time to provide a comprehensive overview of the situation in the real estate markets in a large part of Germany on the basis of transaction data that was recorded by the boards of expert valuers in 2007 and 2008.

The publishers and initiators of this report hope to be able to provide a comprehensive, nationwide data overview for Germany in the years to come.

| Federal state | 2007 |  |  | 2008 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Administrative districts/ independent cities | Coverage inhabitants [\%] | Coverage area [\%] | Administrative districts/ Independent cities | Coverage inhabitants [\%] | Coverage area [\%] |
| Baden-Württemberg* | 5 | 4 | 1 | 15 | 20 | 5 |
| Bayern | 60 | 75 | 57 | 62 | 69 | 59 |
| Berlin | 1 | 100 | 100 | 1 | 100 | 100 |
| Brandenburg | 18 | 100 | 100 | 18 | 100 | 100 |
| Bremen | 2 | 100 | 100 | 2 | 100 | 100 |
| Hamburg | 1 | 100 | 100 | 1 | 100 | 100 |
| Hessen | 26 | 100 | 100 | 26 | 100 | 100 |
| Mecklenburg-Vorpommern | 16 | 90 | 90 | 17 | 96 | 100 |
| Niedersachsen | 46 | 100 | 100 | 46 | 100 | 100 |
| Nordrhein-Westfalen | 48 | 88 | 92 | 48 | 89 | 92 |
| Rheinland-Pfalz | 36 | 100 | 100 | 36 | 100 | 100 |
| Saarland | 7 | 100 | 100 | 7 | 100 | 100 |
| Sachsen | 4 | 36 | 12 | 4 | 36 | 12 |
| Sachsen-Anhalt | 14 | 100 | 100 | 14 | 100 | 100 |
| Schleswig-Holstein | 15 | 100 | 100 | 15 | 100 | 100 |
| Thüringen | 23 | 100 | 100 | 13 | 43 | 55 |
| Germany | 322 | 77 | 76 | 325 | 77 | 75 |

[^1]Tab. 3-1: Data situation for the German Real Estate Market Report 2009

III. 3-1: Overview of the data situation for 2007

III. 3-2: Overview of the data situation for 2008

## Data situation within the market segments

A varying distribution of data can be observed between the individual market segments. The following tables reflect the real estate market data coverage in Germany.

Because of the particular data structure in Thüringen, it was not possible to make any statements for this state.

Table Tab. 3-2 shows that information on values for agricultural and forestry areas was available for 253 (2007) and 259 (2008) administrative districts and independent cities in Germany; this corresponds to a coverage of $64 \%$.

Land values for building plots for the construction of individual residential real estate are comprehensively available for all of Germany in the form of indicative land values. Indicative land values for building plots for the construction of individual residential homes covering approx. $60 \%$ (2007) and approx. $70 \%$ (2008) of the country were available to the publishers for the preparation of this report. The table Tab.3-3 illustrates the distribution among the 16 federal states.

Indicative land values for developable land for commercial use are also available for all of Germany. The publishers were provided with
information on a total of 238 (2007) and 273 (2008) administrative districts for this report; this corresponds to a representation of approx. $61 \%$ (2007) and approx. $70 \%$ (2008) of Germany.

A significant and large real estate market segment is building plots for single- and twofamily houses. Data from 263 (2007) and 267 (2008) administrative districts and independent cities was available for this segment, which corresponds to a nationwide coverage of approx. $68 \%(2007)$ and approx. $69 \%$ (2008) (Tab. 3-5).

Another important and significant market segment is freehold flats and apartments. Data from 262 (2007) and 274 (2008) administrative districts and independent cities is available for this segment. Two thirds of Germany is therefore covered in respect to this segment (Tab. 3-6).

The data situation is considerably worse for commercial real estate. Transactions involving commercial properties are far less common, in particular in rural areas. An analysis of these purchases also requires the collection of additional information. This additional effort is not always possible. The data collection therefore resulted in an incomplete picture. The available data was supplemented in the course of a subsequent collection of information from 20 large and middle-sized cities in Germany. This data is analysed in see Chapter 4.2.

| Federal state | 2007 |  | 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number of administrative districts/independent cities (data available) | Coverage area [\%] | Number of administrative districts/independent cities (data available) | Coverage area [\%] |
| Baden-Württemberg* | 3 | 1 | 9 | 3 |
| Bayern | 49 | 48 | 51 | 47 |
| Berlin | 1 | 100 | 1 | 100 |
| Brandenburg | 18 | 100 | 18 | 100 |
| Bremen | No information |  |  |  |
| Hamburg | 1 | 100 | 1 | 100 |
| Hessen | 8 | 30 | 6 | 27 |
| Mecklenburg-Vorpommern | 14 | 80 | 15 | 100 |
| Niedersachsen | 46 | 100 | 46 | 100 |
| Nordrhein-Westfalen | 48 | 91 | 47 | 91 |
| Rheinland-Pfalz | 34 | 99 | 34 | 99 |
| Saarland | 4 | 68 | 4 | 68 |
| Sachsen | 4 | 12 | 3 | 11 |
| Sachsen-Anhalt | 14 | 100 | 14 | 100 |
| Schleswig-Holstein | 9 | 59 | 10 | 70 |
| Thüringen |  | No info | mation |  |
| Germany | 253 | 62 | 259 | 64 |

* participation per municipality

Tab. 3-2: Data situation for values for agricultural and forestry land

The data situation in Germany is bound to improve as many boards of expert valuers are currently working on enhanced real estate market
data coverage. Because of the excellent data situation, it is possible to provide representative statements and evaluations for all of Germany for

| Federal state | 2007 |  | 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] |
| Baden-Württemberg* | 4 | 3 | 12 | 16 |
| Bayern | 34 | 42 | 36 | 43 |
| Berlin | 1 | 100 | 1 | 100 |
| Brandenburg | 17 | 94 | 17 | 94 |
| Bremen | 2 | 100 | 2 | 100 |
| Hamburg | 1 | 100 | 1 | 100 |
| Hessen** | 2 | 17 | 26 | 100 |
| Mecklenburg-Vorpommern | 16 | 90 | 17 | 96 |
| Niedersachsen | 46 | 100 | 46 | 100 |
| Nordrhein-Westfalen | 47 | 87 | 47 | 88 |
| Rheinland-Pfalz | 36 | 100 | 36 | 100 |
| Saarland | 7 | 100 | 7 | 100 |
| Sachsen | 4 | 36 | 4 | 36 |
| Sachsen-Anhalt | 14 | 100 | 14 | 100 |
| Schleswig-Holstein | 12 | 77 | 12 | 77 |
| Thüringen | No information |  |  |  |
| Germany | 243 | 62 | 278 | 71 |

* participation per municipality
** only Frankfurt (Main) and Wetterau administrative district (2007)
Tab. 3-3: Data situation for indicative land values of land for the construction of individual residential real estate

| Federal state | 2007 |  | 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number of administrative <br> districts/independent cities (data available) | Coverage inhabitants [\%] | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] |
| Baden-Württemberg* | 4 | 3 | 11 | 16 |
| Bayern | 33 | 42 | 35 | 43 |
| Berlin | 1 | 100 | 1 | 100 |
| Brandenburg | 16 | 90 | 16 | 89 |
| Bremen | 2 | 100 | 2 | 100 |
| Hamburg | 1 | 100 | 1 | 100 |
| Hessen** | 2 | 17 | 26 | 100 |
| Mecklenburg-Vorpommern | 16 | 90 | 17 | 96 |
| Niedersachsen | 46 | 100 | 46 | 100 |
| Nordrhein-Westfalen | 46 | 86 | 46 | 86 |
| Rheinland-Pfalz | 36 | 100 | 36 | 100 |
| Saarland | 6 | 92 | 6 | 92 |
| Sachsen | 4 | 36 | 4 | 36 |
| Sachsen-Anhalt | 14 | 100 | 14 | 100 |
| Schleswig-Holstein | 11 | 69 | 12 | 77 |
| Thüringen | No information |  |  |  |
| Germany | 238 | 61 | 273 | 70 |

* participation per municipality
** only Frankfurt (Main) and Wetterau administrative district (2007)

Tab. 3-4: Data situation for indicative land values for building land for commercial use
the segments of undeveloped land and residential real estate (building plots for single- and twofamily houses as well as freehold residential real
estate); these are presented in the respective chapters.

| Federal state | 2007 |  | 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] |
| Baden-Württemberg* | 3 | 2 | 12 | 18 |
| Bayern | 40 | 52 | 38 | 43 |
| Berlin | 1 | 100 | 1 | 100 |
| Brandenburg | 18 | 100 | 18 | 100 |
| Bremen | 2 | 100 | 2 | 100 |
| Hamburg | 1 | 100 | 1 | 100 |
| Hessen | 26 | 100 | 26 | 100 |
| Mecklenburg-Vorpommern | 14 | 81 | 16 | 91 |
| Niedersachsen | 46 | 100 | 46 | 100 |
| Nordrhein-Westfalen | 47 | 87 | 46 | 86 |
| Rheinland-Pfalz | 35 | 97 | 30 | 86 |
| Saarland | 2 | 32 | 2 | 32 |
| Sachsen | 3 | 30 | 3 | 30 |
| Sachsen-Anhalt | 14 | 100 | 14 | 100 |
| Schleswig-Holstein | 11 | 69 | 12 | 77 |
| Thüringen | No information |  |  |  |
| Germany | 263 | 68 | 267 | 69 |

* participation per municipality

Tab. 3-5: Data situation for developed single- and two-family houses

| Federal state |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] | Number of administrative districts/independent cities (data available) | Coverage inhabitants [\%] |
| Baden-Württemberg* | 4 | 3 | 13 | 19 |
| Bayern | 41 | 51 | 39 | 44 |
| Berlin | 1 | 100 | 1 | 100 |
| Brandenburg | 17 | 95 | 18 | 100 |
| Bremen | 2 | 100 | 2 | 100 |
| Hamburg | 1 | 100 | 1 | 100 |
| Hessen | 26 | 100 | 26 | 100 |
| Mecklenburg-Vorpommern | 14 | 81 | 16 | 91 |
| Niedersachsen | 45 | 96 | 46 | 100 |
| Nordrhein-Westfalen | 46 | 85 | 46 | 85 |
| Rheinland-Pfalz | 36 | 100 | 36 | 100 |
| Saarland | 2 | 32 | 2 | 32 |
| Sachsen | 3 | 30 | 3 | 30 |
| Sachsen-Anhalt | 14 | 100 | 14 | 100 |
| Schleswig-Holstein | 10 | 60 | 11 | 68 |
| Thüringen | No information |  |  |  |
| Germany | 262 | 67 | 274 | 69 |

* participation per municipality

Tab. 3-6: Data situation for freehold apartments

### 3.2.2 Description of the real estate market in Germany 2007 and 2008 - Overview -

The German real estate market is very stable and, despite the worldwide economic crisis, as solid as a rock!

This is the result of the analysis of the transaction data from the German real estate market for the years 2007 and 2008. This stabilizing element covering the entire economic region of Germany is extraordinarily important especially in periods of crisis. Because of the close link between the real estate sector and other economic sectors, the real estate market contributed significantly to the muted effects of the economic crisis in Germany.

The market for residential real estate in particular shows a very high stability and mitigates any fluctuations of other - mainly commercial market segments within the German real estate market.

The total real estate value in Germany amounts to approx. 9 trillion Euro - it is thus the most important asset class in Germany. Residential real estate is of paramount significance in this respect too; it represents approx. $60 \%$ of the real estate value and plays an important role within private capital formation.

The following key statements characterise the German real estate market in 2007 and 2008:

- Almost invariant transaction numbers

2007:835,000 real estate sales
2008:815,000 real estate sales

- The financial turnover has clearly decreased 2007: € 174 billion 2008: € 131 billion
This decrease is essentially the result of the lower number of purchases in the area of investment properties and also due to a decrease of the purchase prices for this type of real estate.
- In 2007 and 2008, on average approx. $1.3 \%$ of the overall area of Germany changed ownership:

$$
\begin{array}{ll}
\text { 2007: Area turnover } & 4.430 \mathrm{~km}^{2} \\
\text { 2008: Area turnover } & 4.560 \mathrm{~km}^{2}
\end{array}
$$

- The turnover within the important residential real estate market segment remained constant.
- Generally, the prices for residential property also remained stable.
- If compared to 2007 , significantly fewer building plots for individual residential construction were sold in 2008:
2007: 93,000 sales
2008: 85,000 sales
The most remarkable change in the real estate market in Germany from 2007 to 2008 is the sharp drop in the area of commercial/investment property. Significant turnover and price drops were recorded in this respect; they apply to both developed as well as undeveloped land within these market segments. In this context it must be noted that sales of this type of real estate had increased strongly in 2006 and 2007; major investments and portfolio sales also had significant growth rates. Insofar, the market segments returned to a level of relative "normality" in 2008.

Important parameters for typical real estate types within the German real estate market are included in table Tab.3-7.

| Submarket | 2007 | 2008 |
| :---: | :---: | :---: |
| Building plots for the construction of individual residential real estate |  |  |
| Average size | $832 \mathrm{~m}^{2}$ | $824 \mathrm{~m}^{2}$ |
| Average price | 91 €/m² | $92 € / \mathrm{m}^{2}$ |
| Average purchase price (total) | 75,700 € | 75,900 € |
| Plots with single- and two-family homes (not detached; not newly built) |  |  |
| Average purchase price (total) | $169.000 €$ | $167.000 €$ |
| Plots with single-and two-family homes (detached; not newly built) |  |  |
| Average plot size | $870 \mathrm{~m}^{2}$ | $835 \mathrm{~m}^{2}$ |
| Average living area | $147 \mathrm{~m}^{2}$ | $144 \mathrm{~m}^{2}$ |
| Average purchase price (total) | 188,000 € | 177,000 € |
| Freehold residential real estate (excluding apartments) |  |  |
| Average purchase price (first sale after new construction) | 223,000 € | 228,000 € |
| Average purchase price (first sale after conversion) | 132,000 € | 142,000 € |
| Average purchase price (resale) | 95,000 € | 92,000 € |
| Average purchase price (total) | 122,000 € | 123,000 € |
| Developed commercial/investment real estate |  |  |
| Average purchase price (total) | 1.2 million € | 0.8 million € |
| Agricultural and forestry land |  |  |
| Average price arable land | $0.83 € / \mathrm{m}^{2}$ | 0.87 € $/ \mathrm{m}^{2}$ |
| Average price grass land | 0.76 €/m² | $0.72 € / \mathrm{m}^{2}$ |
| Average price forestry land (with stock) | $0.51 € / \mathrm{m}^{2}$ | 0.66 € $/ \mathrm{m}^{2}$ |

Tab. 3-7: Key indicators for typical properties within the German real estate market

### 3.2.3 Overall turnover - Including the market segments

The data that was available for this report allows for the representation of approx. $80 \%$ of the activities in the German real estate market.

A forward projection of this information to the whole of Germany results in the following figures:

## Total number of transactions

2007: approx. 835,000 cases
2008: approx. 815,000 cases

## Total area turnover

2007: approx. 4,430 km ${ }^{2}$
2008: approx. $4,560 \mathrm{~km}^{2}$

## Total amount of money exchanged

2007: c. € 174 billion
2008: c. $€ 131$ billion

This is the first time that relatively solid and reliably determined figures are available for the whole real estate market in Germany.

A breakdown of the number of transactions by federal states, the area turnover and the financial turnover for 2007 and 2008 is provided in the
tables below. During the preparation of the same some supplemental data from the respective state market reports was used.

The table Tab.3-8 shows the number of transactions per federal state; the focus in this respect is on the states Baden-Württemberg, Bayern, Niedersachsen and NordrheinWestfalen. Approx. $1 / 2$ million transactions took place within these 4 federal states alone; this corresponds to approx. $60 \%$ of the overall figure. With a slight decrease from 835,000 (2007) to 815,000 (2008), the number of transactions remained almost constant. The German real estate market presents itself accordingly as a stable market overall.

The area turnover can be directly determined for 12 federal states (Tab.3-9); for Bayern and Mecklenburg-Vorpommern it is possible to provide very solid forward projections. It is therefore possible, to provide very reliable information on the area turnover of 14 federal states:

2007: 14 federal states
2008: 14 federal states
approx. 3,360 km ${ }^{2}$ approx. $3,530 \mathrm{~km}^{2}$

The area turnover per purchase for these 14 federal states amounted to 0.53 ha in 2007 and

| Federal state | 2007 |  |  | 2008 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Reported purchases | Population coverage [\%] | Total purchases | Reported purchases | Population coverage [\%] | Total purchases |
| Baden-Württemberg | 5,062 | 4 | c. 126,000 | 24,742 | 20 | c. 123,700 |
| Bayern | 90,649 | 69 | c. 131,500 | 89,197 | 69 | c. 129,300 |
| Berlin* | 27,002 | 100 | 27,002 | 23,990 | 100 | 23,990 |
| Brandenburg* | 37,400 | 100 | 37,400 | 37,959 | 100 | 37,959 |
| Bremen* | 7,238 | 100 | 7,238 | 7,022 | 100 | 7,022 |
| Hamburg* | 11,480 | 100 | 11,480 | 11,608 | 100 | 11,608 |
| Hessen* | 54,135 | 100 | 54,135 | 51,590 | 100 | 51,590 |
| Mecklenburg-Vorpommern | 25,571 | 90 | c. 28,400 | 25,969 | 96 | c. 27,000 |
| Niedersachsen* | 88,155 | 100 | 88,155 | 87,641 | 100 | 87,641 |
| Nordrhein-Westfalen* | 125,280 | 100 | 125,280 | 123,920 | 100 | 123,920 |
| Rheinland-Pfalz | 54,672 | 100 | 54,672 | 55,157 | 100 | 55,157 |
| Saarland | 10,292 | 100 | 10,292 | 10,873 | 100 | 10,873 |
| Sachsen | 18,080 | 36 | c. 50,100 | 15,970 | 36 | c. 40,000 |
| Sachsen-Anhalt* | 31,490 | 100 | 31,490 | 30,231 | 100 | 30,231 |
| Schleswig-Holstein | 20,463 | 100 | 20,463 | 24,696 | 100 | 24,696 |
| Thüringen | 31,796 | 100 | 31,796 | 16,163 | 54 | c. 30,000 |
| Germany | 638,765 | 77 | c. 835,000 | 636,728 | 78 | c. 815,000 |

* Information taken from the state market report

Tab. 3-8: Number of transactions (supplemented by the state market reports)

| Federal state | 2007 | 2008 |
| :---: | :---: | :---: |
|  | Total area turnover [ha] | Total area turnover [ha] |
| Baden-Württemberg | projection not possible |  |
| Bayern | c. 33,000 | c. 36,500 |
| Berlin* | 1,576 | 1,219 |
| Brandenburg* | 63,043 | 67,896 |
| Bremen* | 509 | 445 |
| Hamburg* | 820 | 667 |
| Hessen* | 13,369 | 11,572 |
| Mecklenburg-Vorpommern | c. 69,800 | c. 68,100 |
| Niedersachsen* | 48,838 | 49,485 |
| Nordrhein-Westfalen* | 22,880 | 23,400 |
| Rheinland-Pfalz** | 11,169 | 13,313 |
| Saarland | 1,750 | 1,663 |
| Sachsen | projection not possible |  |
| Sachsen-Anhalt* | 40,372 | 43,786 |
| Schleswig-Holstein | 10,944 | 11,764 |
| Thüringen | 18,148 | c. 23,600 |
| Germany** | c. 336,000 | c. 353,000 |

* Information taken from the state market report
** undeveloped land only
*** excluding Baden-Württemberg and Sachsen
Tab. 3-9: Area turnover
to 0.56 ha in 2008. If these values are applied to all of Germany, the following area turnover values are obtained:


## 2007: Area turnover $4.430 \mathrm{~km}^{2}$ <br> 2008: Area turnover $4.560 \mathrm{~km}^{2}$

Main areas in this respect are the East German federal states Brandenburg, MecklenburgVorpommern and Sachsen-Anhalt with their very high proportions of agricultural and forestry land. In addition to these Niedersachsen and Bayern must be mentioned, which are also federal states with high proportions of land within this market segment. These five federal states alone had an overall area turnover of approx. $2,700 \mathrm{~km}^{2}$ in 2008; this corresponds to $60 \%$ of the total turnover in Germany.

The increase of the area turnover for Germany as a whole between 2007 and 2008 by approx. $130 \mathrm{~km}^{2}$ is largely the result of sales in the agricultural and forestry sector. Approx. $2,350 \mathrm{~km}^{2}$ (2007: $2,200 \mathrm{~km}^{2}$ ) were sold in this segment of the real estate market 2.200 in 2008.

Approx. $1.3 \%$ of the overall area of Germany was turned over in 2008; this is topped by Mecklenburg-Vorpommern with approx. 3\% of
the area of the federal state having beeen turned over.

The financial turnover can be directly determined for 12 federal states (Tab.3-10); for Bayern and Mecklenburg-Vorpommern it is possible to provide very solid forward projections. Reliable information on the financial turnover is therefore available for 14 federal states:

> 2007: 14 federal states $€ 145$ billion
> 2008: 14 federal states $€ 106$ billion

The financial turnover per purchase for these 14 federal states came to $€ 208,000$ in 2007 and to $€ 161,000$ in 2008 . If these values are applied to the purchases within the two missing federal states, the results in terms of financial turnover are as follows:

2007: Financial turnover $€ 174$ billion
2008: Financial turnover $€ 131$ billion
The highest financial turnover in 2008 was in the states Bayern and Nordrhein-Westfalen with approx. $€ 25$ billion each. There were also substantial turnovers in Berlin, Hessen and Niedersachsen.

| Federal state | 2007 | 2008 |
| :---: | :---: | :---: |
|  | Total financial turnover [in million $€$ ] | Total financial turnover [in million $€$ ] |
| Baden-Württemberg | projection not possible |  |
| Bayern | c. 34,150 | c. 25,800 |
| Berlin* | 14,583 | 7,246 |
| Brandenburg* | 3,655 | 2,827 |
| Bremen* | 1,230 | 1,163 |
| Hamburg* | 7,625 | 5,618 |
| Hessen* | 17,873 | 10,311 |
| Mecklenburg-Vorpommern | c. 2,200 | c. 1,900 |
| Niedersachsen* | 13,963 | 11,435 |
| Nordrhein-Westfalen* | 33,360 | 25,720 |
| Rheinland-Pfalz | 5,791 | 5,141 |
| Saarland | 1,102 | 959 |
| Sachsen | projection not possible |  |
| Sachsen-Anhalt* | 2,827 | 2,094 |
| Schleswig-Holstein | 4,416 | 4,429 |
| Thüringen | 2,430 | c. 1,718 |
| Germany** | c. 145,000 | c. 106,000 |

* Information taken from the state market report
** excluding Baden-Württemberg and Sachsen
Tab. 3-10: Financial turnover

The above-mentioned financial turnovers for Germany deviate from information contained in valuation publications ("immobilien \& bewerten" No. 2/2009, for example), which present substantially higher transaction volumes. The information contained in these publications generally refers to projections that are based on the real estate acquisition tax income. This also includes, however, cases which involve some form of entitlement to the transfer of land without the need for a notarial purchase contract (the transfer of shares in companies owning real estate assets, for example).

The differing structure of the real estate markets becomes quite obvious when the turnover is analysed considering population figures. Thus, while approx. 16 purchases per one thousand inhabitants were registered in MecklenburgVorpommern, there were only approx. 7 purchases per one thousend inhabitants in Hamburg and Nordrhein-Westfalen.

The financial turnover and the area turnover - in relation to the population of the federal states vary strongly as well (III. 3-4 and III. 3-5). Thus, more than $€ 4,000$ per inhabitant were exchanged in Berlin and Hamburg in 2007 - in the Saarland it was a mere c. $€ 1,000$.

The most significant differences occur in relation to the area turnover per inhabitant. The East German federal states are clearly on top in this respect because of their "strong" real estate market for agricultural and forestry land. In these states up to $400 \mathrm{~m}^{2}$ per inhabitant were turned over (report year 2008: MecklenburgVorpommern), while in Nordrhein-Westfalen, Hessen and the Saarland only approx. 10-20 m² per inhabitant were reported.

III. 3-3: Number of purchases (total) per thousand Population

III. 3-4: Financial turnover (total) in $€$ per inhabitant

III. 3-5: Area turnover (total) in $m^{2}$ per inhabitant

## Turnover within the market segments

The following illustrations show the real estate market turnovers within the market segments

- agriculture and forestry,
- undeveloped building land,
- developed land and
- apartment and part ownership
for all of Germany in 2007 and 2008. Based on the available data it is possible to provide a reliable breakdown of the above-mentioned market segments for all federal states with the exception of Baden-Württemberg, Bayern, Sachsen and Thüringen.

| Turnover within the market segments |  |  |
| :---: | :---: | :---: |
| Sales | Financial turnover | Area turnover |
| Germany 2007 (Forward projection) |  |  |
|  |  |  |
| Germany 2008 (Forward projection) |  |  |
|  |  |  |
| $\square$ Agriculture \& forestry <br> $\square$ Apartment and part ownership | Undeveloped land Developed land | 61 |

Sales
Sales

| Turnover within the market segments |  |  |
| :---: | :---: | :---: |
| Sales | Financial turnover | Area turnover |
| Niedersachsen 2007 |  |  |
|  |  |  |
| Niedersachsen 2008 |  |  |
|  |  |  |
| Nordrhein-Westfalen 2007 |  |  |
|  |  |  |
| Nordrhein-Westfalen 2008 |  |  |
|  |  |  |
| Rheinland-Pfalz 2007 |  |  |
|  |  |  |
| Rheinland-Pfalz 2008 |  |  |
|  |  |  |
| Agriculture \& forestry <br> Apartment and part ownership | Undeveloped land Developed land |  |



Tab. 3-11: Turnover within the market segments

## Development of the turnover of typical real estate types

Illustration III. 3-6 shows the number of purchases of typical real estate types. The figures are forward projections for the whole of Germany. Accordingly, approx. 93,000 plots for the construction of residential real estate were sold in 2007, as compared to 85,000 in 2008 . The sale of plots for the construction of commercial real estate dropped from 13,000 in 2007 to 12,000 in 2008 (c. $-8 \%$ ). By contrast, more plots that were developed with single- and two-family homes were sold (2007: 187.000; 2008: 193.000). The same applies to freehold residential real estate. The number of sales in this area increased from 210,000 in 2007 to 215,000 in 2008. The number of agricultural and forestry sales increased by approx. $5 \%$ between 2007 and 2008.

## Turnover per purchase

On average, $€ 210,000$ was exchanged per sale in Germany in 2007; in 2008, this figure came to $€ 160.000$. This drop was essentially the result of the lower prices that were paid for commercial real estate. This was the case with development land for commercial use (from $€ 390,000$ per sale in 2007 to $€ 320,000$ in 2008) and with developed investment properties (from $€ 1.23$ million per sale in 2007 to $€ 0.77$ million in 2008). The other real estate markets for residential development land, the agricultural and forestry sector, for residential property and for land developed with single-
and two-family houses remained constant. The city states Berlin and Hamburg stand out in tables Tab.3-12 and Tab.3-13. This becomes particularly obvious in relation to investment properties (in this respect this is also the case with Bayern and Hessen) and in the segment of development land for commercial use.

The area turnover per purchase has hardly changed between 2007 and 2008. Only the agricultural and forestrey sector showed a higher turnover of on average $1100 \mathrm{~m}^{2}$ per purchase (2007: 2,31 ha and 20082.42 ha ) (Tab. 3-14 and Tab. 3-15).

Because of the very reliable data situation for the undeveloped land for the residential use segment, it is possible to produce an overview of the average building plot sizes. The average building plot size in Germany has thus dropped from $832 \mathrm{~m}^{2}$ (2007) to $824 \mathrm{~m}^{2}$ (2008) and the average building plot price has slightly increased from $91 € / \mathrm{m}^{2}$ to $92 € / \mathrm{m}^{2}$. The figures for the individual federal states - for which sufficient data was available - are shown in illustrations (III. 3-7 to III. 3-9) below.
"Average building plot" for individual residential use in Germany:

| 2007: | $832 \mathrm{~m}^{2}$ | $91 € / \mathrm{m}^{2}$ | $75.700 €$ |
| :--- | :--- | :--- | :--- |
| 2008: | $824 \mathrm{~m}^{2}$ | $92 € / \mathrm{m}^{2}$ | $75.900 €$ |


III. 3-6: Number of purchases of typical properties in Germany (projection)

| Federal state | 2007 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Agricultural and forestry land | plots for the construction of individual residential real estate | Building plots for commercial real estate | Plots for single- and two-family houses | Investment properties | Residential real estate ownership |
| Baden-Württemberg | no statement possible |  |  |  |  |  |  |
| Bayern | 2.60 | 0.32 | 2.23 | 7.55 | 2.68 | 27.72 | 1.52 |
| Berlin | 4.84 | 0.93 | 2.18 | 18.82 | 2.66 | 26.31 | 1.13 |
| Brandenburg | 1.12 | 0.16 | 0.50 | 1.97 | 1.19 | 4.72 | 1.25 |
| Bremen | 2.01 | 0.03 | 1.26 | 2.12 | 1.53 | 9.01 | 1.06 |
| Hamburg | 5.63 | 1.38 | 4.18 | 33.65 | 3.22 | 33.92 | 1.92 |
| Hessen | 1.49 | 0.12 | 1.22 | 7.18 | 3.73 | 27.66 | 1.48 |
| Mecklenburg-Vorpommern | 0.78 | 0.23 | 0.46 | 1.14 | 0.88 | 4.67 | 1.20 |
| Niedersachsen | 1.69 | 0.37 | 0.62 | 1.79 | 1.35 | 9.45 | 0.87 |
| Nordrhein-Westfalen | 2.84 | 0.38 | 1.12 | 4.51 | 2.01 | 12.42 | 1.10 |
| Rheinland-Pfalz | 1.06 | 0.06 | 0.47 | 1.69 | 1.53 | 8.08 | 1.06 |
| Saarland | 1.07 | 0.05 | 0.62 | 1.26 | 1.30 | 5.66 | 0.88 |
| Sachsen |  |  | no sta | tement poss | ible |  |  |
| Sachsen-Anhalt | 1.11 | 0.17 | 0.21 | 1.39 | 0.65 | 5.30 | 0.69 |
| Schleswig-Holstein | 2.16 | 0.73 | 1.14 | 3.31 | 1.50 | 11.49 | 0.99 |
| Thüringen | 0.76 | 0.05 | 0.24 | 0.32 | 0.81 | 5.33 | 0.79 |

Tab.3-12: Financial turnover per purchase 2007 [ $€ 100$ thousand]

| Federal state | 2008 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Agricultural and forestry land | plots for the construction of individual residential real estate | Building plots for commercial real estate | Plots for single- and two-family houses | Investment properties | Apartment ownership |
| Baden-Württemberg | No statement possible |  |  |  |  |  |  |
| Bayern | 1.99 | 0.36 | 1.91 | 4.09 | 2.46 | 17.37 | 1.44 |
| Berlin | 2.99 | 0.69 | 1.38 | 12.16 | 2.63 | 21.21 | 1.19 |
| Brandenburg | 0.85 | 0.22 | 0.45 | 1.62 | 1.10 | 3.03 | 1.18 |
| Bremen | 1.77 | 0.04 | 1.38 | 3.48 | 1.55 | 6.54 | 0.84 |
| Hamburg | 4.42 | 0.97 | 4.48 | 23.83 | 3.29 | 24.59 | 1.93 |
| Hessen | 1.25 | 0.12 | 1.22 | 5.50 | 3.02 | 15.11 | 1.43 |
| Mecklenburg-Vorpommern | 0.70 | 0.26 | 0.41 | 1.20 | 0.85 | 3.33 | 1.24 |
| Niedersachsen | 1.38 | 0.38 | 0.60 | 1.71 | 1.33 | 5.78 | 0.83 |
| Nordrhein-Westfalen | 2.14 | 0.41 | 1.15 | 4.92 | 1.96 | 7.62 | 1.17 |
| Rheinland-Pfalz | 0.93 | 0.07 | 0.48 | 2.12 | 1.51 | 5.51 | 1.08 |
| Saarland | 0.88 | 0.05 | 0.60 | 0.98 | 1.30 | 4.10 | 0.80 |
| Sachsen |  |  | No sta | tement poss |  |  |  |
| Sachsen-Anhalt | 0.79 | 0.23 | 0.19 | 0.88 | 0.66 | 3.46 | 0.72 |
| Schleswig-Holstein | 1.79 | 0.65 | 1.28 | 3.17 | 1.70 | 5.59 | 1.30 |
| Thüringen | 0.57 | 0.09 | 0.21 | 0.47 | 0.78 | 2.79 | 0.66 |

Tab. 3-13: Financial turnover per purchase 2008 [ $€ 100$ thousand]

| Federal state | 2007 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Agricultural and forestry land | Building plots for the construction of individual residential real estate | Building plots for commercial real estate | Plots for single- and two-family houses |
| Baden-Württemberg | No statement possible |  |  |  |  |
| Bayern | 0.25 | 1.10 | 0.11 | 0.56 | 0.08 |
| Berlin | 0.05 | 0.32 | 0.10 | 0.46 | 0.07 |
| Brandenburg | 1.86 | 5.61 | 0.12 | 1.11 | 0.14 |
| Bremen | 0.06 | 0.15 | 0.10 | 0.54 | 0.05 |
| Hamburg | 0.13 | 15.53 | 0.07 | 0.31 | 0.06 |
| Hessen | 0.24 | 0.82 | 0.07 | 0.45 | 0.05 |
| Mecklenburg-Vorpommern | 2.46 | 4.73 | 0.10 | 0.62 | 0.09 |
| Niedersachsen | 0.56 | 3.27 | 0.08 | 0.52 | 0.11 |
| Nordrhein-Westfalen | 0.20 | 1.57 | 0.07 | 0.64 | 0.08 |
| Rheinland-Pfalz | 0.20 | 0.54 | 0.09 | 0.49 | No information |
| Saarland | 0.13 | 0.28 | 0.07 | 0.58 | 0.08 |
| Sachsen | No statement possible |  |  |  |  |
| Sachsen-Anhalt | 1.40 | 4.41 | 0.09 | 1.50 | 0.13 |
| Schleswig-Holstein | 0.53 | 4.42 | 0.10 | 0.57 | 0.08 |
| Thüringen | 0.57 | 1.20 | 0.07 | 0.20 | No information |

Tab. 3-14: Area turnover per purchase 2007 [ha]

| Federal state |  |  | 2008 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Agricultural and forestry land | Building plots for the construction of individual residential real estate | Building plots for commercial real estate | Plots for single- and two-family houses |
| Baden-Württemberg | No statement possible |  |  |  |  |
| Bayern | 0,28 | 1,32 | 0,08 | 0,47 | 0,08 |
| Berlin | 0,05 | 0,33 | 0,12 | 0,85 | 0,07 |
| Brandenburg | 1,98 | 5,18 | 0,12 | 0,72 | 0,13 |
| Bremen | 0,06 | 0,24 | 0,08 | 0,76 | 0,05 |
| Hamburg | 0,05 | 1,89 | 0,07 | 0,70 | 0,06 |
| Hessen | 0,24 | 0,77 | 0,07 | 0,52 | 0,04 |
| Mecklenburg-Vorpommern | 2,52 | 4,97 | 0,10 | 0,73 | 0,09 |
| Niedersachsen | 0,57 | 3,04 | 0,08 | 0,61 | 0,10 |
| Nordrhein-Westfalen | 0,19 | 1,50 | 0,07 | 0,59 | 0,08 |
| Rheinland-Pfalz | 0,24 | 0,64 | 0,10 | 0,57 | No information |
| Saarland | 0,15 | 0,34 | 0,07 | 0,34 | 0,08 |
| Sachsen | No statement possible |  |  |  |  |
| Sachsen-Anhalt | 1.48 | 4.45 | 0.10 | 1.13 | 0.12 |
| Schleswig-Holstein | 0.48 | 3.95 | 0.09 | 0.47 | 0.11 |
| Thüringen | 0.68 | 1.49 | 0.07 | 0.36 | No information |

Tab. 3-15: Area turnover per purchase 2008 [ha]


For Baden-Württemberg, Bayern, Hessen, Sachsen, Sachsen-Anhalt and Thüringen no and/or inadequate data.
III. 3-7: Average plot size for the construction of individual residential real estate

III. 3-8: Average plot prices for the construction of individual residential real estate


### 3.2.4 Main transaction areas

The real estate transaction intensity varies greatly throughout Germany. It ranges between 5 purchases per 1,000 inhabitants in parts of Nordrhein-Westfalen and 33 purchases per 1,000 inhabitants in parts of MecklenburgVorpommern. The average is 10 purchases per 1,000 inhabitants. The following map shows the real estate market intensity for those parts of Germany for which the respective data is available (III. 3-10).

The main areas vary depending on the market segment. For example, most sales of agricultural spaces are recorded in East German
administrtive districts and most residential real estate sales are recorded in cities in the south and west of Germany.

In the case of residential real estate, i.e. building plots for individual residential real estate, land that was developed with single- and two-family houses or freehold apartments, the number of transactions per inhabitant is not significantly affected by population density or purchasing power. In relation to the residential structure pattern, such as a predominantly rural or urban character, it is, however, possible to determine a clear effect.

III. 3-10: Transactions per thousand inhabitants in total (2008)

In case of building plots for residential development it was observed that almost twice the number of building plots per 1,000 inhabitants were sold in rural areas than in urban areas (Tab. 3-16). It was furthermore possible to determine a falling trend in relation to the purchases per inhabitant (20072008).

| Year | Residential patterns |  |
| :---: | :---: | :---: |
| Rural structure | Predominantly <br> urban |  |
| $\mathbf{2 0 0 7}$ | 1,56 | 0,87 |
| $\mathbf{2 0 0 8}$ | 1,48 | 0,83 |

Tab. 3-16: Transaction density for residential building land [sales per thousand inhabitants]

The analysis of the number of transactions involving building plots for residential real estate shows an increase around Berlin and in western parts of Rheinland-Pfalz (III. 3-11). The coastal areas of Schleswig-Holstein and MecklenburgWest Pomerania also showed an increase in transactions.

The rural municipalities are - albeit with decreasing tendency - the biggest suppliers of building plots for residential property. The activities of the municipalities within this market segment must be interpreted accordingly under consideration of this fact.

III. 3-11: Transactions per thousand inhabitants for residential building land (construction of individual residential real estate and multi-storey buildings, 2008)

The lowest purchase density was in Kempten (Allgäu region in Southern Bayern), Düsseldorf and Gelsenkirchen. The highest transaction rates could be determined for Trier-Saarburg, Havelland and the administrative district BitburgPrüm within the Eifel region.

The illustrations III. 3-12 and III. 3-13 show the 20 administrative districts/independent cities with the highest and the lowest transaction numbers for building plots for residential development in 2008.

III. 3-12: Highest transaction numbers for building plots for residential construction (2008)

III. 3-13: Lowest transaction numbers for building plots for residential construction (2008)

With the sale of second-hand single- and twofamily houses, a higher transaction density can be observed than with building plots. In comparison to 2007, an increasing trend can be determined for the sales figures per 1000 inhabitants (Tab. 3-17):

| Year | Residential patterns |  |
| :---: | :---: | :---: |
|  | Predominantly <br> urban |  |
| $\mathbf{2 0 0 7}$ | 3,01 | 2,03 |
| $\mathbf{2 0 0 8}$ | 3,17 | 2,10 |

Tab. 3-17: Transaction density for second-hand singleand two-family houses [sales per thousand inhabitants]

Roughly $1 / 3$ fewer single- and two-family houses were sold per 1,000 inhabitants in urban areas than in areas with a rural structure (III.3-14). Overall, this indicates that the private market participant - possibly due to better price structures - prefers to purchase residential real estate in rural areas.

In the case of second-hand sinlge- and two-family houses it could be observed that a fluctuation of ownership of this real estate is beginning which certainly also has its origin in the demographic changes. There is an increasing trend towards the sale of single- and two-family houses. It must be noted in this respect that - similar to building plots - more houses are sold in rural areas than in urban

III. 3-14: $\quad$ Transactions per thousand inhabitants for second-hand single- and two-family houses (2008)
areas. The lowest purchase density was within the administrative disctrict Wetterau (Hessen), in Frankfurt (Main) and within the administrative district Hof in Bayern. The highest purchase intensity was determined for the administrative districts Leer and Aurich in the Ostfriesland and the Nordfriesland regions in Schleswig-Holstein.

The respective administrative districts/ independent cities with the highest and lowest transaction numbers in 2008 are presented in illustrations III. 3-15 and III. 3-16.

III. 3-15: Highest transaction number for second-hand single- and two-family houses (2008)

III. 3-16: Lowest transaction number for second-hand single- and two-family houses (2008)

The transaction density is reversed in the segment for residential real estate ownership. Here, approx. three times as many freehold apartments are sold in urban areas than in rural areas. As with single- and two-family houses, an increasing transaction trend can be observed in 2008 compared to 2007.

More purchase activities could be observed in the coastal areas and in major cities (III. 3-17). In the administrative district of Nordfriesland in Schleswig-Holstein, with its offshore islands including the island of Sylt, a particularly high number of sales could be observed.

As can be seen in illustrations III.3-18 and III. 3-19, the highest transaction intensity

| Year | Residential patterns |  |
| :---: | :---: | :---: |
| Rural structure | Predominantly <br> urban |  |
| $\mathbf{2 0 0 7}$ | $\mathbf{1 , 1 2}$ | 3,36 |
| $\mathbf{2 0 0 8}$ | 1,22 | 3,52 |

Tab. 3-18: Transaction density for freehold apartments [sales per thousand inhabitants]

III. 3-17: $\quad$ Transactions per thousand inhabitants for freehold apartments (2008)
can be determined for the City of Göppingen (Baden-Württemberg) and the lowest for the administrative district of Salzwedel.

In respect to the sale of building land for commercial use, the transaction intensity depends on the development characteristics.

III. 3-18: Highest transaction numbers for freehold apartments (2008)

III. 3-19: Lowest transaction numbers for freehold apartments (2008)

The measurability of this dependence is, however, not as exact because of the obvious heterogeneous supply situation. It is, however, possible to observe that more development land for commercial use was sold in rural areas - in proportion to the population - than in cities.

The transaction figures were also far below those of real estate for private use and are therefore presented per 10,000 inhabitants in table Tab. 3-19.

The transaction density of development land for commercial use is overall rather homogeneous in Germany (III. 3-20).

| Year | Residential patterns |  |
| :---: | :---: | :---: |
|  | Predominantly <br> urban |  |
| $\mathbf{2 0 0 7}$ | 1,12 | 3,36 |
| $\mathbf{2 0 0 8}$ | 1,22 | 3,52 |

Tab. 3-19: Transaction density for building land for commercial use [sales per ten thousand inhabitants]

In most of the regions, sales amount to roughly between 1.0 and 3.5 purchases per 10,000 inhabitants.

III. 3-20: Transactions per ten thousand inhabitants for development land for commercial use (2008)

Thüringen is at the top (for example, the administrative district of Kyffhäuser) but also the administrative district of Vechta in Niedersachsen. The lowest turnover figures were determined for the city of Hagen (Nordrhein-Westfalen) and in the Rhein-Lahn administrative district in Rheinland-Pfalz.

The administrative districts/independent cities with the highest and lowest transaction numbers in the sector of development land for commercial use are presented in illustrations III.3-21 and III. 3-22.

III. 3-21: Highest transaction numbers for development land for commercial use (2008)

III. 3-22: Lowest transaction numbers for development land for commercial use (2008)

### 3.2.5 Extreme values in Germany

## Building plots for the construction of individual residential real estate

The landscape of the state of Schleswig-Holstein is marked by rather moderate variations in elevation; in terms of indicative land values, however, there is an unparalleled slope. While, for example, the price for one square metre of building land for single- and two-family houses amounts to an average of $45 € / \mathrm{m}^{2}$ in the administrative district of Schleswig-Flensburg, top locations at the mud flats on the island of Sylt, which is approx. 50 km away, can cost up to $3,500 € / \mathrm{m}^{2}$ (III.3-23). Sylt is thus, just like the region around the Starnberg Lake near München, one of the most exclusive locations in terms of price in Germany.

III. 3-23: Map showing indicative land values in Kampen (island of Sylt) 2008

But major cities can be expensive too: Indicative values of plots for detached houses and houses divided into two flats in München can cost up to $2,600 € / \mathrm{m}^{2}$, followed closely by Hamburg with up to $2,400 € / \mathrm{m}^{2}$. Semi-detached and terraced houses in Hamburg can even cost up to $3,100 €$ / $\mathrm{m}^{2}$. Somewhat cheaper but still relatively expensive is Stuttgart with $1,280 € / \mathrm{m}^{2}$. In other cities for which figures are available in connection with this report, prices for top locations range below $1,000 € / \mathrm{m}^{2}$. The maximum price level in Köln is approx. $800 € / \mathrm{m}^{2}$, comparable plots in the Grunewald area of the federal capital Berlin can cost an average of up to $740 € / \mathrm{m}^{2}$.

An analysis of the average indicative land values for the construction of individual residential buildings shows an overall similar picture for
top locations in 2008: Hamburg is on top with an average of $2,655 € / \mathrm{m}^{2}$, followed by München, Stuttgart, the administrative district Starnberg and the city of Heidelberg (Tab. 3-20).

| Administrative <br> districts/independent <br> cities | Average indicative land <br> value for the construction <br> of individual residential <br> real estate (top locations) <br> [ $\epsilon / \mathrm{m}^{2}$ ] |
| :--- | :---: |
| City of Hamburg <br> (HH) | 2,655 |
| City of München <br> (BY) | 1,567 |
| City of Stuttgart <br> (BW) | 1,280 |
| Administrative district <br> Starnberg (BY) | 1,100 |
| City of Heidelberg <br> (BW) | 1,100 |

Tab. 3-20: Average indicative land value for construction of individual residential real estate (top location) 2008

## Developable land for the construction of multi-storey buildings

Prices for developable land for the construction of multi-storey buildings in average locations was available for a total of 158 administrative districts/ independent cities for 2008. In this respect, the city of München topped the list of top values with an average of $1,000 € / \mathrm{m}^{2}$ (Tab. 3-21).

| Administrative district/ <br> independent city | Development land prices <br> for the construction of <br> multi-storey buildings <br> (average location) <br> [ $\epsilon / \mathrm{m}^{2}$ ] |
| :--- | :---: |
| City of München <br> (BY) | 1,000 |
| City of Wiesbaden <br> (HE) | 1,000 |
| Administrative district <br> Starnberg (BY) | 950 |
| City of Darmstadt <br> (HE) | 900 |
| City of Frankfurt (Main) <br> (HE) | 580 |
| City of Stuttgart <br> (BW) | 540 |
| City of Offenbach <br> (HE) | 530 |
| City of Hamburg <br> (HH) | 439 |
| City of Düsseldorf <br> (NW) | 420 |

Tab. 3-21: Prices for development land for the construction of multi-storey buildings (average location) 2008

For good and very good locations, the price levels in the two cities of Darmstadt and Wiesbaden are by far the highest; in Wiesbaden they reach up to $8,000 € / \mathrm{m}^{2}$, in Darmstadt they still reach $5,000 € / \mathrm{m}^{2}$.

## Developable land for commercial use in major cities

In relation to prices for developable land for commercial use in prime locations in Oberzentren (larger, central cities), München, with up to $50,000 € / \mathrm{m}^{2}$, took a special status during the reporting year 2008 (Tab. 3-22 and III. 3-24). In Frankfurt and Stuttgart approx. $18,000 € / \mathrm{m}^{2}$ were paid for such sites, followed by Hamburg with approx. $11,000 € / \mathrm{m}^{2}$. But the city of Münster in the Westphalia region also featured a price level of still approx. $10,000 € / \mathrm{m}^{2}$. In terms of price the city is thus on par with comparable sites in the western part of the city of Berlin.

| Administrative <br> district/ <br> independent city | Prices for development <br> land for commercial <br> use (Oberzentren prime <br> location) [ $\epsilon \mathrm{m}^{2}$ ] |
| :--- | :---: |
| City of München <br> (BY) | 50,000 |
| City of Frankfurt (Main) <br> (HE) | 18,000 |
| City of Stuttgart <br> (BW) | 17,500 |
| City of Hamburg <br> (HH) | 10,982 |
| City of Münster <br> (NW) | 10.000 |

Tab. 3-22: Prices for development land for commercial use (Oberzentren in prime locations) 2008

III. 3-24: Map showing indicative land values in München (Marienplatz) 2008

## Area turnover for developable land for the construction of individual residential real estate

An analysis of the area turnover for developable land for the construction of individual residential buildings showed in 2008, as compared to 2007, the strongest percentage gain in individual administrative districts of the federal states of Rheinland-Pfalz, Niedersachsen, Brandenburg and Mecklenburg-Vorpommern. Only turnovers with a total of more than 10 ha were considered with this. The table Tab.3-23 shows the seven administrative districts/independent cities with the biggest changes.

In case of large cities and administrative districts with a population in excess of 500,000 and with a turnover in excess of 10 ha, the biggest percentage gain could be observed, according to the figures available in 2008, in Hamburg and in Berlin. With 130 ha , the federal capital also had the highest area turnover in the country in 2008. If compared to 2007, the turnover dropped, on the other hand, in München by almost $12 \%$, in the administrative district of Recklinghausen even by $23 \%$. The table Tab. 3-24 shows the four administrative districts/independent cities with the strongest gains and the biggest drops.

## Area turnover for developable land for multistorey buildings

The biggest area turnover for developable land for multi-storey buildings in 2008 could be recorded in the city of Berlin, here in particular within the eastern part of the city. With 106.8 ha, four times as much land was exchanged than in the city of München, which is on second place. Because of the higher price level, München leads, however, with $€ 300$ million in terms of financial turnover, followed by Hamburg with $€ 233.8$ million and Köln with $€ 87.5$ million.

## Freehold apartments in top locations

Whoever intended to purchase an apartment in one of München's top locations had to have deep pockets in 2008 in consideration of the price of $6,710 € / \mathrm{m}^{2}$ residential space. If compared to 2007, the average price for residential spaces for such properties in München increased by almost $13 \%$. München was followed by the western part of the city of Berlin with $4,385 € /$ $\mathrm{m}^{2}$ and Hamburg with $4,208 € / \mathrm{m}^{2}$ for residential space. In comparison with the previous year, Hamburg showed an increase of even c. $20 \%$. A comparably high price level can also be found in the cities of Frankfurt am Main and in Köln, each with prices in the region of $3,900 € / \mathrm{m}^{2}$ for residential space.

| Administrative district/ <br> independent city <br> (Turnvoer > 10 ha) | Area turnover of development land (construction <br> of individual residential real estate) [ha] <br> 2007 |  | Change from previous <br> year <br> [\%] |
| :--- | :---: | :---: | :---: |
| Administrative district <br> Südwestpfalz (RP) | 18.4 | $\mathbf{2 0 0 8}$ | 280.8 |
| Administrative district <br> Germersheim (RP) | 14.9 | 36.9 | 147.7 |
| Administrative district Kusel <br> (RP) | 25.6 | 63.3 | 147.0 |
| Administrative district <br> Rotenburg (Wümme) <br> (NI) | 13.9 | 31.2 | 125.2 |
| City of Schwerin <br> (MV) | 18.1 | 36.8 | 103.3 |
| Administrative district <br> Uckermark (BB) | 18.4 | 27.9 | 51.6 |
| Administrative district <br> Ostprignitz-Ruppin <br> (BB) | 13.1 | 19.2 | 46.6 |

Tab. 3-23: Changes to the area turnovers for development land for the construction of individual residential real estate 2007/2008

| Administrative district/ <br> independent city <br> (Turnover > 10 ha <br> Population > 500,000) | Area turnover of development land (construction <br> of individual residential real estate) [ha] |  | Change from <br> previous year <br> [\%] |
| :--- | :---: | :---: | :---: |
| City of Hamburg <br> (HH) | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ | 10.3 |
| Berlin <br> (BE) | 37.7 | 41.6 | 7.3 |
| Administrative district Neuss <br> (NW) | 122.0 | 130.9 | 4.3 |
| City of Köln <br> (NW) | 20.4 | 21.3 | 2.4 |
| Administrative district Rhein-Sieg <br> (NW) | 43.3 | 41.3 | -4.7 |
| Hannover Region <br> (NI) | 55.1 | 51.4 | -6.6 |
| City of München <br> (BY) | 40.3 | 14.3 .5 | -11.9 |
| Administrative district <br> Recklinghausen (NW) | 20.0 | 15.3 | -23.3 |

Tab. 3-24: Changes to the area turnovers for development land for the construction of individual residential real estate 2007/2008

| Administrative district/ <br> independent city | Freehold apartments <br> (newly built in prime locations) <br> [€ per m² living area] |
| :--- | :---: |
| City of München | 6.710 |
| City of Berlin (western part) | 4.385 |
| City of Hamburg | 4.208 |
| City of Frankfurt (Main) | 3.927 |
| City of Köln | 3.914 |

Tab. 3-25: Freehold apartments (newly built in prime locations) 2008

### 3.2.6 Special regional or other market segments <br> - Border regions with other countries -

This section of the report on the German real estate market will examine specific regional characteristics in border regions of the Federal Republic of Germany. This is done using publications from boards of expert valuers or the state board of expert valuers in Rheinland-Pfalz.
(see also: Dietmar Weigt in the magazine "immobilien und bewerten" [24])

The following map shows eight administrative districts and independent cities for which studies on cross-border influences on the real estate
market were made available by the local boards of expert valuers (III. 3-25).

These boards of expert valuers are situated in the federal states of Mecklenburg-Vorpommern, Niedersachsen, Nordrhein-Westfalen, RheinlandPfalz and Schleswig-Holstein. The determined spill-over effects concern the countries Denmark, Luxembourg, the Netherlands and Poland.

III. 3-25: Administrative districts/independent cities where a foreign influence on the regional real estate market could be observed

## Mecklenburg-Vorpommern



Mecklenburg-Vorpommern shares its Eastern boundary over a length of c .78 km with Poland. The spill-over effects resulting from this have so far only been taken up by the administrative district of Uecker-Randow.

According to information from the local board of expert valuers, there were 135 land acquisitions (approx. 8\%) by Polish citizens in the administrative district of Uecker-Randow alone in 2007 and 2008. These mainly involved developed and undeveloped residential plots in the border region. The reasons for this were the relatively high land prices in Poland and the non-existent division by land characteristics (development conditions). Accordingly, a plot of building land, a garden or a meadow all had the same price per square metre. Right behind the German-Polish border, this price was at 50 $-60 € / \mathrm{m}^{2}$; in the administrative district of UeckerRandow, by comparison, in the market area of Pasewalk and Ueckermünde not more than $50 €$ / $\mathrm{m}^{2}$ was achieved.

## Niedersachsen



Niedersachsen has an approx. 189 km long border with the Netherlands. The boards of expert valuers for land values (GAG) Meppen and Aurich record the effects of purchasers from the Netherlands and present these in relation to the segment for developed land in their regional real estate market reports.

According to the contracts from the report year 2008, there were in total 265 acquisitions (previous year 252) of single- and two-family houses in the administrative district of Emsland (GAG Meppen) by persons from the neighbouring country. This corresponds to a share of approx. $24 \%$ (previous year $24 \%$ ) in the overall market. The share is correspondingly higher in parishes that are closer to the border (Tab. 3-26) [14].

| City/municipality | Proportion of purchasers <br> from the Netherlands <br> [\%] |
| :--- | :---: |
| Rhede (Ems) | 53 |
| Dörpen | 38 |
| Lathen | 43 |
| Haren (Ems) | 28 |
| Twist | 64 |
| Geeste | 38 |
| Emsbüren | 30 |

Tab. 3-26: Proportion of purchasers from the Netherlands purchasing single- and two-family houses in the administrative district Emsland in 2008

For the administrative district of Grafschaft Bentheim (GAG Meppen), a significant price development in immediate border proximity could be observed due to high land prices on the other side of the border, in the Netherlands. Market observations by the offices of the board of expert valuers showed that of the detached single family homes that were sold in the district of Grafschaft Bentheim in 2008, approx. $34 \%$ were purchased by persons from the Netherlands (as compared to approx. $37 \%$ during the previous year). Yet, this trend varied from region to region as can be seen in the following table (Tab.3-27) [15].

The region of Ostfriesland (GAG Aurich) could also observe that outside purchasers (persons from the Netherlands and persons who had previously lived outside of Ostfriesland) participated increasingly in real estate transactions along the border with the Netherlands (Rheiderland) and along the Ostfriesland coastal region.

| City/municipality | Contracts with purchasers <br> from the Netherlands <br> [\%] |  |
| :--- | :---: | :---: |
|  | 2007 | $\mathbf{2 0 0 8}$ |
| City of <br> Bad Bentheim | 51 | 43 |
| Municipality of <br> Emlichheim | 59 | 57 |
| Municipality of <br> Uelsen | 73 | 57 |
| Municipality of <br> Neuenhaus | 52 | 13 |
| City of Nordhorn | 10 | 20 |
| Municipality of <br> Schüttorf | 18 | 35 |
| Municipality of <br> Wietmarschen | 26 | 51 |
| Administrative <br> district | 37 | 34 |

Tab.3-27: Proportion of purchasers from the
Netherlands purchasing detached singlefamily houses in the administrative district Grafschaft Bentheim 2008

After a steady increase in the share of purchasers from the Netherlands during the previous years, the number of contracts with purchasers from the Netherlands dropped slightly again in 2008. Accordingly, in 2008, there were 217 purchasers ( $15 \%$ ) from the Netherlands in the administrative district o fLeer and 89 purchasers ( $31 \%$ ) in the Rheiderland (III. 3-26).

While prices for houses have remained stable for more than 10 years in the Ostfriesland region (average price approx. $€ 110,000$ ), the house prices in the Netherlands almost quadrupled over the past 15 years. The average price for a house in the Netherlands is now $€ 250,000$ [8].

## Nordrhein-Westfalen



Nordrhein-Westfalen shares a border with the Netherlands $(387 \mathrm{~km})$ in the north-west and with Belgium ( 99 km ) in the south-west. The main examination focus here was the administrative districts of Kleve and Borken and the particularly noticeable market influence of purchasers from the Netherlands in the city of Bocholt.
In 2007 and 2008, a total of 168 acquisitions for undeveloped and developable land were concluded in parishes and parts of parishes of

III. 3-26: Contracts for developed properties with purchasers from the Netherlands in the administrative districts Leer and Rheiderland 2004 - 2008 [8]
the administrative district of Borken that are bordering the Netherlands. 114 of these contracts involved German purchasers and 54 contracts purchasers from the Netherlands. If, for comparison reasons, the quotient of the paid purchase price and allocated indicative land value is determined, it can be seen that purchasers from the Netherlands on average paid a purchase price that was approx. $12 \%$ above the indicative land value. The German purchaser remained, on average, on the level of the indicative land values.

During the examination of land purchases involving developed single- and two-family houses, a total of 215 contracts was processed; 160 of these contracts were with German purchasers and 55 contracts with purchasers from the Netherlands. If the average square metre prices that were paid are compared, there is, however, no difference with respect to the origin of the purchaser. On average, the person from the Netherlands paid about the same as the German person.

For a reliable statement on the influence of purchasers from the Netherlands on the administrative district of Borken it would, however, be necessary to carry out more comprehensive statistical studies on the effects of individual property characteristics on the purchase price structure.

The city of Bocholt as the largest city of the administrative district of Borken, carried out similar studies and determined that for the years 2007 and 2008 there were 4 purchasers from the Netherlands out of a total of 70 concluded contracts for undeveloped and developable land. If the quotient of paid purchase price and allocated indicative land value is determined for price comparison purposes, the purchasers from the Netherlands had paid a purchase price that was approx. $46 \%$ above the indicative land value. In case of German purchasers, this amounted to $4 \%$ only.

With respect to the sale of developed single- and two-family houses, the share of purchasers from the Netherlands was very low. Out of a total of 550 purchase contracts, there was an involvement of purchasers from the Netherlands in 9 cases. A price comparison on the paid average square metre price, as it was carried out in the administrative district of Borken, was not possible due to missing information on the actual living space of the sold properties.

Because of the low involvement of purchasers from the Netherlands in the real estate market of the city of Bocholt, the percentage figures must be considered very cautiously. In this case, it would also be necessary to carry out comprehensive statistical studies on the influence of individual property characteristics on the purchase price structure.

Highly detailed studies, which can also be found in the regional real estate market report, were, by contrast, carried out by the administrative district of Kleve. For the report year 2008, a market share of purchasers of land for the construction of individual residential real estate from the Netherlands of up to $38 \%$ was determined in some parishes (III. 3-27).

III. 3-27: Proportion of purchasers from the Netherlands purchasing land for the construction of individual residential real estate in the administrative district Kleve 2008 [10]

The percentage share of purchasers from the Netherlands in the acquisition of commercial building land was approx. $5 \%$ (2 purchases).

In relation to the purchase of developed land, purchasers from the Netherlands had a market share of $23 \%$ of a total of 1490 purchases (III. 3-28 and III. 3-29).

The exact effects of purchasers from the Netherlands on the real estate market in the administrative district of Kleve, broken down by market segments, is presented in the following table (Tab. 3-28).

The registered purchases in the market segment for apartment and part owned real estate dropped between the reporting years 2007 and 2008 by almost $20 \%$ to 411 purchases. Yet, the share of purchasers from the Netherlands continued to increase by 3\% to (III. 3-30).

III. 3-28: Proportion of purchasers from the Netherlands in the purchase of real estate in the administrative district Kleve 2008 [9]

III. 3-29: Origin of purchasers of developed land in the administrative district Kleve 2008 [9]

| Property type | Number of purchases in the administrative district Kleve | Proportion of purchasers from the Netherlands [\%] |
| :---: | :---: | :---: |
| Single- and two-family houses |  |  |
| detached single-family houses | 536 | 37 |
| Detached single-family houses with additional, self-contained apartment | 28 | 11 |
| Two-family houses | 48 | 21 |
| Semi-detached houses | 6 | 33 |
| Terraced houses | 242 | 14 |
| Semi-detached house | 386 | 15 |
| Holiday homes | 6 | 33 |
| Multiple dwelling units |  |  |
| Three-family homes | 10 | 30 |
| Multiple dwelling units | 42 | 24 |
| Mixed use properties (commercial share less than $20 \%$ ) | 30 | 10 |
| Residential/commercial buildings (commercial share in excess of $20 \%$ ) | 30 | 13 |
| Office, administration and business buildings |  |  |
| Office/administration buildings | 0 | 0 |
| Business buildings (commercial use: 100\%) | 2 | 50 |
| Commercial and industrial properties |  |  |
| Commercial/industrial operations | 17 | 12 |
| Tertiary trade | 7 | 0 |

Tab. 3-28: Proportion of purchasers from the Netherlands in the property types of the real estate market in the administrative district Kleve 2008

III. 3-30: Origin of purchasers that purchased freehold apartments in the administrative district Kleve 2006-2008 [11]

## Rheinland-Pfalz



Rheinland-Pfalz has a boundary with three European neighbours - Belgium ( 57 km ), France ( 108 km ) and Luxembourg ( 125 km ). The influence on the German real estate market is almost exclusively dominated by purchasers from Luxembourg. In the northern regions a spill-over effect from the Netherlands can be observed, which are even farther away. There were also purchases from Belgium and France; these had, however, no major effects on the market.

The largest spill-over effect could be observed in the administrative district of Trier-Saarburg; it was caused by the influence of Luxembourg. This is covered in detail in the current "Landesgrundstücksmarktbericht RheinlandPfalz 2009" (State Real Estate Market Report Rheinland-Pfalz 2009). Because of the high land prices in Luxembourg, more and more Luxembourgers decide to purchase a property on the German side. Because of the significantly higher purchasing power in Luxembourg and the higher incomes resulting from same, these purchasers are generally prepared to pay more (III.3-31). As a consequence, there

III. 3-31: Land price level in Luxembourg and Rhein-land-Pfalz (district Trier-Saarburg) 2008 [18]
are disproportionate price increases and an unusually high level of land value in the regions near Luxembourg.

Since 1996, the local land price index for residential building land in parishes in close proximity to the border to Luxembourg that are

III. 3-32: Increasing trend of demand from Luxembourg for residential building land in the administrative district Trier-Saarburg 2008 [18]
part of the association increased by approx. $67 \%$ more than the respective land price index for the state average. It is only since c. 2004, that the remaining administrative district followed with a land price index increase of up to $21 \%$ above the state average (III. 3-32).

The share of purchasers from Luxembourg has increased steadily for a number of years and amounted to $17.6 \%$ for undeveloped building plots in Jan/2008. Purchasers from Luxembourg also had an effect on the market for developed land ( $15 \%$ share in Jan/2008 with respect to not partitioned land and $19.1 \%$ share in Jan/2008 with respect to residential property).

## Schleswig-Holstein



Schleswig Holstein shares an over c. 67 km border with Denmark. The Danish influence on the regional real estate market was examined by the board of expert valuers of the city of Flensburg and applied to the local real estate transactions. Because of its location only 5 km from the German-Danish border, the city of Flensburg, as a Oberzentrum, i.e. central city, is also strongly characterised by Danish investors.

No detailed examination was carried out; but it is possible to observe an upward trend in the sales figures due to an increase of foreign investors entering the real estate market in Flensburg between 2005 and 2007. There was a particularly high demand for investment properties. In 2008, only a few properties were sold to foreign investors and the number of contracts received has almost dropped to the levels of 2003 and 2004. In the case of developed land and apartments, a drop in sales by approx. $26 \%$ and approx. $21 \%$ [13] could be observed if compared to the previous year.


### 3.3 The individual federal states

### 3.3.1 Baden-Württemberg

Area:
c. $35,800 \mathrm{~km}^{2}$
Population:
Population density: c. 10.7 million 301 Population/km²

Baden-Württemberg is one of the economically strongest German federal states and also one of the leading technology regions in Europe. The number of research and development institutions in the state is high - Baden-Würtemberg is therefore also well known as an important European research location.

Development is driven by the economy; this development takes place mainly in the automotive, data processing, electrical engineering, optical and chemical industries. Baden-Württemberg is a stronghold of SMEs and the craft trade.

The state area consists of approx. $45.9 \%$ agricultural areas, $38.2 \%$ forests, approx. $14.0 \%$ settlement and traffic areas and $1.9 \%$ are covered by water and areas that have other uses.

In 2008, the number of people in gainful employment was c. 5.37 million. $2 \%$ worked in agriculture and forestry, $37 \%$ in the manufacturing industries and $61 \%$ in the service industry. The annual average unemployment rate was $4.1 \%$ in 2008.

Baden-Württemberg is, in terms of tourism, with approx. 44 million overnight stays, the second most important German tourist destination after Bayern.
Baden-Württemberg is divided politically into 35 administrative districts and 9 independent cities, as well as 1,102 parishes.
The landscape in Baden-Württemberg is characterised by the valley of the Rhine River in the west at the border to France, the Black Forest with the Swabian Jura and the landscape along the Neckar River. Agriculture is an important economic factor in the rural areas (grass land farming, feed crops; special crop farming, wine growing etc.).

The boards of expert valuers in BadenWürttemberg are established at a municipal level within city and municipal administrations. A small number of municipalities have formed associations for administration purposes. The contact details of the boards of expert valuers are available on the Internet (see Chapter 7.1).

The market data for Baden-Württemberg was obtained from the evaluations from 15 member cities that are represented in the working group of the municipal land survey agencies within the Städtetag (congress of municipal authorities) in Baden-Württemberg. They reflect the market level of the metropolitan and surrounding regions. The available data from the 15 cities is, however, not sufficient to provide reliable results for the whole real estate market of the state of Baden-Württemberg. It is, however, certain that the Stuttgart region is one of the economically strongest regions and also one of the areas with the highest real estate prices in Germany.


### 3.3.2 Bayern

Area:
Population:
Population density:
c. $70,500 \mathrm{~km}^{2}$
c. 12.5 million 177 Population/km²

The boards of expert valuers in Bayern are - in accordance with the Bayern regulations governing boards of expert valuers - established by independent city and administrative district regions and therefore have a decentralized organisation. Because of the current legal situation, there is no state board of expert valuers and no common central office. The summary of the state-wide data was therefore prepared on a voluntary basis by the working group of the boards of expert valuers of the independent cities in Bayern (Arbeitskreis der Gutachterausschüsse der kreisfreien Städte in Bayern). The response rate with respect to the data that was submitted in the course of this process was overall pleasingly high. A response rate of $85 \%$ was recorded for the independent cities, while the response rate of the administrative districts amounted to $60 \%$. The overall database is therefore approx. $66 \%$. Using this base data, which has some particular gaps for the regions Lower Franconia Unterfranken, Schwaben and eastern Niederbayern, the following analysis reports were prepared.

Bayern is, with approx. $70,500 \mathrm{~km}^{2}$, the largest federal state in terms of area. Only $11 \%$ of the area is used as settlement and traffic areas. With c. 12.5 million inhabitants Bayern is, after Nordrhein-Westfalen and ahead of BadenWürttemberg, the state with the second highest population. The population growth in recent years can be attributed to the highest domestic inward migration within Germany. The state capital of München is, with a population of 1.3 million, after Berlin and Hamburg the third largest city in Germany. Bayern is, with c. 77 million overnight stays per year, an important tourism destination in Germany [3].

A large part of the overall economic performance in the Free State of Bayern is in particular concentrated on the urban agglomeration areas of München, Nürnberg-Fürth-Erlangen (as one metropolitan region), Augsburg, Ingolstadt, Rosenheim and Würzburg. Beyond these areas, the economic structures are of rather secondary character. Notable is an economic south-north incline (with the exception of the metropolitan region of Nürnberg-Fürth-Erlangen), which is not only reflected in respect to commercial, but also to residential real estate. In this respect, the regions along the former border between East and West Germany must be emphasised, which,
because of the demographic development, are struggling overall with a decrease of their economic strength and, in correlation, with falling land prices. Considering the population development projections prepared by the state statistical office, no change in this trend can be expected for the near future (III. 3-33) [2].

The developments with respect to recorded purchases and area and financial turnover are presented below on the basis of the submitted data. Average indicative land values for the construction of individual residential and commercial real estate are also presented. The peak values for the metropolitan regions are also included. Finally, there is an analysis of the retail locations in larger cities. On the basis of the submitted data, the following figures were projected for the whole state of Bayern in order to be able to carry out comparisons with the federal level.

Because of the extraordinary diversification in relation to the value of single- and two-family houses, which can in particular be attributed to the significant differences in the indicative land values for residential developable land, no average values were determined.

## Turnover

Approx. 129,000 purchases were registered in the Free State of Bayern during the report period 2008. This is a drop of c. $2 \%$ from the previous year. Agricultural and forestry land accounted for c. 20,000 of these purchases; purchases in this segment were therefore $12.5 \%$ higher than the previous year's value. The segments for individual residential real estate (developed and undeveloped land), land for commercial use and apartment and part-ownership accounted for c. 109,000 cases. This is an increase of c. $2.6 \%$. This increase occurred in particular in the areas of developed single- and two-family houses (increase of $3.2 \%$ ) and apartment and partownership (increase of $4.4 \%$ ).

The recorded area turnover in 2008 was c. 36,500 ha, which corresponds to an increase of approx. $10 \%$ if compared to the previous year. This growth can be attributed to a turnover increase in the sector of agricultural and forestry land of $39.1 \%$. At the same time, there was a drop of $19 \%$ in the sectors of undeveloped land for individual residential and commercial real estate and developed single- and two-family houses.

III. 3-33: Anticipated population changes in Bayern between 2008 and 2028

The financial turnover in 2008 amounted to c. $€ 25.8$ billion as compared to c. $€ 34.1$ during the previous year. This corresponds to a drop of about $24 \%$. The proportion of agricultural and forestry land amounted to c. $€ 930$ million in 2008 and to c. $€ 770$ million in 2007. This corresponds to an increase of $21 \%$ between 2007 and 2008. Approx. $€ 25$ billion in 2008 , as compared to c. $€ 33.4$ billion in 2007 , was recorded for the sectors of undeveloped land for individual residential and commercial real estate, developed single- and two-family houses and apartment and partownership. This corresponds to a drop of about $25 \%$.

An analysis of the number of purchases and of the area and financial turnovers shows that agricultural and forestry purchases saw an average increase of almost $30 \%$ in all respects - the number of sales as well as the area and the financial turnover.

The sector for undeveloped land for individual residential real estate is in decline overall, in particular in terms of price development. A substantial slump of c. $42.6 \%$ was recorded in relation to the financial turnover in the area of undeveloped land for commercial use. This also allows the drawing of conclusions on the
developments of the latest economic crisis. A relatively moderate decline of c. $5 \%$ was recorded for developed plots for single- and twofamily houses, while the price development in the area of apartment and part-ownership remained almost stagnant.

## Indicative land values

The indicative land values in the area of individual residential real estate for average locations in the Free State of Bayern range between $30 € / \mathrm{m}^{2}$ in rural areas and up to $648 € / \mathrm{m}^{2}$ in and around the state capital of München. An average indicative land value of $197 € / \mathrm{m}^{2}$ was determined (excluding the state captial of München) for individual residential real estate. This corresponds almost exactly to the value that was determined in 2007. Exemplary average indicative land values for Bayern as of 31st December 2008 are presented in illustration III. 3-34.

III. 3-34: $\quad$ Selected average indicative land values for individual residential real estate in Bayern as of 31st December 2008.

The larger cities reported the following indicative land values for prime locations as of 31.12.2008 (Tab. 3-29):

| Prime locations/Individual <br> residential real estate |  |  |
| :--- | ---: | ---: |
| State capital München $1,567 € / \mathrm{m}^{2}$ $+6,9 \%$ <br> (average location) $648 € / \mathrm{m}^{2}$ $-3,0 \%$ <br> Nürnberg $470 € / \mathrm{m}^{2}$ $\pm 0 \%$ <br> Würzburg $430 € / \mathrm{m}^{2}$ $\pm 0 \%$ <br> Ingolstadt $475 € / \mathrm{m}^{2}$ $\pm 0 \%$ <br> Regensburg $497 € / \mathrm{m}^{2}$ $\pm 0 \%$ <br> Augsburg $520 € / \mathrm{m}^{2}$ $\pm 0 \%$ <br> Landshut $350 € / \mathrm{m}^{2}$ $\pm 0 \%$ |  |  |

Tab. 3-29: Indicative land values for prime locations and individual residential real estate in Bayern

Indicative land values between $25 € / \mathrm{m}^{2}$ in rural areas and $175 € / \mathrm{m}^{2}$ in independent cities are reported for commercial areas in average locations. Overall, an average indicative land value of c. $102 € / \mathrm{m}^{2}$ can be determined for traditional trade areas in average locations.

## Business locations

During the report year 2008, between $1,000 € / \mathrm{m}^{2}$ and $5,700 € / \mathrm{m}^{2}$ were recorded for prime business locations in the Oberzentren (central cities). The state capital of München submitted a top value of $50,000 € / \mathrm{m}^{2}$ in this respect. In the Mittelezentren, prime business locations were traded at between $500 € / \mathrm{m}^{2}$ and $1,750 € / \mathrm{m}^{2}$.

Secondary locations in the Oberzentren in Bayern ranged between $700 € / \mathrm{m}^{2}$ and $3,000 € /$ $\mathrm{m}^{2}$. München determined a value of approx. $32,000 € / \mathrm{m}^{2}$ for this segment.

The Mittelzentren in Bayern reported average location values of between $200 € / \mathrm{m}^{2}$ and $1,050 € /$ $\mathrm{m}^{2}$ for secondary locations.

Further information is available online at (see Chapter 7.1).

### 3.3.3 Berlin

Area:<br>c. $900 \mathrm{~km}^{2}$<br>Population:<br>Population density:<br>c. 3.4 million<br>3834 Population/km²

Berlin, with its 12 boroughs, is, for historical reasons, marked by a decentralised city structure with highly diversified uses (III.3-35). After more than 20 years, any evidence of the former division of the city has largely disappeared from the cityscape.

III. 3-35: Berlin Boroughs

Since then, Berlin has developed into an important science and research location, but also into a city of art and of media and creative industries. The variety of museums in Berlin is surprising, and the city has been able to develop its national and international significance and image as an attractive tourist destination extremely well. Berlin also has spacious and varied open spaces with a high leisure and recreational value. About $22.8 \%\left(203 \mathrm{~km}^{2}\right)$ of the state area is agricultural, forest and meadow spaces. There are further c . $119 \mathrm{~km}^{2}$ green and recreational spaces including other free and green spaces; c. $60 \mathrm{~km}^{2}$ are covered by water.

With 3,475,392 inhabitants, the population peaked in 1993 (calculated from the time of German reunification). The period between1994 and 2000 brought a continuous population decline which reached, with $3,382,100$ inhabitants, its lowest point, in 2000. The population figures have been steadily growing once again since then and the population was at $3,431,675$ inhabitants in 2008 [1].

Since the opening of the new Berlin Central Train Station in May 2006, Berlin is once again linked in all directions to the European long distance rail network - for the first time since WWII. In terms of air traffic, the city is currently undergoing
significant changes. The central airport of BerlinTempelhof was closed in October 2008. The new "Berlin Brandenburg International" (BBI) airport is currently under construction. This airport is intended to replace the existing airports of Tegel and Schönefeld which have already been working at their capacity limits for some time now.

Even though the global economic climate and regional markets deteriorated at rapid speeds over the past months, the Berlin economy showed an actual growth of $1.6 \%$ for the whole year 2008. As in 2005, the city-state had therefore once again exceeded the average federal growth rate. A look back over the past few years shows clearly that, after a long period of structural changes, the Berlin economy was able to gain strength. While the unemployment rate in Berlin was still at $20.1 \%$ in 2006, it had fallen to $17.9 \%$ in 2007 and was at $16.1 \%$ in 2008. Towards the end of 2008, employment in Berlin was still stable. However, at the turn of the year 2008/2009, the seasonal increase in unemployment was already higher than during the three previous years.

A long-term comparison of the situation in the Berlin real estate market since 1990 shows at first a backlog and adjustment demand in the course of German re-unification. This was largely followed by a period of normalisation, a boom phase between 2005 and 2007, and a clear return to the previous "normal" market conditions since 2008 (III. 3-36 and III.3-37). This development illustrates, among other things, the initial high expectations with respect to Berlin's new role as capital city, the subsequent disillusionment and the anticipated - but in the meantime largely muted - expectations with respect to the value propositions that are available here in comparison with other European capitals.

The top results of 2007 with approx. 27,000 purchase contracts and a financial turnover of c. $€ 14.6$ billion, could not be achieved in 2008. During the report year 2008, a drop to c. 24,000 purchase contracts and a financial turnover of $c$. $€ 7.2$ billion was recorded; the market segment with the highest number of sales was apartment and part-owned real estate which accounted for approx. $70 \%$ of sales, followed by developed land with $20 \%$ (2007: 24,3\%) and undeveloped land with $10 \%$ (2007: 8,9\%) of all registered purchase contracts. With respect to the amount of money that was exchanged, developed land is, with $64 \%$, still the segment with the highest turnover, followed by apartment and part-owned real estate with c. $27 \%$ (III. 3-38 and III. 3-39). The sale of full real estate portfolios/large-lot sales had already

III. 3-36: Turnover figures by number of purchase contracts -long-term comparison

III. 3-37: Turnover figures by amount of money - long-term comparison
dropped noticeably in 2007 and could almost be called negligible in 2008.

Undeveloped land turnover was, with c. 74 \% (in terms of numbers), once again predominantly in the eastern part of the city in 2008. The focus with relation to developed land (c. $61 \%$ ) and apartment and part-owned real estate (c. $65 \%$ ) is, by contrast, on the western part of the city. The frontrunner in terms of financial turnover
was in 2008 - as in previous years - was the borough of Mitte (c. € 1.3 billion), followed by the Charlottenburg-Wilmersdorf (c. $€ 1$ billion). Despite the relatively high proportion of the overall area in Berlin, there was no sale of purely agricultural and forestry land.

III. 3-38: Turnover shares in the market segments by number of purchase contracts 2008

III. 3-39: Turnover shares in the market segments by amount of money 2008

III. 3-40: Turnover figures by area- long-term comparison

The area turnover of developed and undeveloped land declined from c. 1,576 ha (2007) to c. 1,219 ha (2008) (III. 3-40). The area turnover for living/floor area in the sector for apartment and part-owned real estate remained largely stable and dropped only marginally from c. 111 ha (2007) to c. 104 ha (2008). The area turnover in 2008 was therefore once again slightly above the turnover of the period 2000-2004.

The biggest changes from the previous year could be observed in the market segment for developed land and within that in the area of investment properties (Tab.3-30). The price increases for investment properties that could be observed in 2007, were not continued in 2008 - not least because of the financial crisis. Yet, despite substantial turnover decreases and declining square metre prices in some parts, no dramatic drop in prices can be observed; there is merely a normalisation of the situation to pre2006 conditions.

Unlike the developments in the area of investment properties, the turnover achieved in relation to undeveloped land and single- and two-family houses remained completely unaffected by the financial crisis in 2008, both in terms of number of sales as well as the amount of money that was exchanged. While prices for single- and twofamily houses essentially are stable to slightly increasing, there continue to be significant price differences between the two parts of the city. Purchase prices for detached houses (construction before 1949), for example, ranged between $€ 150,000-200,000$ in the west, as compared to $€ 120,000-230,000$ in the east. The average purchase price of all detached single- and two-family houses is, with $1,614 € / \mathrm{m}^{2}$ floor space, only slightly below the comparable previous year's value $\left(1,660 € / m^{2}\right)$.

If the turnover decline in the area of apartment and part-owned real estate due to decreasing portfolio transactions, which could be observed as early as 2007, is not considered, the turnover in 2008 of c. 16,700 sales decreased only slightly if compared to the previous year's figure of c. 18,000 . Despite the financial crisis, a slight increase of the price level could be observed, in particular in preferred locations. The bandwidth of purchases prices achieved with the sale of freehold apartments (redeveloped old buildings) in average locations did increase slightly between 2007 ( $680-2,320 € / \mathrm{m}^{2}$ living area, average $1,370 € / \mathrm{m}^{2}$ living area) and 2008 ( $700-2,560 € /$ $\mathrm{m}^{2}$ living area, average $1,540 € / \mathrm{m}^{2}$ living area).

The Berlin real estate market of 2008 appeared overall unimpressed by the financial crisis and its effects. The, in some cases extreme, drops in turnover in relation to investment properties merely represent a return to normality. Whether this will also be the case in 2009 will essentially depend on the further development of the economic conditions.

Further details and first outlooks for 2009 are contained in the Berlin real estate market reports. These are available in both digital as well as analogue format over the Internet (see Chapter 7.1).

| Turnover of developed land in the real estate market |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Submarket | City location | Purchases Number |  |  | Financial turnover million $€$ |  |  | Area turnover ha |  |  |
|  |  | 2008 | 2007 | Change | 2008 | 2007 | Change | 2008 | 2007 | Change |
| Developed land | Berlin ${ }^{1)}$ | 4,926 | 6,553 | -25\% | 4,663.3 | 11,604.4 | -60\% | 750.7 | 1.074,4 | -30\% |
|  | West | 2,962 | 3,933 | -25\% | 2,764.4 | 7,441.6 | -63\% | 430.5 | 665.3 | -35\% |
|  | East | 1,894 | 2,302 | -18\% | 1,631.7 | 3,355.2 | -51\% | 286.8 | 345.8 | -17\% |
| Sales in packages ${ }^{\text {1) }}$ | Berlin | 70 | 318 | -78\% | 267.2 | 807.6 | -67\% | 33.4 | 51.1 | -35\% |
| Of that: <br> Single-/ and two-family houses |  |  |  |  |  |  |  |  |  |  |
|  | Berlin | 3,022 | 3,013 | 0\% | 794.8 | 801.3 | -1\% | 206.5 | 198.2 | 4\% |
|  | West | 1,853 | 1,897 | -2\% | 573.5 | 595.9 | -4\% | 121.4 | 122.1 | -1\% |
|  | East |  | 1,116 | 5\% | 221.3 | 205.4 | 8\% | 85.1 | 76.1 | 12\% |
| Residential and commercial buildings <br> (rental houses, also with partial commercial use) | Berlin | 1,453 | 2,888 | -50\% | 2,259.8 | 5,032.8 | -55\% | 268.4 | 429.0 | -37\% |
|  | West | 886 | 1,687 | -47\% | 1,322.2 | 3,115.8 | -58\% | 163.2 | 262.9 | -38\% |
|  | East | 509 | 911 | -44\% | 677.8 | 1,407.5 | -52\% | 77.2 | 115.0 | -33\% |
| Sales in packages ${ }^{11}$ | Berlin | 58 | 290 | -80\% | 259.8 | 509.5 | -49\% | 28.0 | 51.1 | -45\% |
| Office and Commercial real estate <br> Sales in packages | Berlin | 206 | 350 | -41\% | 1,169.4 | 4,727.5 | -75\% | 95.2 | 245.3 | -61\% |
|  | West | 95 | 181 | -48\% | 559.1 | 2,999.2 | -81\% | 43.5 | 164.8 | -74\% |
|  | East | 99 | 141 | -30\% | 602.9 | 1,430.2 | -58\% | 46.3 | 68.3 | -32\% |
|  | Berlin | 12 | 28 | -57\% | 7.4 | 298.1 | -98\% | 5.4 | 12.2 | -56\% |
| Of that: |  |  |  |  |  |  |  |  |  |  |
| Retail sales (e.g. shops, shopping centres, building and garden markets, department stores) | Berlin | 43 | 54 | -20\% | 133.0 | 578.3 | -77\% | 25.0 | 34.3 | -27\% |
|  | West | 19 | 25 | -24\% | 88.5 | 493.9 | -82\% | 12.0 | 15.4 | -22\% |
|  | East | 24 | 29 | -17\% | 44.5 | 84.4 | -47\% | 13.0 | 18.9 | -31\% |
| Commercial and industrial properties | Berlin | 81 | 100 | -19\% | 146.5 | 155.1 | -6\% | 124.0 | 106.1 | 17\% |
|  | West | 47 | 50 | -6\% | 95.6 | 104.6 | -9\% | 75.7 | 65.5 | 16\% |
|  | East | 34 | 50 | -32\% | 50.9 | 50.5 | 1\% | 48.3 | 40.6 | 19\% |
| Miscellaneous developed | Berlin | 164 | 202 | -19\% | 292.8 | 887.7 | -67\% | 56.6 | 95.8 | -41\% |
| Land | West | 81 | 118 | -31\% | 214.0 | 626.1 | -66\% | 26.7 | 50.0 | -47\% |
|  | East | 83 | 84 | -1\% | 78.8 | 261.6 | -70\% | 29.9 | 45.8 | -35\% |
| Of that: <br> hotels, hotel accommodations |  |  |  |  |  |  |  |  |  |  |
|  | Berlin | 22 | 24 | -8\% | 94.7 | 338.5 | -72\% | 3.2 | 9.2 | -65\% |
|  | West | 17 | 13 | 31\% | 87.4 | 208.7 | -58\% | 2.3 | 3.5 | -34\% |
|  | East | 5 | 11 | -55\% | 7.3 | 129.8 | -94\% | 0.9 | 5.7 | -84\% |

[^2]Tab. 3-30: Turnover developed land 2008


### 3.3.4 Brandenburg

Area:<br>Population:<br>Population density:<br>c. $29,500 \mathrm{~km}^{2}$<br>c. 2.5 million 86 Population/km²

The federal state of Brandenburg has a border with four other federal states - MecklenburgVorpommern, Niedersachsen, Sachsen-Anhalt and Sachsen; Brandenburg encloses the federal capital of Berlin. Business enterprises and resident population alike are concentrated in the greater metropolitan area surrounding Berlin; the outer regions of the state (outer development space) are characterised by a low population density, tourism, agriculture and forestry. The state capital of Potsdam is clearly a location of particular importance. The largest infrastructural project within the region is the ongoing new construction of the "Berlin Brandenburg International" (BBI) airport in Schönefeld.

The 18 boards of expert valuers in Brandenburg recorded 37,959 purchase contracts with a financial turnover of c. $€ 2.8$ billion during the report year 2008. The numer of contracts has therefore remained stable. The extraordinarily high financial turnovers of the years 2006 and 2007 were, however, not achieved. The drop of financial turnover amounted to $23 \%$. The real estate market in the state capital in Potsdam retained its outstanding position: strong demand and preferred locations continue to generate high real estate prices in comparison to the rest of the state.

Fewer purchase contracts and a 19\% lower financial turnover were recorded for undeveloped building land. The price for development land in the segment individual residential real estate amounted to a state average of $66 € / \mathrm{m}^{2}$; this can be broken down into approx. $29 € / \mathrm{m}^{2}$ for the outer development space and approx. $73 € / \mathrm{m}^{2}$ for the greater metropolitan area. Overall, the prices for residential development land sagged slightly.

Despite the significantly lower financial turnover (-27\%), the demand for developed real estate remained constant. The reduced turnover must be primarily attributed to the reduced trade in investment properties. The overall price level remained stable. Detached single-family homes constituted the type of developed real estate that was most in demand. On state level, there was hardly any change to the average price of approx. $€ 200,000$ for a detached single-family home with a construction date after 1990. Average prices ranged from approx. $€ 133,000$ in the outer development space to approx. $€ 213,000$ in the
greater metropolitan area to approx. $€ 370,000$ in Potsdam.

Demand for freehold apartments is highest within the state capital of Potsdam. The number of concluded contracts and the financial turnover with respect to the initial (first) sale of apartments decreased throughout the state; in case of second-hand sales they reached the previous year's level. Prices for residential space - approx. $€ 2,270 € / \mathrm{m}^{2}$ for initial sales and approx. $1,220 € /$ $\mathrm{m}^{2}$ for second-hand sales - remained almost unchanged.

The real estate market for agricultural and forestry land was, as during the previous years, once again very lively. Sales numbers thus increased by $19 \%$, while the financial turnover increased by $29 \%$. In this respect, noticeable land price increases of c. $10 \%$ for arable land and grass land and c. $20 \%$ for forestry land could be recorded. The average price for arable land in the state was $0.31 € / \mathrm{m}^{2}$.

Further details are contained in the real estate market report that is prepared and published annually by the state board of expert valuers. Real estate market reports of the regional boards of expert valuers are available for the whole state. These can also be ordered over the Internet (see Chapter 7.1). Extracts from the respective real estate market reports are available free of charge for information purposes.


### 3.3.5 Bremen

Area:
C. $400 \mathrm{~km}^{2}$

Population:
Population density:
c. 0.7 million

1640 Population/km²

The federal state of Bremen is situated in the north of the Federal Republic of Germany. A special characteristic of the federal state of Bremen is the fact that the state comprises the two cities of Bremen and Bremerhaven which are approx. 60 km apart from each other, i.e. they are spatially separated. The two cities are both enclosed by the state of Niedersachsen. They are linked by motorway, rail and the River Weser.

|  | Bremen | Bremerhaven |
| :--- | :---: | :---: |
| Area | $325 \mathrm{~km}^{2}$ | $79 \mathrm{~km}^{2}$ |
| Population | 548,000 | 115,000 <br> Population <br> density $\mathbf{1 6 8 3}_{\mathrm{km}^{2}}^{\text {Population/ }}$ |${1462$|  Population/  |
| :--- |
| $\mathrm{km}^{2}$ |$}$

Ports and shipping, international trade relations and top products in the high-tech sector provide the foundation for the economic life in Bremen.

Bremerhaven is situated by the sea and is a tourism centre.

Even if the state of Bremen has a distinctly urban character, there is agricultural activity involving approx. 210 operations and an operating area of c. 9,100 ha. The number of operations is, however, decreasing.

The processing industry has approx. 150 enterprises with 47,000 employees. Of great importance is the Mercedes-Benz plant in Bremen.

The state of Bremen has universities with a total of c. 30,000 students. The latest establishment is the private Jacobs University Bremen.

There are approx. 133,000 residential buildings in the state, of which approx. $16 \%$ are situated in Bremerhaven.

Each city, Bremerhaven and Bremen, has its own board of expert valuers.

## Bremen

The price development in the real estate market in Bremen had a decreasing trend in most market segments in 2008. However, the development of the past few years towards a differentiation of the
overall market by location qualities, which could be observed in all areas, did continue:

- The city-centre and preferred residential locations showed stagnant to increasing price levels in all market segments in 2008.
- Prices in the city locations south, west and east generally continued to fall. In some areas prices remained stable.
- Prices also continued to fall in BremenNorth. They only remained stable in prime locations.

Bremen City recorded c. 6,000 purchase contracts in 2008. This corresponds to a real estate market turnover of $€ 1.03$ billion. The area turnover was 361 ha.

The statistical average square metre price for developable land for residential use in Bremen City amounted to c. $170 € / \mathrm{m}^{2}$ during the report year 2008 and remained thus on the same level as in 2007. In Bremen-North, the average value dropped from $100 € / \mathrm{m}^{2}$ to $95 € / \mathrm{m}^{2}$. For this area it can also be concluded: the general price development is not reflected in all residential areas.Very good locations even show an upward trend, while average locations continue to loose value.

In the sector detached houses and houses divided into two flats, the average price for newly built terraced houses, semi-detached houses and detached houses increased. The average price of sold second-hand properties amounted to c. $€ 139,000$ for terraced houses, c. $€ 141,000$ for semi-detached houses and c. $€ 215,000$ for detached houses and houses divided into two flats.

Only a few initial (first) sales were registered in relation to freehold apartments; these were, however, situated in very good residential locations and some of them had exclusive finishings. Because of that, the average price level increased strongly (+6\%). The average price for second-hand freehold apartments, by contrast, continued to fall if compared to the previous year ( $-3 \%$ ). A refined analysis of this market segment did, however, show that there are some substantial variations in price. The number of purchase contracts for converted freehold apartments has decreased so much over the years, that a separate analysis is no longer possible.

## Bremerhaven

In Bremerhaven, c. 1,100 purchase contracts with a financial volume of approx. $€ 108$ million and an area turnover of approx. 81 ha were concluded in 2008.

The average square metre price for developable building land for the construction of individual real estate properties in Bremerhaven amounted to $74 € / \mathrm{m}^{2}$ (III. 3-41).

In the sector detached houses and houses divided into two flats, the average purchase price, excluding the land value, for second-hand properties amounted to $428 € / \mathrm{m}^{2}$ living area. An analysis of the past 10 years shows a significant price drop of almost $50 \%$. In this respect, a structural problem of the city of Bremerhaven becomes apparent. The sales include many houses that were constructed during the period 1920 to 1960. These buildings are economically outdated due to lacking modernisation and maintenance. In many cases, the indicative land value is the only element that constitutes a real value in the determination of the purchase price.

The average purchase price per square metre residential space for terrached houses and semidetached houses excluding land value amounts to $658 € / \mathrm{m}^{2}$. There was a continuous decline of the average prices over the past years in this segment too.

Depending on the year of construction, the prices for second-hand freehold flats range between $200 € / \mathrm{m}^{2}$ and $1,200 € / \mathrm{m}^{2}$ living space. New buildings cost approx. $2,000 € / \mathrm{m}^{2}$ living space; in this respect it must however be noted, that these prices are only achieved in particularly attractive locations.

The local real estate market reports contain further detailed information. Further information is also available online at (see Chapter 7.1).

III. 3-41: Development land for construction of individual residential real estate since 1999

### 3.3.6 Hamburg

Area:
c. $750 \mathrm{~km}^{2}$

Population:
Population density:
c. 1.8 million

2344 Population/km²

## The location

Hamburg, the "Gate to the World", is famous for its port that extends over 7,400 ha or approx. one tenth of the state's area. Hamburg is, as one consequence, domicile for many diplomatic consulates. 104 consular representatives are situated in Hamburg (as of: April 2008), making the Hanseatic city the city with the highest number of consulates in Europe and the third highest number in the world.

The economy is based on many sectors. Of particular importance are the media sector, the aviation industry and tourism, which is receiving a great stimulus from, among other things, the musicals that are performed in the city. The number of overnight stays, for example, increased thus from 4.8 million in 2001 to 7.7 million in 2008.

| Year | Hotel/ <br> Accommodation <br> operations $\geq 9$ beds | Beds <br> offered | Overnight <br> stays <br> [millions] |
| :---: | :---: | :---: | :---: |
| 2001 | 270 | 28.726 | 4.77 |
| 2002 | 270 | 29,815 | 4.98 |
| 2003 | 273 | 30,227 | 5.41 |
| 2004 | 279 | 33,439 | 5.91 |
| 2005 | 281 | 33,848 | 6.38 |
| 2006 | 286 | 35,364 | 7.12 |
| 2007 | 286 | 36,701 | 7.35 |
| 2008 | 292 | 39,528 | 7.66 |

Tab. 3-31: Hotel and bed supply in Hamburg [21]

The population has been increasing for several years now and is, according to latest official projections, expected to continue to grow until at least 2025. Accordingly, the number of private households in Hamburg is expected to increase from currently more than 928,000 to 973,000 in 2025. The proportion of one-person-households is, with $50 \%$, above average. Approx. $30.5 \%$ of the 1.1 million people working in Hamburg commute into the city. The apartment market in Hamburg and the surrounding region can therefore rely on a stable demand.

But Hamburg is also a city of green spaces! Only c. $50 \%$ of the state area comprises developed or traffic areas; the remainder consists primarily of green spaces or water (Tab. 3-32):

| Type of use | Area <br> turnover <br> [ha] | Proportion of <br> overall share <br> [\%] |
| :--- | :---: | :---: |
| Building land, <br> operating areas | 28,700 | 38 |
| Traffic areas | 9,200 | 12 |
| Green areas | 7,000 | 9 |
| Arable land | 5,000 | 7 |
| Grass land | 9,200 | 12 |
| Fruit production and <br> horticulture | 3,000 | 4 |
| Heathland, moorland, <br> layland, wasteland | 2,700 | 4 |
| Forest | 4,700 | 6 |
| Water | $\mathbf{7 5 , 5 0 0}$ | $\mathbf{1 0 0}$ |
| Overall area | 8 |  |

Tab. 3-32: Area distribution in Hamburg

## Turnover

The effects of the financial crisis could be felt quite strongly in Hamburg, both as a major city and a city-state, in 2008. But this affected the area of investment properties only and not owners of individual residential real estate. During this crisis, the real estate market in Hamburg proved exceptionally stable, which is obvious from the consistent prices and the increasing number of building plots sold. This can certainly be attributed to the fact that continued high economic attractivity and increasing population figures are expected for Hamburg.

Overall, $1 \%$ more building plots, apartments and houses were sold in 2008 than during the previous year; however, the area turnover decreased, at the same time, by $19 \%$ and the financial turnover by $26 \%$. These turnover decreases applied to the investment sector only and, within that, particularly to large properties. The market for owner-occupied residential real estate remained stable in 2008.

Overall, 11,608 plots, houses and apartments changed owners. This corresponds to $3 \%$ of properties recorded in the land registers. With $54 \%$, the main share of this was freehold apartments. Developed land accounted for $36 \%$ and undeveloped land for $10 \%$ of all sales. The total turnover was c . $€ 5.6$ billion.

The same number of single- and two-family houses was sold in Hamburg in 2008 as during the previous year. The number of freehold apartments sold in 2008 even increased by $6 \%$.

The turnover for office and commercial buildings dropped by $29 \%$ in 2008, the financial turnover even by $38 \%$. The turnover decrease in relation to warehouse and production buildings amounted to $35 \%$, in terms of financial turnover even to $65 \%$. The sale of apartment blocks and multiple dwelling units dropped by $19 \%$, the financial volume by $44 \%$. This extreme turnover drop must, however, be considered against the backdrop of the record sales in 2006 and 2007. If compared to the period 2001-2005, the turnover of commercial real estate and of apartment blocks and multiple dwelling units has merely returned to its normal standard in 2008.

With respect to building plots, however, there were, with almost no exception, turnover increases that confirm the increasing long-term trend: In the case of buidling plots for singleand two-family houses, the number of plots sold increased by $17 \%$, in case of building plots for apartment blocks the number increased by $31 \%$. The figures dropped by $20 \%$ with respect to office and business buildings, but increased by $86 \%$ for commercial real estate. Sales of undeveloped building land including prospective building land accounted for a total in 2008 of c. 170 ha and c. $€ 660$ million (Tab.3-33). This corresponds to $0.22 \%$ of the state area.

| Turnovers 2008 | Contracts | Area <br> turnover <br> [ha] | Money <br> [in mil- <br> lion $€]$ |
| :--- | ---: | ---: | ---: |
| Freehold apartments | 6,300 | - | 1,196 |
| Single- and two-family <br> houses | 3,308 | 206.8 | 1,088 |
| Multiple dwelling units | 495 | 54.9 | 637 |
| Office/business buildings | 241 | 64.9 | 1,817 |
| Warehousing and <br> production | 80 | 87.2 | 172 |
| Undeveloped land | 1,073 | 165.8 | 655 |
| Agricultural Areas | 24 | 48.7 | 3 |
| Overall turnover | $\mathbf{1 1 , 6 0 8}$ | $\mathbf{6 6 7 . 3}$ | $\mathbf{5 , 6 1 8}$ |

Tab.3-33: Turnover within the market segments

## Prices

The prices for detached houses continued to remain stable. In this respect the phenomenon can be observed, that prices have remained practically unchanged for the past 10 years. The average price for a detached house is $€ 383,000$, for a mid-terrached house $€ 204,000$. The prices for freehold apartments were also $2 \%$ higher in 2008 than during the previous year.

The square metre prices for apartment blocks remained almost unchanged at $1,300 € / \mathrm{m}^{2}$ living area in 2008. Average yields were 14.3 -times the annual net rent or c. $7 \%$.

In the case of office and business buildings, the yield determinant, i.e. the ratio of sale price and annual net rent, remained almost unchanged at 15.1 or c. $6.6 \%$ in 2008 ; only in $1 \%$ of all cases it was lower than it was in 2007.

The prices for building land remained practically constant in 2008.

The average price for a plot for a single-family detached house was c. $€ 195,000$ in 2008 ; the average size was $703 \mathrm{~m}^{2}$.

Even if Hamburg consists of only a single municipality, there are extreme location and price variations. The indicative land values for $600 \mathrm{~m}^{2}$ plots for detached houses range from c . $70 € / \mathrm{m}^{2}$ to $2,800 € / \mathrm{m}^{2}$, those for warehousing and production areas from $60 € / \mathrm{m}^{2}$ to $610 € / \mathrm{m}^{2}$.

Further information is available online at (see Chapter 7.1).

### 3.3.7 Hessen

Area:
Population:
Population density:
c. $21,100 \mathrm{~km}^{2}$
c. 6.1 million 288 Population/km²

Hessen is situated in the centre of Germany and includes, with its Rhine-Main region, one of the most important economic regions in Germany. Hessen is, apart from that, characterised by its agricultural and forestry areas, which cover $43 \%$ of the state's overall area.

However, only $1.5 \%$ of all persons in gainful employment work in agriculture. $27,2 \%$ of the workforce is employed in the public and private service sectors, $26.5 \%$ in trade, hospitality and transport. Largest employer is Frankfurt Airport, Germany's most important freight and passenger airport.

Hessen is characterised by a pronounced South-North incline. The Wiesbaden-FrankfurtDarmstadt metropolitan area and the adjoining administrative districts have the highest population density. Accordingly, most real estate transactions are concentrated in this region which also has the highest land values and real estate prices.

While prices for building land for the construction of individual residential real estate start at c. $20 € / \mathrm{m}^{2}$ in the north and the east of Hessen, they range up to an average of $800 € / \mathrm{m}^{2}$ in good locations in the state capital of Wiesbaden. In the "Westhafen" area of Frankfurt, land value for multi-storey residential real estate amounts to approx. $2,800 € / \mathrm{m}^{2}$. A purchaser of commercial real estate in Hessen will have to pay between $10 € / \mathrm{m}^{2}$ and $400 € / \mathrm{m}^{2}$ depending on location and quality of the development land; prices for agricultural land range between $0.50 € / \mathrm{m}^{2}$ in North Hessen and $10 € / \mathrm{m}^{2}$ in the greater Frankfurt area. (III. 3-42).

III. 3-42: Residential land values

In 2008, the 47 boards of expert valuers in Hessen recorded c. 52,000 purchase contracts with a financial turnover of approx. € 10 billion. $35 \%$ of these were for undeveloped land, $37 \%$ for developed land and $28 \%$ for apartment and partowned real estate. This breakdown of the market segments varies, however, quite significantly between the different regions.

The real estate market in Hessen dropped sharply in 2008 if compared to the previous year. The number of concluded purchase contracts dropped by c. $5 \%$ in each of the three market sectors. The financial turnover collapsed by an impressive $43 \%$; the biggest drop in this respect could be observed in the area of developed land which amounted to $-50 \%$ (III. 3-43). The lion's share was determined for the city of Frankfurt, which alone had a deficit of $€ 4.6$ billion. The cause of this massive decline in major investment
and portfolio sales must be attributed to the current financial crisis.

The state-wide average price for a detached single-family home was c. $€ 230,000$ in 2008. This corresponds more or less to the previous year's average value. The average price for semi-detached houses remained also almost unchanged at c. $€ 200,000$. Stagnation (i.e. $\pm 1 \%$ ) can also be determined in relation to the prices for second-hand ( $1,300 € / \mathrm{m}^{2}$ ) and newly built ( $2.100 € / \mathrm{m}^{2}$ ) freehold apartments.

Further details are contained in the state-wide real estate market report and the market reports of the regional boards of expert valuers. These are, with few exceptions, available for the whole state of Hessen; an overview of the products can be found on the homepage of the central offices of the boards of expert valuers (see Chapter 7.1).

III. 3-43: Financial turnover in Hessen 2003-2008

### 3.3.8 Mecklenburg-Vorpommern

## Area:

c. $23,200 \mathrm{~km}^{2}$

Population:
Population density:
c. 1.7 million

72 Population/km²
Mecklenburg-Vorpommern is the state with the lowest population density in the Federal Republic of Germany. Only $2.1 \%$ of the population lives on $6.5 \%$ of the country's area. The landscape is characterised by large forests which account for $21.4 \%$ of the state's area. Overall, $5.7 \%$ of the state area is covered by water, which is the main characteristic of the extensive Mecklenburg lakes region. Almost two thirds of the cultivated areas are used for agricultural purposes.

Mecklenburg-Vorpommern is one of the most important tourism regions in Germany. The most important economic centres are - in particular due to the maritime industries - the Hanseatic cities of Rostock, Wismar, Stralsund and Greifswald and, additionally, the state capital of Schwerin and Neubrandenburg. Rostock, Schwerin and the Baltic sea resorts have the highest real estate prices in the state.

In 2008, 17 of the 18 boards of expert valuers in Mecklenburg-Vorpommern (excluding Neubrandenburg) recorded c. 26,000 purchases with an overall financial turnover of approx. $€ 1.3$ billion. $61 \%$ of these involved the purchase of undeveloped real estate, $26 \%$ developed real estate and $13 \%$ apartment and part-owned real estate. In terms of financial turnover, undeveloped real estate accounted for $28 \%$, developed real estate for $49 \%$ and apartment and part-owned real estate for 23 \%.

The prices for developable land for the construction of individual residential real estate start at approx. $5 € / \mathrm{m}^{2}$ in the administrative districts of Uecker-Randow or Parchim and range to approx. $180 € / \mathrm{m}^{2}$ in prime locations in the administrative district of Nordwestmecklenburg and up to approx. $300 € / \mathrm{m}^{2}$ in the Hanseatic city of Rostock.

The land value in the sector of multi-storey residential real estate ranges from c. $20 € / \mathrm{m}^{2}$ in the administrative districts of Uecker-Randow or Parchim to c. $190 € / \mathrm{m}^{2}$ in prime locations in the Hanseatic city of Rostock and up to c. $255 € / \mathrm{m}^{2}$ in the administrative district of Rügen.

Between $3 € / \mathrm{m}^{2}$ in the administrative district of Uecker-Randow and up to $60 € / \mathrm{m}^{2}$ in the Hanseatic city of Rostock are paid in the commercial sector.

The average prices for agricultural land range from $0.11 € / \mathrm{m}^{2}$ for arable land in the administrative
district of Uecker-Randow to $0.95 € / \mathrm{m}^{2}$ in the administrative district of Nordwestmecklenburg; the price for grass land ranges from $0.12 € / \mathrm{m}^{2}$ in the district of Uecker-Randow to $0.64 € / \mathrm{m}^{2}$ in the district of Nordwestmecklenburg.

Between c. $€ 70,000$ ( $580 € / \mathrm{m}^{2}$ living area) in the administrative district of Demmin and c. $€ 210,000$ ( $1,360 € / \mathrm{m}^{2}$ living area) in the Hanseatic city of Rostock were paid for the sale of detached singleand two-family houses. Newly built properties of this type achieved c. $€ 150,000\left(1,240 € / \mathrm{m}^{2}\right.$ living area) in the Hanseatic city of Wismar and up to $c$. $€ 270,000$ ( $1.890 € / \mathrm{m}^{2}$ living area) in the Hanseatic city of Rostock.

Between c. $€ 45,000$ ( $420 € / \mathrm{m}^{2}$ living area) in the administrative district of Demmin and c.€160,000 ( $1,20 € / \mathrm{m}^{2}$ living space) in the Hanseatic city of Rostock were paid in the course of the sale of terraced and semi-detached houses. The prices for newly built properties of this type ranged between c. $€ 125,000\left(1,200 € / \mathrm{m}^{2}\right.$ living area) in the Hanseatic city of Stralsund and c. $€ 220,000$ $\left(2,500 € / \mathrm{m}^{2}\right.$ living area) in the administrative district of Nordvorpommern.

Approx. $472 € / \mathrm{m}^{2}$ was paid for second-hand freehold apartments in the district of Güstrow ranging to $2,101 € / \mathrm{m}^{2}$ in the administrative district of Bad Doberan; newly built apartments achieved between $417 € / \mathrm{m}^{2}$ in the administrative district of Mecklenburg-Strelitz and up to $2,061 € / \mathrm{m}^{2}$ in the district of Ostvorpommern.

The real estate market in MecklenburgVorpommern with respect to prices for building land is essentially stagnant or decreased slightly if compared to the previous year. Special exceptions are the administrative district of Mecklenburg-Strelitz and the Hanseatic city of Greifswald. Here, an increase of more than $10 \%$ from the previous year could be recorded.

Further substantial increases for agricultural land purchases could be recorded, both in terms of area as well as financial turnover. It is not expected that the continuous increase of prices for agricultural land will come to an end in the next few years. This is benefitted by, among other things, the excellent market position of the BVVG (Bodenverwertungs- und -verwaltungs GmbH ).

Further details are contained in the market reports and the indicative land value maps of the local boards of expert valuers. These cover, with few exceptions, the whole state of MecklenburgVorpommern. The publication of a state real estate market report is intended for the business year 2010 at the earliest. Further information is available online at (see Chapter 7.1).

### 3.3.9 Niedersachsen

## Area:

Population:
Population density:
c. $47,600 \mathrm{~km}^{2}$
c. 8 million

167 Population/km²

## The state

Niedersachsen
Niedersachsen has a population of c. 8 million on
approx. $48,000 \mathrm{~km}^{2}$. Accordingly, Niedersachsen is the second largest federal state in terms of area and the fourth largest in terms of population. Niedersachsen was founded in 1946 and emerged from the states of Hannover, Oldenburg, Braunschweig and Schaumburg-Lippe. The state capital and largest city is Hannover with a population of approx. 518,000.
$61 \%$ of state's area is used for agricultural purposes, $21 \%$ of the state are covered by forests. Niedersachsen is, however, no longer an agricultural state. Only $3.3 \%$ of the c. 3.6 million people in gainful employment work in the agricultural sector. Approx. one quarter ( $24.6 \%$ ) of people in gainful employment work in the manufacturing industry, $26.2 \%$ in trade, hospitality and transport and one third ( $31.8 \%$ ) in the public and private service sectors.

The Volkswagen plant in Wolfsburg, the largest automotive manufacturer in Europe, the intensive agricultural production region Oldenburg Münsterland and the City of Hannover with its CeBIT exhibition and the Hannover Trade Fair are of main supraregional and international significance. With a turnover of c. $€ 14$ billion, tourism is another important industry in the region.

Niedersachsen ranks 4th among the federal states in terms of number of overnight stays. Tourism centres include the East Frisian Islands, the Lüneburg heathland and the Harz Mountains.

## The real estate market

In 2008, real estate with an overall area of $495 \mathrm{~km}^{2}$ and with an overall value of $€ 11.4$ billion changed ownership through the conclusion of 88,000 contracts. $16 \%$ of these concerned development land, $46 \%$ developed land, $21 \%$ apartment and part-owned real estate and $13 \%$ agricultural and forestry areas (III. 3-44).

If compared to 2007, the real estate market in Niedersachsen largely declined in 2008. Overall, the number of recorded purchase contracts dropped by $1 \%$ (2007: -5\%). Apart from the market segments for single- and two-family houses ( $+5 \%$ ), developable land for commercial use ( $+3 \%$ ), land for agricultural use ( $+9 \%$ ) and other areas ( $+3 \%$ ), all other market segments showed a negative development.

If compared to the previous year (2007: $+9 \%$ ), the financial turnover dropped by $18 \%$, in the Hannover region even by $34 \%$. A particularly substantial decline in Niedersachsen was recorded in the market segments for apartment blocks and multiple dwelling units ( $-32 \%$ ), business and administration buildings ( $-51 \%$ ) and part-owned real estate ( $-36 \%$ ). While these segments showed a high increase in sales during the previous year due to the large number of sales of large individual residential and commercial real estate as well as portfolio sales to institutional investors, the proportion of these sales was sharply in decline in 2008.

In terms of area turnover, a slight increase of $3 \%$ was recorded in comparison to the previous year. Overall, c. 50,000 ha changed owners; c. $71 \%$ of that were agricultural and forestry areas, c. $18 \%$ developed building sites and c. $8 \%$ undeveloped building sites. The remainder consisted of areas for public purposes (schools, hospitals etc.) and other areas. With c. $12 \%$, the strongest increase in this respect was recorded in the area of undeveloped building space.

| Contracts | Money | Areas |
| :---: | :---: | :---: |
|  |  |  |

III. 3-44: Turnover distribution by land type

The decline in the number of contracts concluded for development land for the construction of individual residential real estate, which could be observed since 2004, continued in 2008. While 19,983 contracts were concluded in 2004, there were only 11,458 contracts in 2008; a drop of $43 \%$. If compared to the previous year, the number of contracts concluded in 2008 had dropped by $12 \%$. Prices for normal residential building plots hardly changed in most municipalities. The average price development ranged, depending on supply and demand, between -10,9\% in the independent city of Wilhelmshaven and $+13,1 \%$ in the conurbations of the administrative district of Osterholz. In most municipalities prices had hardly changed. Building land in average
locations in Niedersachsen including costs for the installation of public utility facilities ranges between $19 € / \mathrm{m}^{2}$ in peripheral locations in the administrative districts of Lüneburg and LüchowDannenberg and $350 € / \mathrm{m}^{2}$ in the state capitalof Hannover. The average price decreased slightly and is now at $89 € / \mathrm{m}^{2}$ (previous year: $90 € / \mathrm{m}^{2}$ ) (III. 3-45).

The number of contracts for building land for commercial use continued to increase by $3 \%$ in 2008 (2007: $+7 \%$ ); the overall area sold in this respect had also increased by $43 \%$ due to an increased number of large-area transactions (2007: +12\%). The prices for these types of spaces, which are often offered by the local

III.3-45: Indicative land values for individual residential real estate free of local infrastructure charges in medium locations
municipalities, have remained almost unchanged for several years.

The number of contracts for developed residential real estate increased by $2 \%$ in 2008 (2007: $-1 \%$ ). The real estate index for Niedersachsen (Niedersächsischer Immobilienindex-NIDEX) for detached houses shows that prices for newly built houses continued to increase (III.3-46). Prices for 10 -year-old buildings remained constant, prices for 20 -year-old buildings have slightly increased once again. Prices of 30 -year-old and older buildings continued to decline. Average prices paid for detached single-family homes ranged between $€ 83,000$ in the administrative district of Lüchow-Dannenberg and $€ 254,000$ in the state capital of Hannover. The state average for a detached single-family home was $€ 138,000$ (2007: 140.000€), for a duplex house $€ 144.000$ (2007: 144.000€) and for terraced houses/semidetached houses $€ 127,000$ (2007: 129.000€).

III. 3-46: NIDEX for single-family houses (newly built; basis year 2000 = index value 100)

The number of contracts for freehold apartments has fallen slightly in comparison to the previous year (2007: -7\%). The real estate index for Niedersachsen (NIDEX) for freehold apartments shows that prices for newly built apartments have increased once again to the levels of 2004 and 2005. The price decline for older apartments, that could be observed on a long-term basis over the past few years, has continued. New freehold apartments cost between $1,310 € / \mathrm{m}^{2}$ in the administrative district of Gifhorn and $2,460 €$ / $\mathrm{m}^{2}$ in the state capital of Hannover.

The number of developed real estate properties that were conveyed in the course of foreclosure auctions continued to increase with respect to single- and two-family houses. In the market segments for apartment blocks and apartment/ part-owned real estate, it is, however, possible to determine a sharp decrease of these figures.

The figures remained once again constant for the segment of business and administration buildings.

The increase in larger investments in the real estate market in Niedersachsen, which could be observed during the past two years, did not continue in 2008; there was even a sharp decline. Overall, approx. € 1.6 billion was exchanged in the course of such large investments and portfolio sales in the market segments for apartment blocks, business and administration buildings and other buildings (2007: $€ 3.5$ billion); this corresponds to about 14\% (2007: $25 \%$ ) of the total financial turnover in the real estate market in Niedersachsen. Major investments were predominantly made in large cities and their peripheral locations. With a proportion of $40 \%$ (c. €650 million), the Hannover region played the most important role in this respect.

The number of contracts for agricultural areas within the real estate market continued to increase by $9 \%$ (2007: $+4 \%$ ). The area turnover throughout the state increased by overall $1 \%$ (2007: $+7 \%$ ); in this respect, the Weser-Ems region had a particularly high turnover increase of $18 \%$. In 2008, substantially higher prices were paid for agricultural areas, in particular within the WeserEms region. Apart from the positive income development within the agricultural sector in the past year, the increase with respect to arable and grass land areas can also be attributed to the demand for land for the cultivation of renewable resources. The average square metre price for arable land in Niedersachsen has increased to $1.63 € / \mathrm{m}^{2}$ since the previous year ( $1.51 € / \mathrm{m}^{2}$ ); the average area size was 2.5 ha . With $0.90 € / \mathrm{m}^{2}$, the average square metre price for grass land remained constant if compared to the previous year $\left(0.90 € / \mathrm{m}^{2}\right)$. The average area size was 2.7 ha.

Further detailed information on the real estate market in Niedersachsen can be found in the state real estate market report. It is available in printed or digital form on data carriers and for download from the Internet (see Chapter 7.1).

### 3.3.10 Nordrhein-Westfalen

## Area:

c. $34,100 \mathrm{~km}^{2}$

Population:
Population density:
c. 18 million

528 Population/km²

## The state

Nordrhein-Westfalen, with its population of 18 million, is the state with the highest population in Germany and is one of the economically strongest regions in Europe. In hardly any other federal state are urban, industrial and rural areas as close together as they are here. The Rhine-Ruhr region consists of the Ruhr Area (Ruhrgebiet) and the Rheinschiene, which describes the area along the Rhine River between the cities Bonn and Duisburg; both areas are marked by a strong urban character. The Rheinschiene, in turn, can be broken down into the areas of Bonn, Köln and Düsseldorf. These include the bordering Bergisch/Märkische Städteregion, i.e. city region (BMR). The Eifel/Rur, Niederrhein, Münsterland, Ostwestfalen/Lippe, Sauerland and Siegerland regions have a stronger agricultural and forestry character and are marked by SME enterprises. Almost half of the state area in NordrheinWestfalen is used for agricultural purposes, one quarter is covered by forests.

The most popolous federal state has developed from a mining and steel processing region to a modern industrial and service location. North Rhine-Westphalia has today the tightest research network in Germany and is the most important industrial location in Germany. 37 of the 100 largest German companies are located on the Rhine and Ruhr. But Nordrhein-Westfalen is not only a state consisting of large corporations only but is also home of many SME enterprises. $99 \%$ of companies, more than $70 \%$ of the workforce and more than $80 \%$ of persons undergoing occupational training work within the SME sector.

Nordrhein-Westfalen, like no other region in Germany, underwent huge changes over the past decades and, in doing so, placed a great focus on culture. This can be seen throughout the state but particularly clearly in the Ruhr Area. Today, more people in the former mining region work in the creative industries than in mining. Every year, the international arts festival Ruhrtriennale attracts and fascinates people from aller over the world. Nordrhein-Westfalen has an unprecedented density of museums, cultural centres, concert halls and theaters. With the Aachen and Köln cathedrals, the Zollverein mine in Essen and the Schloss Augustusburg in the city of Brühl - all World Heritage Sites - the state has a great cultural past. With more than 2,500 events, 300 culture projects, the longest
drama festival season in Europe and many other projects, the Ruhr Area metropolitan region will present itself as the European City of Culture 2010.

## The real estate market

Overall, 123,920 purchase contracts (-1 \%) for developed and undeveloped land with a financial turnover of $€ 25.72$ billion ( $-23 \%$ ) and an area turnover of $234 \mathrm{~km}^{2}$ (+2\%) were submitted in Nordrhein-Westfalen in 2008. In some cases, the various market segments developed quite differently. The interest in single- and two-family houses remains undiminished. 42,925 single- and two-family houses (+3 \%) with a financial turnover of $€ 8.33$ billion ( $\pm 0 \%$ ) changed owners. The number of commercial and industrial properties sold, by contrast, decreased by $8 \%$; the number of building plots sold for the construction of individual residential real estate by $6 \%$. The market for multiple dwelling units declined by $11 \%$ and the one for office, administration and business buildings even by $31 \%$. Of particular interest is the increase of sales in the sector for agricultural and forestry areas: turnover in the area of agricultural land increased by $9 \%$ and of forestry land by $15 \%$. During the report year, 4,560 properties with agricultural use and 1,400 properties with forestry use changed ownership. In the course of this, $€ 222$ million was exchanged with respect to agricultural land and $€ 36$ million with respect to forestry land. The area turnover amounted to 8,430 ha for agricultural land and 3,800 ha for forestry land.

Market prices decreased slightly throughout the state. Freehold apartments and single- and two-family houses decreased by on average $2 \%$ throughout the state. Prices for building land continued to remain constant.

The frontrunner in terms of building land prices in average residential areas is the state capital of Düsseldorf with $475 € / \mathrm{m}^{2}$ (III. 3-47). In resepct of good residential locations, Köln with $780 € / \mathrm{m}^{2}$ ranked ahead of Düsseldorf with $630 € / \mathrm{m}^{2}$ and Aachen with $440 € / \mathrm{m}^{2}$. Prices are substantially cheaper in some rural areas. The price per square metre building land in average residential locations amounts to, for example, $25 € / \mathrm{m}^{2}$ in Hallenberg and to $30 € / \mathrm{m}^{2}$ in Medebach (both in the Hochsauerland administrative district).

If building land prices are distinguished by region, building plots in the Düsseldorf region are the most expensive. One square metre of building land costs on average of $€ 280$ here. With mit $190 € / \mathrm{m}^{2}$, plots are cheaper in the Ruhr Area, closely followed by the Bergisch/Märkischen city region with $186 € / \mathrm{m}^{2}$, the regions of Bonn

NordrheinWestphalia

III. 3-47: Building land price level in average locations 2008

III. 3-48: Average purchase prices for end-of-terrace and semi-detached houses (newly built) 2008
with $178 € / \mathrm{m}^{2}$ and Köln with $168 € / \mathrm{m}^{2}$ and the Niederrhein region with $152 € / \mathrm{m}^{2}$. Building plots can be acquired substantially cheaper in the Münsterland region with $124 € / \mathrm{m}^{2}$, the Eifel/Rur regions with $104 € / \mathrm{m}^{2}$, in the Ostwestfalen/Lippe region with $96 € / \mathrm{m}^{2}$ and in the Sauerland and Siegerland regions with $87 € / \mathrm{m}^{2}$.

Land prices for arable land in the administrative districts came to an average of $2.50 € / \mathrm{m}^{2}$ and for grass land to an average of $1.70 € / \mathrm{m}^{2}$. The highest prices for arable land were $4.62 € / \mathrm{m}^{2}$ in the administrative district of Mettmann and $4.38 € / \mathrm{m}^{2}$ for grass land in the administrative district of Rhein-Kreis Neuss. The average price level for forestry land among the administrative districts was $0.90 € / \mathrm{m}^{2}$ and ranged between a maximum of $1.59 € / \mathrm{m}^{2}$ in the Herford district and the minimum of $0.64 € / \mathrm{m}^{2}$ in the Kleve district.

In terms of apartment ownership, the turnover remained, with 41,700 properties sold, unchanged if compared to the previous year; the financial turnover amounted to $€ 4.68$ billion ( $-2 \%$ ). The Rheinschiene region is also the most expensive region with respect to this market. The square metre price for living space in a newly constructed freehold apartment in an average location in Königswinter amounted to $€ 2,710$. This was followed by Düsseldorf with 2,670€/
$\mathrm{m}^{2}$ in second place and Ratingen with $2,570 € /$ $\mathrm{m}^{2}$ in third. A freehold apartment in Rheine (Münsterland region), by contrast, had a price of $1,490 € / \mathrm{m}^{2}$.
The cost of newly built end-of-terrace or semidetached houses is with $€ 185,000$ substantially less in the Niederrhein region than in the region of Düsseldorf where the cost comes to $€ 305,000$. The values for the other regions: Köln $€ 290,000$, Bergisch/Märkische city region $€ 255,000$, Ruhr Area $€ 245,000$, Bonn $€ 240,000$, Eifel/Rur $€ 210,000$, Sauerland and Siegerland $€ 205,000$, Ostwestfalen/Lippe €200,000, Münsterland $€ 190,000$. Mid-of-terrace houses are generally slightly cheaper; in the Köln region they still cost, however, €275,000 (III. 3-48).
The following table Tab.3-34 summarises the turnover and price developments in the real estate market.

The real estate market report for NordrheinWestfalen and the reports of the regional boards of expert valuers contain detailed information on the various market segments and relevant valuation data. These can also be centrally accessed through the real estate market information system (see Chapter 7.1).

| Swnatet | sals |  |  |  | fices |
| :---: | :---: | :---: | :---: | :---: | :---: |
| spos bum | 19,40 | $\downarrow$ | ${ }^{198}$ | $\pm$ | - |
| aundatarssistenala real satar | 1,1,20 | $\pm$ | 108 | $\pm$ | $\rightarrow$ |
|  | 500 | $\uparrow$ | 0.27 | $\uparrow$ | $\rightarrow$ |
| Commestiandestalal | 1,000 | v | 0.44 | $\pm$ | $\rightarrow$ |
| tand | ${ }^{88,60}$ | v | ${ }^{18,31}$ | $\downarrow$ |  |
| Sngeo. and worominy house | 42,30 | $\pi$ | ${ }^{\text {®33 }}$ | $\rightarrow$ | צ |
|  | 8.80 | $\pm$ | ${ }_{3} 36$ | $\pm$ | v |
| Commeremindestal | 2,10 | $\pm$ | 216 | $\pm$ |  |
| Anatrener ownesstip | 41700 | $\rightarrow$ | ${ }_{4} 88$ | V | v |
| Oveantumuer | ${ }^{123,92}$ | $v$ | 25.72 | $\downarrow$ | - |

Tab. 3-34: Turnover and price development in the real estate market 2008

### 3.3.11 Rheinland-Pfalz

Area:<br>Population:<br>Population density:<br>c. $19,900 \mathrm{~km}^{2}$<br>c. 4 million<br>204 Population/km²

## Preliminary remarks

Land values, comparison factors for developed land (for example, for apartment ownership and for land for individual real estate construction) and land price index series are essential parameter that characterize a state's real estate market. Data for selected municipalities is presented in both the form of text and illustrations below, to provide a quick overview of regional differences within the real estate market in Rheinland-Pfalz.

## Land value level

The "location" has generally the greatest effect on land value and the market value of developed land. IIlustrations III. 3-49 and III. 3-50 reflect this influence. They show representative land values for residential and commercial building land in the various parts of the state of Rheinland-Pfalz. The greater the size of the circle, the higher is the land value.

While there is generally a high land value level ( $200 € / \mathrm{m}^{2}$ to $500 € / \mathrm{m}^{2}$ for residential building land; $60 € / \mathrm{m}^{2}$ to more than $100 € / \mathrm{m}^{2}$ for commercial
building land) along the Rheinschiene (i.e. the region along the River Rhine) in Rheinland-Pfalz, the Trier region, the Koblenz region and a strip of approx. 25 km width along the River Rhine which ranges from the Bingen-Mainz line to almost the border with France, the values in the regions Eifel, Westerwald, Hunsrück and Westpfalz are generally lower (predominantly $20 € / \mathrm{m}^{2}$ to $100 € /$ $\mathrm{m}^{2}$ for residential building land; $10 € / \mathrm{m}^{2}$ to $60 € / \mathrm{m}^{2}$ for commercial building land).

## Average land price developments

An important parameter for the evaluation of the real estate market in Rheinland-Pfalz is the average land price developments over the past years. Land price developments can be represented by land price index series that reflect the relative land price changes.

If a mutual reference date is applied to the land price index series, it is possible to compare the individual regions. Illustration III. 3-51 provides an overview of the land index price series for residential building land in selected locations (cities and administrative districts) since 01.01.1996.

The regional development on the RheinlandPfalz real estate market is becoming increasingly varied. This becomes particularly apparent if the last two index figures of the respective


III. 3-51: Land price indices for residential development land in selected administrative districts and cities (JAN/1996 to JAN/2008)
rows for residential building land are compared with each other. While land prices in the Donnersberg administrative district, the district of Bad Kreuznach and the city of Mainz indicate a decreasing trend, land prices in the administrative district of Vulkaneifel and the city of Trier show an upward trend. The land price level is stagnating in the other locations or may have only a slight upwards trend.

## Price level of developed land

Detached single-family residential homes are the real estate type that is most frequently constructed and sold in the state of Rheinland-Pfalz. It therefore suggests itself to present the varying price levels within this real estate type. For this purpose, one comparison factor for developed land for detached single-family houses (for characteristics see table in illustration III.3-52)
with the same, value influencing conditions, was determined by the respective boards of expert valuers on basis of market analysis for each of the selected municipalities in Rheinland-Pfalz. The results are summarised in III. 3-52. In addition to the respective comparison factor, the land value per square metre is also stated.

Some of the comparison factors differ quite significantly; thus, the highest value of $€ 365,000$ (land value $505 € / \mathrm{m}^{2}$ ) can be found in Mainz and the lowest value of $€ 160,000$ at the upper Nahe River with a land value level of c. $20 € / \mathrm{m}^{2}$. The difference in value amounts to $€ 270,000$ (approx. $+69 \%$ ) and is generated by the respective demand alone.

III. 3-52: Price level of developed land for single-family houses in various locations of Rheinland-Pfalz (2007)

## The price level for apartments

Apartments are primarily constructed and sold in conurbations and the larger cities of RheinlandPfalz. In order to obtain an overview of the price structure within Rheinland-Pfalz, comparison factors were derived from apartment sales.

Table Tab.3-35 shows the results of these evaluations. The indicative values for apartments are broken down into 3 location classes with average land values between $70 € / \mathrm{m}^{2}$ and $255 € /$ $\mathrm{m}^{2}$. They distinguish between apartment sizes of $50 \mathrm{~m}^{2}, 70 \mathrm{~m}^{2}, 90 \mathrm{~m}^{2}$ and $110 \mathrm{~m}^{2}$, while every property has, on average, 10 residential units.

In order to obtain a quick overview of the local price levels for freehold apartments, (approximate)
indicative values for specific areas can be derived from these state-wide average values with the help of regional adjustment factors. The regional adjustment factors are presented in illustration III. 3-53. They range from 1.21 in Neustadt an der Weinstrasse and Hasslock to 0.76 in Pirmasens.

| Location/region |  |  |  | Rheinland-Pfalz |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sample size |  |  |  | 1568 |  |  |  |
| Residential location(s) | Residential location factor | $\varnothing$ Land value | Flat size |  |  |  | Indicative land value |
|  |  |  | $50 \mathrm{~m}^{2}$ | $70 \mathrm{~m}^{2}$ | $90 \mathrm{~m}^{2}$ | $110 \mathrm{~m}^{2}$ |  |
| III | 112 | 70 €/m ${ }^{2}$ | 1.000 ¢/m ${ }^{2}$ | 1.080 € $/ \mathrm{m}^{2}$ | 1.100 ¢/m ${ }^{2}$ | 1.070 ¢/m ${ }^{2}$ | 13,3\% |
| IV | 121 | 140 €/m² | 1.080 ¢/m $\mathrm{m}^{2}$ | 1.170 € $/ \mathrm{m}^{2}$ | 1.190 €/m ${ }^{2}$ | 1.155 ¢/m ${ }^{2}$ | 19,7\% |
| V | 143 | 255 €/m² | 1.275 ¢/m $\mathrm{m}^{2}$ | 1.380 ¢/m ${ }^{2}$ | 1.405 ¢/m ${ }^{2}$ | 1.365 ¢/m ${ }^{2}$ | 26,0\% |

Tab. 3-35: Indicative values (comparison factors) for freehold residential real estate in Rheinland-Pfalz (2007)

III. 3-53: Regional adjustment factors for freehold residential real estate (2007)

III. 3-54: Owner-occupied real estate ratio - state comparison (2007)

## Outlook

Rheinland-Pfalz as a state has a dynamic real estate market as can be seen from the aforementioned generalized market data despite a high average ownership ratio of approx. $54 \%$; only the federal state of Saarland has a higher ownership ratio. The ownership ratio
is particularly high, where land prices are low (III. 3-54).

Further information is available online at (see Chapter 7.1).

### 3.3.12 Saarland

Area:<br>Population:<br>Population density:

c. $2,600 \mathrm{~km}^{2}$<br>c. 1 million<br>404 Population/km²

## The state

The federal state Saarland enjoys an exceptional geographic location in the triangle where Germany, France and Luxembourg meet. The only other bordering federal state is Rheinland-Pfalz. With the Euro-Station in the city of Saarbrücken, there is a direct link to the highspeed rail connection of Frankfurt-Paris.

The Saarland became part of the Federal Republic of Germany as the eleventh and therefore youngest of the "old" federal states (i.e. the federal states that formerly constituted West Germany) in 1957; the economic reintegration into the German economic area took place in 1959.

After the decline of the coal mining and steel processing industry, a structural change took place in the Saarland. The mining company RAG Deutsche Steinkohle AG will close down the last active coal mine in the Saarland on 31st July 2012.

Today, the economic strength of the state is based on supra-regional and SME enterprises in the manufacturing and the service industries. Apart from future-oriented industries, these include in particular the automotive industry including its suppliers and the metal producing and processing industry.

The industrial past of the coal and steel industries is emphasized by the industrial monument "Völklinger Hütte" which has the status of an UNESCO World Heritage Site. But the fact that the Saarland also has an attractive landscape that is worth preserving is apparent from the recognition of the "Bliesgau" region along the Blies River as an UNESCO biosphere reserve.

The state of Saarland has a population of approx. 1 million on an area of c. $2,600 \mathrm{~km}^{2}$. The state statistical office of the Saarland projects a continued decline in the population development until 2030 [22].

The state capital and largest city is Saarbrücken with a population of approx. 176,500. The second largest city of the Saarland is Neunkirchen with a population of c. 48,700.

## The real estate market

The overall housing stock amounted to 509,100 units in 2006 [23]. The ratio of persons per unit was 1.9 in the state capital. State-wide this ratio came to 2.1.
$43,9 \%$ of state's overall area is used for agricultural purposes; $33.4 \%$ of the state area is forests. A large part of the gainfully employed people $(36,3 \%)$ works in the manufacturing industries and only $0.5 \%$ in the agricultural sector.

Seven boards of expert valuers recorded c. 11,000 purchase contracts in 2008; $14.7 \%$ of these concerned real estate in the state capital of Saarbrücken. If compared to 2007, the number of recorded contracts had slightly increased throughout the state. Overall, an area of $17.5 \mathrm{~km}^{2}$ was sold for approx. $€ 1.1$ billion. $90.6 \%$ of the financial turnover applied to developed land and $9.4 \%$ to undeveloped land. In 2008, the financial turnover dropped by $11 \%$ within the individual regions if compared to 2007.

The average price development for building land for all types of residential real estate did decline throughout the state if compared to the previous year, but this decline was not observed in all regions. In 2008, the average purchase price for building land was at c. $81 € / \mathrm{m}^{2}$ (previous year c. $87 € / \mathrm{m}^{2}$ ) (III. 3-55). The average indicative land values for residential use range in rural areas from $25 € / \mathrm{m}^{2}$ (modest location) to $210 € / \mathrm{m}^{2}$ (good location). Indicative land values for the state capital range from $75 € / \mathrm{m}^{2}$ (modest location) to $245 € / \mathrm{m}^{2}$ (good location).

While the price development for building land for residential use is in decline, the price of building land for commercial use has increased. The average price in this sector is c. $29 € / \mathrm{m}^{2}$ (previous year c. $22 € / \mathrm{m}^{2}$ ). Indicative land values for traditional trade use range between $20 € / \mathrm{m}^{2}$ and $85 € / \mathrm{m}^{2}$.

Overall, 1,047 building plots (previous year 1,290 ) for residential and commercial use were sold in 2008. In comparison to the previous year, this corresponds to a reduction of approx. $18.8 \%$ in the number of purchase contracts for undeveloped developable land.

The prices for agricultural land ranged between $0.71 € / \mathrm{m}^{2}$ and $1.17 € / \mathrm{m}^{2}$ in 2008.

With $36 \%$ of all purchase contracts, single and two-family homes constitute a high proportion of the real estate market and therefore represent a large part of the real estate market for developed land. In 2008, a state-wide average price for single and two-family homes of approx. $€ 130,000$ was achieved. The prices for single and twofamily homes have therefore fallen slightly by c. $3 \%$ if compared to the previous year. This market segment includes all residential buildings that are used as single and two-family homes, both old buildings in city centre locations as well as the ones in newly zoned development areas. An examination of detached single and two-family homes only within this market segment results in an average price for second-hand sales in 2008 of $€ 214,000$ (previous year c. $€ 230,000$ ) in the state capital. For the rural region, figures indicating an average price of $€ 156,000$ (previous year: $€ 173,000$ ) are available from the Saarpfalz administrative district.

The share of freehold apartments in the real estate market accounted for c. $18 \%$ of all purchase contracts in 2007 and 2008. If compared to the previous year, the average purchase prices for freehold apartments fell by a total of $8.9 \%$ in 2008. According to the data available from the individual boards of expert valuers, the square metre prices for second-hand sales in the state
capital were with $909 € / \mathrm{m}^{2}$ lower than those of the previous year ( $943 € / \mathrm{m}^{2}$ ). In the rural Saarpfalz administrative district, a square metre price of $887 € / \mathrm{m}^{2}$ was paid in 2008, as opposed to $906 € /$ $\mathrm{m}^{2}$ during the previous year.

The overall development of the real estate market must be classified as declining.

Further information on the local real estate market can be obtained from the regional offices of the boards of expert valuers. With the amendment of the regulations governing boards of expert valuers of 26th August 2009, a central office of the boards of expert valuers was established at the State Office for Cadastral, Survey and Mapping Matters. Further information is available online at (see Chapter 7.1).

III. 3-55: Indicative land values for developable land for the construction of individual residential real estate in average locations 2008

### 3.3.13 Sachsen

## Area:

c. $18,400 \mathrm{~km}^{2}$

Population:
Population density:
c. 4.2 million

229 Population/km²

## The state

The Freistaat Sachsen is, with its population of approx. 4.2 million and a population density of 229 inhabitants per square kilometre, the state with the highest population and - apart from Berlin - the most densely populated state of the "new" federal states, i.e. the federal states that formerly constituted East Germany.

As the eastern part of the Federal Republic of Germany, Sachsen has a border with the Republic of Poland and in the southeast with the Czech Republic. Sachsen has a border with the German federal state of Bayern in the southwest, with the federal states of Thüringen and SachsenAnhalt in the west and with the federal state of Brandenburg in the north (III. 3-56).

The main economic centres of the state are the conurbations of Leipzig-Halle (Sachsen-Anhalt), Chemnitz-Zwickau and Dresden. Important industries include chip manufacturing enterprises in Dresden and the automotive plants in Zwickau and Leipzig. These three areas provide the corner
points of the "Metropolregion Sachsendreieck" (Metropolitan Region Saxon Triangle), one of the eleven metropolitan regions in Germany. Another important economic factor in Sachsen is tourism. Apart from the city tourism in Leipzig and Dresden, the Erzgebirge region, the Vogtland region (Saxon part), the Saxon Switzerland and the Zittau mountains as the Saxon landscapes, are in particular marked by tourism. Sachsen is, because of the many cultural and historical places of interest, one of the leading cultural tourist destinations in Germany. The state has a gross domestic product per person of $€ 22,620$, making it the strongest economy in the eastern part of Germany.

Population development poses a problem for the Freistaat Sachsen. While the economic locations of Dresden and Leipzig are marked by an increase in population, projections for the overall situation in the state anticipate, however, a population decrease to 3.9 to 4 million inhabitants by 2020 (III. 3-57). This corresponds to a reduction by $5 \%$ to $7 \%$. Because of the quite different development within the individual regions (population increases in the conurbations of Dresden and Leipzig and substantial decreases in rural areas and mediumsized cities) real estate turnover will also in future essentially concentrate on these centres.

III. 3-56: Administrative districts in Sachsen

III. 3-57: Population projections by region for the Freistaat Sachsen until 2020

## The real estate market

Parallel to the demographic development, the three independent cities (Leipzig, Dresden, Chemnitz) also have the highest real estate turnovers. The highest land and real estate prices are also achieved in these centres. The central conurbation around Chemnitz, which is one of the most important economic locations within the state of Sachsen, shows, despite the slight population decrease, a stabilisation of prices for building land and in some areas price increases (up to $20 \%$ ).

The real estate turnover in 2008 was c. $€ 5.74$ billion. Approx. 40,000 purchase contracts were recorded in this respect. The three independent cities of Leipzig, Dresden and Chemnitz alone accounted for $45 \%$ of the turnover and for $37 \%$ of the transaction volume.

While $30 € / \mathrm{m}^{2}$ is paid in rural areas for undeveloped residential building land, the purchase price for a building plot in a good location amounts to an average of $160 € / \mathrm{m}^{2}$ in the state capital of Dresden and in Leipzig and to approx. $95 € / \mathrm{m}^{2}$ in Chemnitz.

The average price for residential real estate in the Freistaat Sachsen is currently at approx. $1,191 € / \mathrm{m}^{2}$. This corresponds to c . $€ 163,000$ for a detached single-family home.

With the administration and functional reform that entered into force on 1st August 2008 and the expiry of interim regulations on 30th June 2009, 13 boards of expert valuers (3 in independent cities and 10 in administrative districts) were established in Sachsen. The draft of the Saxon Board of Expert Valuers Regulations (Sächsische Gutachterausschussverordnung - SächsGAVO) provides that the offices of the boards of expert valuers are to be established as municipal agencies in independent cities and the administrative districts.

An overview of the Saxon boards of expert valuers is available online (see Chapter 7.1). Detailed information on the real estate market is available from the regional boards of expert valuers.


### 3.3.14 Sachsen-Anhalt

Area:<br>Population:<br>Population density:

c. $20,400 \mathrm{~km}^{2}$

c. 2.4 million 118 Population/km²

## The state

The real estate market is affected by various factors such as geographic conditions, accessibility, land use, infrastructures and population density. The following provides therefore a short description of the federal state Sachsen-Anhalt with respect to this essential information.

Sachsen-Anhalt extends from the North German lowlands to the central highlands and along both sides of the Elbe River. It is characterized in the north by the Altmark, a landscape that is partially plain and partially undulating, and in the south by the Colbitz-Letzlinger heathland. The Magdeburger Börde, a fertile loess landscape, is situated south of the Mittelland Canal. Southwest of that are the foothills of the Harz mountain region and the Harz mountain region, the northernmost German low mountain range. The up to $1,141 \mathrm{~m}$ high Brocken massif, the highest elevation within the state, is situated at the western border to Niedersachsen. The border to Brandenburg in the east is marked by the Fläming; in the south, the region is part of the Thuringia basin, the Goldene Aue and the Leipzig lowlands with the Dübener heathlands. The region around the rivers Saale and Unstrut is the northernmost German wineproducing area.

The population development in Sachsen-Anhalt is overall in decline. Halle has the highest population density of the independent cities of Magdeburg, Halle and Dessau-Rosslau, followed by the state capital of Magdeburg and DessauRosslau. A South-North incline is apparent in the rural area. Apart from the three independent cities, there are 12 administrative districts.

The economic structure of the state is differentiated. There is a clear focus on agriculture in the north and the middle of the state and on industry in the southeast of the state. The loess ground of the Magdeburg Börde and the foothills of the Harz mountains belong to the most fertile areas of arable land in Germany and a competitive agricultural and food producing industry has developed. The predominant economies in the state further include the chemical industry, the heavy engineering industry, plant construction, motor engineering and steel and light-metal
construction. Tourism is of particular economic importance in the Harz region.

The state is traversed by important innerGerman and European traffic links. Apart from the motorways A2 (East-West direction) and A9 and A14 (North-South direction), there is the new A38 south of the Harz since 2008. Sachsen-Anhalt has also one of the densest rail networks in Europe, including the highspeed rail connection for Hannover-Stendal-Berlin. The Magdeburg port (second largest river port in Germany) has important waterway connections with Berlin (Elbe-Havel Canal), with the Ruhr Area (Mittelland Canal) and to the international overseas port in Hamburg (Elbe). The Halle/ Leipzig airport in Schkeuditz provides the states of Sachsen-Anhalt and Sachsen with access to international air travel.

## Overall turnovers

The turbulences within the international financial markets also had an effect on the real estate market in Sachsen-Anhalt. In 2007 and 2008, these affected commercial investments in particular; in some cases also foreign investors who had turned towards the portfolio business in Sachsen-Anhalt in the past few years. These major portfolio transactions dropped substantially in 2008 which resulted in an overall decrease of the capital turnover by $25 \%$.

The number of purchases, by contrast, decreased by only $4 \%$. Despite the overall drop in purchases, the area turnover increased by $8.5 \%$. Overall, more than 30,000 purchases with a turnover volume of almost $€ 2.1$ billion and a land area turnover of approx. $438 \mathrm{~km}^{2}$ were recorded by the boards of expert valuers during the report year 2008, while in 2007 there were approx. 31,500 purchases with a turnover volume of $€ 2.8$ billion and a land area turnover of c. $402 \mathrm{~km}^{2}$.
$39 \%$ of the total number of recorded purchases were in relation to developed land, $17 \%$ in relation to undeveloped building land, $8 \%$ in relation to apartment and part-owned real estate and $30 \%$ involved agricultural and forestry land. $85 \%$ of the overall area that was turned over in the state was, however, within the market segment of land for agricultural and forestry use. $75 \%$ of the financial turnover, on the other hand, was generated within the market segment for developed land.

While the number of purchases decreased in 2008 if compared with the previous year, both in terms of undeveloped building land ( $-9,5 \%$ ) as well as for developed land ( $-4,6 \%$ ) and had, with $-13,8 \%$, its biggest drop in the area of apartment and part-owned real estate, the area turnover increased in all other market segments with exception of developed land. In this respect, the biggest increase of $+31 \%$ could be recorded in the segment for undeveloped building land. Agricultural and forestry land takes a special position. In this area, there was more or less the same number of sales but an approx. $10 \%$ higher area turnover and a more than $50 \%$ higher financial turnover. The financial turnover in all other market segments was in decline.

## Market segments

Within the private sector, building plots for individual residential construction and homes were the most important market segment.

The situation for development land for the construction of individual real estate is as follows: both the demand and the price development remained stable in 2008 if compared to 2007. The average price level in the major cities remained the same at approx. $90 € / \mathrm{m}^{2}$, in Mittelzentren (medium-sized towns and cities) it amounted to c. $50 € / \mathrm{m}^{2}(2007)$ and $55 € / \mathrm{m}^{2}(2008)$ and in smaller towns and cities it remained unchanged slightly above $40 € / \mathrm{m}^{2}$. A comparable price level could also be recorded for the villages.

With respect to residential real estate for private use, the family home is at the forefront. Singlefamily homes, regardles whether detached, semidetached or terraced, constitute an important cornerstone of the real estate market in SachsenAnhalt. With respect to detached single and twofamily homes but also with semi-detached and terraced houses, there is a particular demand for second-hand properties in the lower and medium price brackets. The state average for detached single and two-family homes came to $€ 74,000$ in 2008 and to c . $€ 76,000$ in 2007. Terraced houses and semi-detached houses had an average price of $€ 68,000$ in 2008 , which was more or less the same as in 2007. Depending on location and year of construction, the purchase prices per square metre living space gave a differentiated picture, with varying changes from the previous year. The average price level for detached houses that were constructed before 1949 amounted to c. $590 € / \mathrm{m}^{2}$ living area in 2007 as compared to $570 € / \mathrm{m}^{2}$ in 2008. Newly built detached single and two-family homes had a state average of c. $1,200 € / \mathrm{m}^{2}$ living
area in 2007 and c. $1,100 € / \mathrm{m}^{2}$ living area in 2008. The development with respect to terraced and semi-detached houses is comparable. The average price level for newly built properties in the segment was c. $1,100 € / \mathrm{m}^{2}$ living area in 2007 and c. $1,050 € / \mathrm{m}^{2}$ residential area in 2008. Changes in relation to second-hand properties constructed before 1949 are approx. the same. While an average purchase price of $620 € / \mathrm{m}^{2}$ living area had been achieved in 2007, it was only $600 € / \mathrm{m}^{2}$ in 2008.

Substantially less freehold apartments were sold within this segment in 2008 than in 2007, especially in the price segment up to $€ 50,000$. However, despite the overall decline in demand, increasing turnovers were recorded in respect of apartment sales in the upper price segment above $€ 100,000$. Most freehold apartments are still sold in older buildings that were constructed before 1949. For such a freehold apartment within a traditional old building, the price level has remained almost unchanged since 2006 and amounts to an average of c. $1,450 € / \mathrm{m}^{2}$. Overall apartments in old buildings that were redeveloped to high quality standards as well as freehold apartments in new buildings in a good location constitute top products with a good chance of a positive price development.

An increase in demand in 2007 and 2008 was recorded for commercial building land. Revitalised commercial spaces within cities and towns are still gaining importance due to good infrastructural supplies and links. It must generally be said that the purchase prices in 2008 dropped in comparison to the previous year. The state average for improved commercial land was $26 € / \mathrm{m}^{2}$ in 2007 and only $22 € / \mathrm{m}^{2}$ in 2008 . Within the regions there was a differentiated price range with a maximum price level of $62 € / \mathrm{m}^{2}$ (2007) and $47 € / \mathrm{m}^{2}$ (2008) in the major cities and $31 € /$ $\mathrm{m}^{2}(2007)$ and $25 € / \mathrm{m}^{2}$ (2008) in the Mittelzentren, Outside of major cities and Mittelzentren, improved building land for commercial use was offered during both report years and in all regions of the state for purchase prices of between $10 € /$ $\mathrm{m}^{2}$ and $20 € / \mathrm{m}^{2}$, in some cases less than this. This is shown in the illustration III. 3-58 above.

Both the number of purchases as well as turnovers and average purchase prices within the market segment for land for agricultural use increased once again in 2008. Primarily high quality arable land was traded in this respect, and a tendency towards constantly increasing lot sizes is becoming apparent. In 2007, the purchase price for arable land was $0.62 € / \mathrm{m}^{2}$ with an average arable land number of 67 and an average area

III. 3-58: Development land in commercial areas (2008)
of 3.2 ha, in 2008 that state average was $0.71 € /$ $\mathrm{m}^{2}$ with an average arable land number of 66 and an average area of 4.2 ha. Further details on the average price level for arable land on basis of the indicative land values as of 01.01.2009 are presented in illustration III. 3-59.

The average price level for grass land in 2007 at an average area of c. 1.6 ha and an average grass land number of 42 was at $0.30 € / \mathrm{m}^{2}$, as compared to a state average of $0.35 € / \mathrm{m}^{2}$ at an average area of c. 2.4 ha and an average grass land number of 44 in 2008.

## Particularities

Further, detailed information is contained in the joint state real estate market report of the four boards of expert valuers and the state board of expert valuers for real estate values in the federal state Sachsen-Anhalt (see Chapter 7.1).

III. 3-59: Price level of arable land (2008)

### 3.3.15 Schleswig-Holstein

Area:<br>Population:<br>Population density:<br>c. $15,800 \mathrm{~km}^{2}$<br>c. 2.8 million 180 Population/km²

In terms of landscape, the state of SchleswigHolstein has in large parts the appearance of an agricultural state. This structure is broken up by a few cities only and a few areas that are characterised by industrial or trade activities. The state is geographically situated between North Sea and Baltic Sea. Economically, approx. 75\% of the net product is generated in the service sector. An important economic factor is the NordOstsee Canal that connects the North Sea and the Baltic Sea.

In 2008, approx. 25,000 purchase contracts were concluded in the regions covered by the 15 boards of expert valuers from which turnover data is available. The area thus covered amounts to c. $120 \mathrm{~km}^{2}$. The total turnover is approx. € $€ .4$ billion.

These sales were primarily in relation to individual residential real estate and freehold apartments. This is the reason why these market segments, that had an overall turnover of $\mathrm{c} . € 2.1$ billion, will be examined in more detail below.

The following data applies to the mainland only.
The indicative land values for building plots for single family homes are based on a state average of approx. $600 \mathrm{~m}^{2}$. In those parts of the Hamburg metropolitan region, that are situated in Schleswig Holstein, the indicative land values in good locations are $220 € / \mathrm{m}^{2}$. This is also the level in the cities of Kiel and Lübeck. Substantially lower indicative land values were published for the adminstrative districts of Dithmarschen and Schleswig-Flensburg. In these northernmost administrative districts in Germany, the average indicative land values amount to $20 € / \mathrm{m}^{2}$ and $45 € / \mathrm{m}^{2}$ respectively.

The above-mentioned regional variations in value apply also in case of developed land. The average price for a c. $900 \mathrm{~m}^{2}$ site with a singlefamily home with a living area of c. $135 \mathrm{~m}^{2}$ is, thus, in the region of $€ 200,000$ in Kiel, Lübeck and the Hamburg metropolitan region and, by contrast, in the region of $€ 100,000$ in the north of the state. This price situation exists also with semi-detached houses. The average prices are approx. $20 \%$ below those for detached singlefamily homes; sites have a size of c. $550 \mathrm{~m}^{2}$, the living area is c. $105 \mathrm{~m}^{2}$. Different price
developments took place in the various regions between 2007 and 2008. The currently available data indicates trends that can only be presented in figures from the next report period onwards.

In 2008, average prices between $900 € / \mathrm{m}^{2}$ and $1,300 € / \mathrm{m}^{2}$ living space were paid for secondhand apartments of various ages with an average size of $\mathrm{c} .70 \mathrm{~m}^{2}$, average finishings and in average locations. Newly built apartments that are sold for the first time, are of hardly any significance in terms of numbers and turnover throughout the state.

Regional information on indicative land values and other real estate market data are available from the local boards of expert valuers. Enquiries may be worthwhile; thus, almost all boards of expert valuers are able to provide information on the regional property yields, for example. Contact details are available online at (see Chapter 7.1).


### 3.3.16 Thüringen

Area:
Population:
Population density:
c. $16,200 \mathrm{~km}^{2}$
c. 2.3 million

142 Population/km²

## The state

Thüringen, "Germany's green heart", is characterised by the Thuringian Forest - the Grosser Beerberg is, with 982 m , the highest elevation in Thüringen - and the Vordere Rhön in the southwest, the Southern Lower Harz and the Kyffhäuser in the north, the Thuringian slate mountains in the southeast and the East-Thüringen-Vogtland plateau in the east. In between, in the central and northwestern part of Thüringen, is situated the fertile Thuringian basin.

With a forest coverage of $32 \%$, Thüringen is one of the federal states with the highest proportion of forests. The proportion of forests ranges between $7 \%$ in the independent city of Erfurt and $64 \%$ in the independent city of Suhl. $54 \%$ of the overall area is used for agricultural purposes, the average size of an operation is approx. 160 ha.

Thüringen had a constant population of approx. 2.7 million until 1988; it subsequently dropped by approx. $0.9 \%$ per year. Between 2007 and 2008, Thüringen had a further loss of 21,500 inhabitants.

Against this backdrop of a declining population development, substantial efforts are required in the development of Thüringen over the next few years. With its central location within Germany and Europe, Thüringen strives, through its state development plan 2004, for balanced spatial development. Not only the central cities and their surrounding areas, but also the rural areas with their economic and natural potential, play a crucial role in this development.

Oberzentren (i.e. larger, central cities) are Erfurt, Gera and Jena. Erfurt, with its population of c. 200,000 , is the most important population, economic, administrative and employment centre in Thüringen. The economic structure is characterized by traditional industries such as food production, mechanical engineering, construction and horticulture as well as more modern economic sectors such as logistics, telecommunications, software development, microelectronics, photovoltaics and micro systems engineering. A media industry has evolved around the state-owned television station MDR and the children television channel KI.KA. Gera is of supraregional importance as an
industrial location, in particular in the course of the revitalization of the bismuth region. The federal horticultural show Bundesgartenschau 2007 provided great momentum for the development of the region. Jena is of special importance as a scientific centre and is home to a number of modern research institutions and innovative economic enterprises; it is also an important technological centre.

The cities Erfurt, Weimar and Jena and the administrative district Weimarer Land - with a population of c. 460,000 - established the regional working group "Region Erfurt-WeimarJena" in 2004 to develop the region in the centre of Germany and Europe so that it becomes an attractive region with a high quality of life. Weimar is legendary and a city of culture; it is the cradle of Bauhaus architecture and was European City of Culture 1999.

## The real estate market

There is a board of expert valuers for real estate values as an independent state agency for every administrative district and every independent city. The offices of the boards of expert valuers in Thüringen are established within the cadastral departments of the Thuringian Landesamt für Vermessung und Geoinformation. There are currently eight offices for 23 boards of expert valuers (17 administrative districts and 6 independent cities).

The offices evaluated approx. 30,100 purchases in 2008 (10,800 in relation to developed land, 6,100 in relation to undeveloped land, 10,550 in relation to agricultural and forestry land, 150 in relation to hereditary building rights and 2,500 in relation to apartments and part-owned real estate) (III. 3-60). If compared to 2007, this means

III. 3-60: Sales by individual submarkets 2008
a drop by $5 \%$.

III. 3-61: Financial turnover by individual market segments 2008

III. 3-62: Area turnover by individual market segments 2008

Developed land had, with $€ 1.2$ billion, the biggest market share in terms of financial turnover (III. 3-61). The proportion of land for agricultural and forestry use was, with $€ 83.5$ million ( $5 \%$ ), by contrast, very low (III. 3-62). Overall, approx. 23.600 ha changed owners in 2008; $76 \%$ of that alone involved agricultural and forestry land. The average square metre price was at a low level in this market segment which is also reflected in the indicative land values for arable land, grass land and forests.

The financial turnover for detached single and two-family homes increased from $€ 184.3$ million in 2007 to $€ 211.1$ million, the average purchase price of $€ 84,750$ (2007) decreased by $3.2 \%$ to $€ 82,000$ (2008). Top prices were achieved in Jena with approx. €196,000, in Weimar with $€ 190,000$ and in Erfurt with $€ 140,000$. The lowest average purchase prices were €55,000 in the Kyffhäuser administrative district and $€ 62,000$ in the Altenburger Land and the SaaleOrla administrative district.

The square metre price for sold apartments (newly built) remained constant at c. $1,860 € / \mathrm{m}^{2}$ in comparison with 2007. Increasing prices in comparison with 2007 were, by contrast, recorded in Jena (from $1,750 € / \mathrm{m}^{2}$ to $1,825 € / \mathrm{m}^{2}$ ) and in Weimar (from $1,425 € / \mathrm{m}^{2}$ to $1,600 € / \mathrm{m}^{2}$ ). This market segment was of subordinate significance in other independent cities and administrative districts.

| Use | Number | Average value [ $€ / \mathrm{m}^{2}$ ] | Indicative land value |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Min [€/m²] | Max <br> [ $€ / \mathrm{m}^{2}$ ] |
| Arable land | 2,117 | 0.43 | 0.15 | 1.80 |
| Grass land | 1,561 | 0.35 | 0.10 | 1.00 |
| Forest | 520 | 0.13 | 0.10 | 0.20 |
| Commercial development areas | 1,617 | 12.36 | 1.80 | 155.00 |
| Special development areas | 1,401 | 11.81 | 1.00 | 520.00 |
| Mixed development areas | 4,241 | 31.99 | 2.00 | 2800.00 |
| Residential development areas | 3,558 | 50.06 | 2.00 | 1700.00 |
| Total | 15,015 |  |  |  |

Tab. 3-36: Indicative land values by type of use 2008

The number of purchases involving developable plots for commercial and industrial use decreased

III. 3-63: Purchase prices for developable residential development land
from 630 in 2007 by $27 \%$ to 460 in 2008; the financial turnover dropped by $10 \%$ to $€ 34.7$ million. The already low purchase prices dropped by a state average of c. $18 \%$, from $17 € / \mathrm{m}^{2}$ to $14 € / \mathrm{m}^{2}$. The top prices of 2007 in Jena $\left(52 € / \mathrm{m}^{2}\right)$ and Erfurt ( $32 € / \mathrm{m}^{2}$ ) dropped to $46 € / \mathrm{m}^{2}$ and $24 € /$ $\mathrm{m}^{2}$ respectively. The lowest prices of between $6 € / \mathrm{m}^{2}$ and $8 € / \mathrm{m}^{2}$ in 2008, were recorded in the Altenburger Land, the administrative districts of Sömmerda and Hildburghausen, the Kyffhäuser administrative district and the Unstrut-Hainrich administrative district.

The building land and real estate turnovers for all market segments for the report year 2008 are available online at (see Chapter 7.1).

As of 31st December 2008, zonal indicative land values for developed land and for agricultural and forestry land throughout the state had been determined by the boards of expert valuers for real estate values in Thüringen (Tab.3-36). These are available at any time and free of charge to the public and public authorities through the indicative land value information system (Bodenrichtwert-Informationssystem Thüringen (BORIS-TH)). BORIS-TH is accessible through: www.bodenrichtwerte-th.de.

Average purchase prices for developable residential development land in Thüringen decreased slightly from $37 € / \mathrm{m}^{2}$ in 2007 to $35 € / \mathrm{m}^{2}$ (III.3-63). The purchase price level varies, however, quite significantly in the various independent cities and administrative districts.

### 3.4 Residential real estate in large german cities



### 3.4.1 Introduction

One of the best known and possibly also one of the oldest existing supraregional studies of the market for residential real estate is the annual publication of "Der Immobilienmarkt in großen deutschen Städten" (The Real Estate Market in Large German Cities). It is published by the working group "Valuation" within the specialist commission "Kommunales Vermessungs- und Liegenschaftswesen" (Municipal Surveying and Real Estate) of the Deutscher Städtetag (congress of municipal authorities). The study examines the developments and prices within the market segments for undeveloped and developed residential land and apartment ownership as well as average prices for largely standardized properties that are selected as representative examples.

Published for the first time in 1955 in relation to sites that were destroyed during WWII, the studies received the current format, after several modifications, in 1999. Since the 1960s, the analysis is based on the anonymous, aggregate notifications from the local boards of expert valuers for real estate values in 60 to 70 cities. The examination period is each calendar year. With an effective date 1st April of each year, the boards of expert valuers communicate the data from 130,000 to 170,000 purchase contracts to the central evaluation centre in Essen. Illustration III. 3-64 shows the study regions into which these cities were grouped.
Parallel to the studies on the traditional regions, the developments are also observed in accordance with the structure of the various types of administrative districts in terms of urban and regional development that is examined by the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) (Federal Institute for Research on Building, Urban Affairs and Spatial Development) on an ongoing basis (see, among other, http:// www.bbsr.bund.de). This is primarily based on the population density in the cities and administrative districts. All cities and administrative districts are - without consideration of the federal state they belong to - exclusively categorised as one of 9 types (agglomeration areas, urbanized areas, rural areas). Based on this BBSR categorization, segment studies (key indicators) in 4 so-called evaluation types take place:

- Type A: 13 core cities with a population exceeding 500,000
- Type B: 22 core cities with a population up to 500,000 and Oberzentren (i.e. large central cities that are normally surrounded by a number of Mittelzentren, i.e. medium-sized centres, which are, in turn, bordered by Unterzentren, i.e. subordinate centres) in administrative districts with a high density
- Type C: 28 cities within rural administrative districts of the agglomeration areas and core cities and Mittelzentren of the urbanized areas
- Type D: 5 Ober- and Mittlezentren in rural administrative districts
Market segments are distinguished by undeveloped developable residential land, developed land for single and two-family homes, developed land for multi-dwelling units and apartment ownership. For the purpose of detailed studies, the latter is further distinguished by first time sale after construction, first time sale after conversion and second-hand sale without distinction by type of initial creation. In accordance with the intention of this market report, the conditions during the years 2007 and 2008 will be presented and supplemented by relevant longterm examinations since 2000.


### 3.4.2 Market shares and key indicators

Within the various regions, typical market shares of certain market segments emerged, that were subject to only slight variations over the years. Only in the north region were deviations of approx. 3\% observed between 2006 and 2008 in relation to multi-dwelling units. This can be attributed to the increased trade in the course of portfolio changes by typically large, supraregional enterprises. Illustration III. 3-65 shows the market shares during the study period from 2000 to 2008.

III. 3-65: Market share of the real estate categories 2000-2008

### 3.4.3 Apartment ownership

First time sales of Wohnungseigentum (i.e. apartment ownership) is defined as the first sale of freehold apartments that were specifically constructed for this direct purpose. 'Conversions' concern properties that were initially constructed as rental apartments and which, after certification of self-containedness and notarial deed of separation, were sold as freehold apartments. Second-hand sales cover any further sale of apartments of both types. Because of the different legal governance and building customs in the east region in the past, the examination focuses on redeveloped freehold apartments that were converted from rental apartments and partially redeveloped freehold apartments within complex housing developments.

It is usually easy to identify purchase contracts for first time sales. Therefore, all relevant notifications were used with respect to this analysis. The identification of purchase contracts for conversions and second-hand sales is, however, more difficult. Therefore, in the interest of an increased meaningfulness, only notifications from cities are considered in which

III. 3-66: Development of the market shares of freehold real estate - first time sales


(b) - financial turnover per inhabitant

(c) - financial turnover by purchase contract
III. 3-67: a-c Key indicator development in the regions

| Year | First time sales [\%] |  |  |  | Resales[\%] |  | Conversions [\%] |  | Conversions East [\%] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | North | South | East | All | North | South | North | South | redeveloped | partially redeveloped |
| 2000 | 15 | 17 | 17 | 16 | 51 | 56 | 21 | 25 | 6 | 75 |
| 2001 | 12 | 18 | 18 | 16 | 58 | 53 | 17 | 30 | 10 | 70 |
| 2002 | 16 | 16 | 22 | 18 | 53 | 53 | 23 | 26 | 12 | 57 |
| 2003 | 12 | 17 | 18 | 15 | 66 | 56 | 21 | 23 | 33 | 37 |
| 2004 | 13 | 17 | 17 | 16 | 65 | 59 | 19 | 24 | 33 | 30 |
| 2005 | 14 | 17 | 13 | 15 | 71 | 55 | 14 | 23 | 42 | 36 |
| 2006 | 9 | 17 | 7 | 11 | 69 | 64 | 12 | 15 | 47 | 26 |
| 2007 | 8 | 15 | 3 | 9 | 74 | 65 | 15 | 13 | 58 | 12 |
| 2008 | 8 | 14 | 8 | 10 | 80 | 71 | 10 | 12 | 62 | 31 |
| Median | 12 | 17 | 17 | 15 | 66 | 56 | 17 | 23 | 33 | 36 |

Tab. 3-37: Market share residential real estate ownership
at least $85 \%$ of all freehold apartment purchases can be attributed to the respective categories. Illustration III. 3-66 and table Tab. 3-37 show the distribution of purchases within the total market segment among the sub-groups.

The purchase contracts concluded in the cities were evaluated per 1,000 inhabitants, with respect to the financial turnover per inhabitant and with respect to the financial turnover per contract in order to obtain the respective key real estate indicators for the first time in 2002. To allow a comparison, the study results are presented by traditional regions as well as analysis type. The examined cities are not continuously represented throughout the study period for a number of reasons. Approx. 10 cities from the north and east


III. 3-68: Key indicator development in the analysis types (a-c)
regions did not submit any data for 2007 because the report date had been brought forward on a trial basis. This affected the analysis types A and D . This must be taken into account when interpreting the data.

Illustrations III. 3-67 a-c and III.3-68a-c show the development of the key indicators over time both within the traditional regions as well as the analysis types.

### 3.4.4 Financial turnover

Only data from cities that had submitted the respective figures for all market segments for both the report year as well as the previous year was used to analyse the development of financial turnovers. The totals presented are therefore by no means the actual totals of all purchase prices paid!

The distribution among the regions and market segments is shown in table Tab.3-38. Table Tab.3-39 analyses increases and decreases within the regions and market segments.

Undeveloped building land in the north region was the only market segment that had any growth. Notable are the substantial turnover losses (approx. $€ 5$ billion) in all regions with respect to multi-dwelling units. It is quite obvious that the extensive portfolio shifting of the past few years has come to an end. Not considered are sales of real estate portfolios in several cities, that are contained within one purchase contract. The turnovers contained therein cannot be recorded in the statistics of the local boards of expert valuers because there are no detailed purchase price allocations. These turnovers may merely be summarised in the form of notes in the real estate market reports and in the reports of the state boards of expert valuers, as was done, for example, in Nordrhein-Westfalen. Table Tab. 3-40 contains, for comparison reasons, the turnover data for the categorisation by analysis type and table Tab.3-41 the respective changes.

| Property type | Region <br> [in million $€$ ] |  |  | Total <br> [in million $€$ ] |
| :--- | :---: | :---: | :---: | :---: |
|  | North | South | East |  |
| Number of cities | 28 | 21 | 13 | $\mathbf{6 2}$ |
| Building plots | $1,083.7$ | 910.6 | 340.7 | $\mathbf{2 , 3 3 5 . 0}$ |
| Single- and two-family houses | $5,053.8$ | $2,530.0$ | 529.4 | $\mathbf{8 , 1 1 3 . 2}$ |
| Multiple dwelling units | $4,938.1$ | $2,356.4$ | $1,335.1$ | $\mathbf{8 , 6 2 9 . 6}$ |
| Apartment ownership | $5,550.6$ | $5,656.5$ | $1,674.3$ | $\mathbf{1 2 , 8 8 1 . 4}$ |
| Total | $\mathbf{1 6 , 6 2 6 . 1}$ | $\mathbf{1 1 , 4 5 3 . 5}$ | $\mathbf{3 , 8 7 9 . 5}$ | $\mathbf{3 1 , 9 5 9 . 1}$ |

Tab. 3-38: Financial turnovers 2008 by region [in million $€$ ]

| Property type | Change [in million $€$ ] |  |  |  | Change [\%] |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NORTH | SOUTH | EAST | Total | NORTH | SOUTH | EAST | Total |
| Building plots | 69.5 | -102.5 | -79.3 | -112.4 | 6.8 | -10.1 | -18.9 | -4.6 |
| Single- and two-family houses | -37.3 | -68.3 | -9.6 | -115.2 | -0.7 | -2.6 | -1.8 | -1.4 |
| Multiple dwelling units | -3,003.0 | -802.0 | -1,297.6 | -5,102.6 | -37.8 | -25.4 | -49.3 | -37.2 |
| Apartment ownership | -12.2 | -101.2 | -56.4 | -169.8 | -0.2 | -1.8 | -3.3 | -1.3 |
| Total | -2,983.1 | -1,074.0 | -1,442.9 | -5,500.0 | -15.2 | -8.6 | -27.1 | -14.7 |

Tab. 3-39: Changes in financial turnovers 2007/2008 by region

| Property type | Type [in million $€$ ] |  |  |  | Total <br> [in million $€$ ] |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D |  |
| Number of cities | 12 | 23 | 23 | 4 | 62 |
| Building plots | 1,568.3 | 478.2 | 265.2 | 23.3 | 2,335.0 |
| Single- and two-family houses | 4,686.9 | 2,004.4 | 1,328.0 | 93.9 | 8,113.2 |
| Multiple dwelling units | 6,044.9 | 1,733.7 | 786.2 | 64.8 | 8,629.6 |
| Apartment ownership | 8,313.1 | 2,770.4 | 1,705.2 | 92.7 | 12,881.4 |
| Total | 20,613.2 | 6,986.6 | 4,084.6 | 274.7 | 31,959.1 |

Tab. 3-40: Financial turnover 2008 by type

| Property type | Change [in million $€$ ] |  |  |  |  | Change [\%] |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D | Total | A | B | C | D |
| Building plots | -18.5 | -51.4 | -37.9 | -4.5 | -112.4 | -1.2 | -9.7 | -12.5 | -16.2 |
| Single- and two-family houses | -87.9 | -90.0 | 45.3 | 17.4 | -115.2 | -1.8 | -4.3 | 3.5 | 22.7 |
| Multiple dwelling units | -3,551.9 | -1,112.9 | -434.9 | -2.9 | -5,102.6 | -37 | -39.1 | -35.6 | -4.3 |
| Apartment ownership | -25.4 | -243.2 | 85.9 | 12.9 | -169.8 | -0.3 | -8.1 | 5.3 | 16.2 |
| Total | -3,683.7 | -1,497.6 | -341.6 | 22.9 | -5,500.0 | -15.2 | -17.7 | -7.7 | 9.1 |

Tab. 3-41: Changes in financial turnovers 2007/2008 by type

### 3.4.5 Price development

A summary of the price development within the regions is presented in table Tab.3-42.

The illustrations III.3-69 to III. 3-71 show the price developments within the market segments. For reference purposes, the respective average land prices for undeveloped land in the regions is stated (III. 3-72).

| Category | North [\%] |  | South [\%] |  | East <br> [\%] |  | All <br> [\%] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2008 | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 | 2007 |
| Undeveloped land |  |  |  |  |  |  |  |  |
| Individual construction | 1 | -1 | -1 | 1 | 2 | -1 | 1 | -1 |
| Multi-storey residential buildings | 4 | 5 | 2 | 5 | -4 | 1 | $\pm 0$ | 3 |
| Residential building plots total | 1 | $\pm 0$ | $\pm 0$ | 2 | 1 | -1 | 1 | $\pm 0$ |
| Developed land |  |  |  |  |  |  |  |  |
| Single- and two-family houses | $\pm 0$ | $\pm 0$ | $\pm 0$ | $\pm 0$ | 1 | $\pm 0$ | $\pm 0$ | $\pm 0$ |
| Multiple dwelling units | -1 | 2 | -8 | 2 | -2 | 6 | -3 | 3 |
| Apartment ownership | $\pm 0$ | 2 | -1 | 1 | 4 | 4 | 1 | 2 |

Tab.3-42: Price development compared to the previous year in the regions

III. 3-69: Price development for developed land (north and south regions)

III. 3-70: Price development for developed land (Region East)

III. 3-71: Price development for building plots by regions (individual construction)

III. 3-72: Average prices for building plots by regions (individual construction) 2008

### 3.4.6 Level of building land prices

Price information on building plots in the respective average residential locations are representative of the comparison of price levels in the various cities. Detailed information is contained in the real estate market reports of the local and the state boards of expert valuers.

The selected types of land should, if at all possible, be typical throughout the whole country. In order to create comparability, the report drafters applied all data to uniform parameters, even if this particular type of land had, by way of exception, not been traded during the study year. All average prices exclude recoupment charges for local public infrastructure and other levies.

The building land for the construction of individual residential real estate examined herein is suitable for the construction of semi-detached or end-ofterrace houses. The plot area is, by definition, between $250 \mathrm{~m}^{2}$ and $500 \mathrm{~m}^{2}$. Illustration III. 3-73
shows the respective total purchase price for building land in the cities. The city names are, as in the following price overview, indicated by the official vehicle registration codes. The average area sizes (medians) were:

- for individual construction in the north $338 \mathrm{~m}^{2}$, in the south $318 \mathrm{~m}^{2}$ and in the east $423 \mathrm{~m}^{2}$,
- for multi-storey buildings for the construction of freehold apartments in the north c . $1,187 \mathrm{~m}^{2}$, in the south c. $1,231 \mathrm{~m}^{2}$ and in the east c. $996 \mathrm{~m}^{2}$.

The actual area sizes can in some cases deviate quite significantly from these average values depending on the city.

III. 3-73: Total purchase prices for building plots for the construction of individual residential real estate 2008 [in thousand €]

### 3.4.7 Prices for developed land

From the multitude of possible property types and under consideration of the applicable legal provisions and building customs that differed between the regions prior to the German reunification, 2 representative types of new and 3 representative types of second-hand properties were selected. The data applies to properties in average quality and in an average residential location of the respective city area. In addition, the following conditions were defined:

## New real estate in all regions:

- typical freehold semi-detached or end-ofterrace houses, living area between $90 \mathrm{~m}^{2}$ and $140 \mathrm{~m}^{2}$, initial purchase after construction or construction without consideration of personal labour contributions.
- Typical freehold apartment, living space between $60 \mathrm{~m}^{2}$ and $100 \mathrm{~m}^{2}$, initial purchase after construction or construction without consideration of personal labour.


## Second-hand real estate in the north and south:

- semi-detached and end-of-terrace house, year of construction 1950 to 1974, living area between $90 \mathrm{~m}^{2}$ and $140 \mathrm{~m}^{2}$
- Resale of freehold apartments, year of construction 1950 to 1974, living area $60 \mathrm{~m}^{2}$ to $100 \mathrm{~m}^{2}$, no distinction in terms of creation of the freehold title.
- Conversion of rental apartments to freehold apartments (first sale after conversion), year of construction between 1950 and 1974, living area between $60 \mathrm{~m}^{2}$ and $100 \mathrm{~m}^{2}$.


## Second-hand real estate in the east:

- Semi-detached and end-of-terrace houses, year of construction 1946 to 1990, fully redeveloped, living area between $90 \mathrm{~m}^{2}$ and $140 \mathrm{~m}^{2}$.
- Conversion of rental apartments to freehold apartments (first sale after conversion), fully redeveloped, living area between $60 \mathrm{~m}^{2}$ and $100 \mathrm{~m}^{2}$.
- Freehold apartment in precast concrete slab construction development, partially redeveloped, living area $60 \mathrm{~m}^{2}$ to $100 \mathrm{~m}^{2}$.

Illustrations III. 3-74 and III.3-75 show the price levels for second-hand semi-detached houses and newly built freehold apartments and are
examples of the illustrations that can be accessed on the website of the Deutscher Städtetag (see Chapter 3.4.9).

III. 3-74: Prices for second-hand semi-detached houses 2008 [ € per m² living area]

III. 3-75: Prices for newly built freehold apartments 2008 [ $€$ per m² living area]

| Year | New properties [ $\mathrm{m}^{2}$ ] |  |  |  |  |  | Second-hand properties$\left[\mathrm{m}^{2}\right]$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Semi-detached house |  |  | Freehold apartment |  |  | Semi-detached house |  |  | Apartment resale |  | Apartment conversion |  |
|  | North | South | East | North | South | East | North | South | East | North | South | North | South |
| 2000 | 119 | 132 | 111 | 80 | 76 | 77 | 118 | 123 | 94 | 76 | 70 | 76 | 73 |
| 2001 | 120 | 125 | 118 | 83 | 78 | 79 | 110 | 120 | 105 | 73 | 72 | 68 | 69 |
| 2002 | 122 | 126 | 113 | 86 | 83 | 83 | 113 | 117 | 114 | 74 | 73 | 74 | 73 |
| 2003 | 121 | 128 | 108 | 86 | 84 | 82 | 113 | 119 | 107 | 74 | 73 | 68 | 76 |
| 2004 | 121 | 123 | 115 | 85 | 82 | 88 | 114 | 116 | 110 | 74 | 74 | 74 | 77 |
| 2005 | 123 | 128 | 115 | 85 | 84 | 82 | 114 | 116 | 104 | 75 | 76 | 75 | 76 |
| 2006 | 120 | 126 | 118 | 86 | 89 | 80 | 112 | 116 | 105 | 74 | 71 | 73 | 76 |
| 2007 | 127 | 127 | 112 | 87 | 90 | 89 | 115 | 117 | 99 | 75 | 74 | 76 | 75 |
| 2008 | 125 | 130 | 114 | 85 | 93 | 84 | 114 | 119 | 106 | 75 | 73 | 75 | 75 |
| Median | 121 | 127 | 114 | 85 | 84 | 82 | 114 | 117 | 105 | 74 | 73 | 74 | 75 |

Tab. 3-43: Average living area by regions 2008

### 3.4.8 Living space

In some cases, there were quite different average values for the living space of developed real estate in the cities that participated in the study. Table Tab. 3-43 shows the areas for new and for existing properties. The values for end-of-terrace houses are the same as for semi-detached houses. Second-hand sales and conversions of rental apartments to freehold apartments are not yet representative for the study region East, so that no area data is available for this region.

### 3.4.9 Final remark

A short version of the study results is published annually in the magazine "der städtetag", Luchterhand Verlag Köln. Comprehensive illustrations, also for previous years, including numerous tables and images and detailed results for the participating cities are available on the website of the Deutscher Städtetag (http://www.staedtetag.de, under ==> Schwerpunkte ==> Fachinformationen ==> Stadtentwicklung, Bauen, Wohnen und Verkehr) The study 2008 can be accessed at http://www.staedtetag.de/imperia/md/content/ schwerpunkte/fachinfos/2009/10.pdf

## 4 Developments in the submarkets



### 4.1 Individually used residential properties

### 4.1.1 General information

Owner-occupied residential real estate means real estate that is owned by private individuals who usually also live in the property.

This category of the real estate market in Germany essentially comprises the submarkets of

1. building plots (undeveloped land) for the construction of individual residential real estate,
2. plots for single- and two-family houses,
3. plots with semi-detached houses and terraced houses and
4. freehold flats/apartments.

This report describes the intensity of transactions and turnover see chapter 3.2.3.

For the submarkets of $1 ., 2$. and 4 . the authors also have data available about financial turnover. This data is available for the following list of administrative districts and independent cities (Tab. 4-1).

| Year | Building <br> plots | Single-and two- <br> family houses | Freehold <br> apartments |
| :---: | :---: | :---: | :---: |
| 2007 | 180 | 276 | 303 |
| 2008 | 183 | 273 | 301 |

Tab. 4-1: Number of administrative districts/independent cities that reported a financial turnover for the construction of residential homes

Overall, in 2008 approximately $€ 75$ billionwas invested for the purchase of residential building plots, single- and two-family houses and freehold flats. This corresponds to approx. €928 per resident. The financial turnover for terraced houses and semi-detached houses must be added to this figure.

In order to gain an overview of the financial turnover for the above-mentioned submarkets,
a test was performed to determine how the financial turnover in the administrative districts and the independent cities links with other socioeconomic factors.

The results showed that the invested amounts significantly depend on

- the rent offered,
- the total buying power in the administrative district/independent city and
- the population density
$\left(R^{2}=0.72\right.$ to 0.80$)$.
This data is available for every administrative district and independent city in Germany so that it is possible to deduce estimated values from this information for other regions for which no financial turnover has been made available. Please note that the estimated values in particular for the regions of Baden-Württemberg, Bayern, Thüringen and Sachsen are not very precise because the data available is partial at best (see chapter 3.2.4 III. 3-11, III. 3-14 and III. 3-17).

On this basis, the following transaction amounts could be derived in the federal states as described in the table Tab.4-2 and in the illustrations III. 4-1 and III. 4-2.

This means that in Germany the propensity to invest in the construction of residential homes has only decreased in the sector for residential building plots. Here, in $2007 € 14.8$ billion was spent; in 2008, this figure was reduced by $-5.5 \%$ to $€ 14.0$ billion.

In 2007 approx. €34.2 billionwas invested for the purchase of single- and two-family houses; in 2008, this figure had risen by approx. $3 \%$ to approx. $€ 35.2$ billion. The scenario for the sales of freehold apartments was similar. In 2007, $€ 26.3$ billion was spent; and in 2008, this figure had risen by approx. $2.5 \%$ to $€ 27.0$ billion.

| Federal state |  | Financial turnover [million€] |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Building land |  | Single- and two-family houses (without RH/DHH) |  | Freehold apartments |  |
| Baden-Württemberg* | 2007 | 4.300 |  | 5.200 |  | 5,100 |  |
|  | 2008 | 3,900 | -9.3\% | 5,300 | 1.9\% | 5,400 | 5.9\% |
| Bayern* | 2007 | 2,200 |  | 5,650 |  | 5,700 |  |
|  | 2008 | 2,000 | -9.1\% | 6,050 | 7.1\% | 5,900 | 3.5\% |
| Berlin | 2007 | 166 |  | 802 |  | 1,897 |  |
|  | 2008 | 175 | 5.4\% | 795 | -0.9\% | 1,834 | -3.3\% |
| Brandenburg | 2007 | 324 |  | 908 |  | 280 |  |
|  | 2008 | 269 | -17.0\% | 875 | -3.6\% | 247 | -11.8\% |
| Bremen | 2007 | 306 |  | 342 |  | 306 |  |
|  | 2008 | 303 | -1.0\% | 342 | 0\% | 244 | -20.3\% |
| Hamburg | 2007 | 105 |  | 1,066 |  | 895 |  |
|  | 2008 | 122 | 16.2\% | 1,088 | 2.1\% | 1,069 | 19.4\% |
| Hessen* | 2007 | 1,900 |  | 2,400 |  | 2,100 |  |
|  | 2008 | 1,900 | 0\% | 2,500 | 4.2\% | 2,000 | -4.8\% |
| Mecklenburg-Vorpommern | 2007 | 59 |  | 346 |  | 271 |  |
|  | 2008 | 54 | -8.5\% | 296 | -14.5\% | 293 | 8.1\% |
| Niedersachsen | 2007 | 572 |  | 3,957 |  | 1,428 |  |
|  | 2008 | 497 | -13.1\% | 4,014 | 1.4\% | 1,344 | -5.9\% |
| Nordrhein-Westfalen | 2007 | 2,055 |  | 7,840 |  | 4,895 |  |
|  | 2008 | 1,891 | -8.0\% | 7,804 | -0.5\% | 5,042 | 3.0\% |
| Rheinland-Pfalz | 2007 | 489 |  | 1,698 |  | 952 |  |
|  | 2008 | 490 | 0.2\% | 1,774 | 4.5\% | 1,007 | 5.8\% |
| Saarland* | 2007 | 275 |  | 415 |  | 100 |  |
|  | 2008 | 270 | -1.8\% | 410 | -1.2\% | 95 | -5.0\% |
| Sachsen | 2007 | 950 |  | 1,100 |  | 1,400 |  |
|  | 2008 | 945 | -0.5\% | 1,100 | 0\% | 1,300 | -7.1\% |
| Sachsen-Anhalt | 2007 | 456 |  | 456 |  | 183 |  |
|  | 2008 | 456 | 0\% | 462 | 1.3\% | 162 | -11.5\% |
| Schleswig-Holstein* | 2007 | 650 |  | 1,600 |  | 680 |  |
|  | 2008 | 630 | -3.1\% | 1,750 | 9.4\% | 677 | -0.4\% |
| Thüringen* | 2007 | 95 |  | 320 |  | 140 |  |
|  | 2008 | 95 | 0\% | 590 | 84.4\% | 160 | 14.3\% |
| Germany - total | 2007 | c. 15,900 |  | c. 34,200 |  | c. 26,300 |  |
|  | 2008 | c. 14,000 | -12.0\% | c. $\mathbf{3 5 , 2 0 0}$ | 3.0\% | c. 26.800 | 2.0\% |

* partly uncertain data situation (figures estimated)

Tab.4-2: Transaction amounts (partly estimated) in the federal states for individual residential real estate with changes compared to the previous year

The greatest decrease was observed for the sale of building plots in Brandenburg ( $-17 \%$ ) and Niedersachsen (-13\%). The highest increase was observed in Hamburg (+16\%).

III. 4-1: Financial turnover for individual residential real estate for the different states (2008)

For 2008, the turnover figures for the different states are as shown in the above illustration III. 4-1.

The highest investments for all three sectors were made in the federal states of NordrheinWestfalen, Baden-Württemberg and Bayern with a total turnover of approx. €14 billion. The smaller federal states come in last, but clearly less money was invested into the construction of residential homes in Mecklenburg-Vorpommern, Brandenburg and Sachsen-Anhalt.

In relation to the number of inhabitants in the federal states, it also becomes apparent that in Baden-Württemberg and Bayern there is a strong investment per inhabitant in real estate for the construction of residential homes (III.4-2).

However, this submarket also plays an important role for the citizens of Bremen, Hamburg, Schleswig-Holstein and Hessen. On the other hand, less turnover is seen in Thüringen, Mecklenburg-Vorpommern and Sachsen-Anhalt.

For this analysis it is also necessary to consider the different price levels for these submarkets in the administrative districts and independent cities. The prices for single- and two-family houses in München, around Frankfurt (Main) and in Hamburg are much higher than, for example, in Mecklenburg-Vorpommern or Thüringen.

These issues are discussed in the following Chapter 4.1.2 and Chapter 4.1.3.

III. 4-2: Financial turnover per inhabitant for individual residential real estate for the different states (2008)

### 4.1.2 Undeveloped plots

For the analysis of the submarket for undeveloped plots for the construction of residential homes, information was available on average plot prices for, at the most, half of all 413 administrative districts and independent cities in Germany.

The detailed data for 2008 is shown in table Tab. 4-3:

| Quality of <br> location | Number of <br> districts/ <br> independent <br> cities | Share of all <br> districts/indepen- <br> dent cities <br> [\%] |
| :--- | :---: | :---: |
| Top location | 99 | 24 |
| good location | 190 | 46 |
| average location | 201 | 49 |
| modest location | 185 | 45 |

Tab.4-3: Number of available average land prices in administrative districts/independent cities (2008)

## Prime locations

The highest indicative land values are listed for the prime locations in Hamburg with 2,655€/ $\mathrm{m}^{2}$, followed by München ( $1,567 € / \mathrm{m}^{2}$ ), the city of Heidelberg and the administrative district of Starnberg ( $1,100 € / \mathrm{m}^{2}$ ). In Stuttgart, the highest value for plots for single- and two-family houses was $1,280 € / \mathrm{m}^{2}$.

Regardless of the above-mentioned values, Germany overall presents a fairly homogeneous picture (III. 4-3):

The average land value in prime locations is about $280 € / \mathrm{m}^{2}$. The most frequently mentioned top value is $150 € / \mathrm{m}^{2}$. For Berlin a price of $650 € / \mathrm{m}^{2}$ was given for prime locations, and for Frankfurt am Main, $560 € / \mathrm{m}^{2}$.

The lowest figures for prime locations were registered in the administrative district of Ludwigslust (Mecklenburg-Vorpommern) with $60 € / \mathrm{m}^{2}$ and in the administrative districts of Wesermarsch, SoltauFallingbostel (Niedersachsen) and Werra-MeißnerKreis (Hessen) with $90 € / \mathrm{m}^{2}$.

## Good locations

For locations classed as good locations in administrative districts and independent cities in Germany, the top values are in München ( $920 € / \mathrm{m}^{2}$ ), Wiesbaden ( $800 € / \mathrm{m}^{2}$ ), Heidelberg ( $650 € / \mathrm{m}^{2}$ ), Starnberg $\left(600 € / \mathrm{m}^{2}\right)$ and Darmstadt $\left(580 € / \mathrm{m}^{2}\right)$.

Without considering these high-end areas, the German-wide price level is shown in illustration III. 4-4.

On average, the indicated land value for building plots for the construction of residential homes is approx. $175 € / \mathrm{m}^{2}$. The most frequently mentioned value is $80 € / \mathrm{m}^{2}$. The second highest values after Darmstadt are $570 € / \mathrm{m}^{2}$ (Fürstenfeldbruck, Bayern) and $510 € / \mathrm{m}^{2}$ (Erding, Bayern).

The lowest values for good locations are in the administrative districts of Spree-Neiße (Brandenburg) and Altmarkkreis-Salzwedel (Sachsen-Anhalt) with approx. $35 € / \mathrm{m}^{2}$.

III. 4-3: Land values in prime locations (2008)

III. 4-4: Land values in good locations (2008)

## Average locations

For average locations, the boards of expert valuers provided information on about $50 \%$ of all administrative districts/independent cities. A detailed analysis of the country-wide average prices is presented in later sections.

## Modest locations

For modest locations the top value was also found in München ( $444 € / \mathrm{m}^{2}$ ), followed by Frankfurt (Main) ( $380 € / \mathrm{m}^{2}$ ) and Darmstadt ( $350 € / \mathrm{m}^{2}$ ). The average value was $90 € / \mathrm{m}^{2}$, and the most frequently mentioned value, $30 € / \mathrm{m}^{2}$.

The lowest land prices are in the administrative districts of Uckermark (Brandenburg) and Parchim (Mecklenburg-Vorpommern) with $5 € / \mathrm{m}^{2}$.

## General level of the developable land values (individual residential real estate) in average locations in Germany

For land prices in average locations, data for 2008 is available for nearly $50 \%$ of all administrative districts and independent cities. Therefore, this data is well-suited to present the average price level for land in the Federal Republic of Germany.

Data on land values in III. 4-5 average locations is available for the illustrated administrative districts and independent cities.

Furthermore, the authors also have access to data from the Wohnungsmarktbeobachtungssystem IDN Immodaten GmbH (a corporate institution for tracking systems for the residential market) of the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR; Federal Institute for Research on Building, Urban Affairs and Spatial Development) in the Federal Agency for Building and Regional Planning (BBR) on rents offered for residential real etate and other socio-economic structural data (number of inhabitants, number of households, etc.) This data was compiled with the land values communicated by the boards of expert valuers in order to use statistical methods to test how land values depend on this data and to establish estimated values for administrative districts and independent cities for which no information is available. This has made it possible to present an overall picture of the price levels for the Federal Republic of Germany.

III.4-5: Average indicative land values for building plots for individual residential real estate in average locations (2008) reported by boards of expert valuers

III. 4-6: $\quad$ Dependence of land values on offered rents (2nd half of 2008)

From the scatter plot (III.4-6) a significant interdependence betweem land prices and rents offered is visually recognisable, the statistic coefficient of determination with $\mathrm{R}^{2}=0.74$ is a high value for the analysis of the real estate market.

When considering the settlement patterns divided into "rural area", "partially urban area" and "predominantly urban area" for administrative districts/independent cities (see chapter 2.4.3 III. 2-16), the result of the analysis has a $10 \%$ higher coefficient of determination of $R^{2}=0.82$. Therefore, the factor of the regression function is sufficient to calculate estimated land values in average locations for areas where no data is available.

Merely in areas with high land values, for example.in München $\left(650 € / \mathrm{m}^{2}\right)$, Frankfurt (Main), Wiesbaden and the administrative district of Starnberg ( $450 € / \mathrm{m}^{2}$ ) or Darmstadt ( $440 € /$ $\mathrm{m}^{2}$ ) and the Main-Taunus administrative district $\left(420 € / \mathrm{m}^{2}\right)$, less data is available so that a higher level of uncertainty can be expected for the estimated values in areas with locations with high prices.

Furthermore, it is difficult to assess exactly the land values in areas of the federal states of Bayern, Rheinland-Pfalz, Baden-Württemberg, Thüringen and Sachsen, because little data is available compared to the federal states in the north and east.

In the overview III. 4-7 the displayed reported land values have been complemented with estimated values.

The most frequent land value in an average location in Germany falls between $50 € / \mathrm{m}^{2}$ and $99 € / \mathrm{m}^{2}$. It also becomes apparent that more than half of all values are in this range (III.4-8). The highest values are in the areas surrounding München, Frankfurt (Main) and Wiesbaden. The lowest values are in Bad Kissingen (Bayern), Märkisch-Oderland (Brandenburg) and in the Rhein-Hunsrück district (Rheinland-Pfalz).

III. 4-7: Land values for building plots for individual residential real estate in average locations (2008) that were reported and estimated by applying the regression function

III. 4-8: reported and estimated land values in average locations (2008)

## Price development for building plots for the construction of residential homes

Apart from the information about average land prices, the boards of expert valuers in Germany were also asked to indicate the price developments for this submarket that can be derived from the collection of information on purchase prices. It is possible to differentiate five categories:

- plunging
- falling
- unchanged
- rising
- soaring

The following data is available:
2007: $125 \begin{gathered}\text { Administrative districts/ } \\ \text { independent cities }\end{gathered}$
2008: 153 Administrative districts/ independent cities

From the map (III.4-9) it is clear that regional distribution of information about price development is not sufficient to make statements about the Federal Republic of Germany as a whole.

However, the information does allow conclusions to be drawn about the regions of the federal states of Rheinland-Pfalz, Nordrhein-Westfalen, Niedersachsen, Mecklenburg-Vorpommern and Brandenburg.

The analyses of the purchase price collections of the corresponding board of expert valuers show that in $35 \%$ of the administrative districts/
independent cities the price development was assessed as "rising" or "soaring". For about 34 \% the price situation was considered "unchanged", and in about $31 \%$ of the cases, as "falling" or "plunging" (III.4-10).

In 2008 the picture changed slightly. In most administrative districts/independent cities the price development is characterised as "unchanged" (c. $34 \%$ ). In only about $33 \%$ of the cases is the situation characterised as "rising" or "soaring". And for further approx. $33 \%$ the price development is described as "falling" or "plunging" (III.4-11).

The assessments of "plunging" or "soaring" appear relatively rarely.

This corresponds to the general experience on the real estate market, as mainly comparatively slow developments have been observed.

III.4-9: Distribution of information about price development for building plots for individual residential real estate (2008)

III. 4-10: Price development of building plots for individual residential real estate (2007)

III.4-11: Price development of building plots for individual residential real estate (2008)

### 4.1.3 Developed land

In the case of developed plots for individual residential real estate the following are the different submarkets:

- detached single- and two-family houses,
- end-of-terrace houses and semi-detached houses
- middle terraced houses,
- freehold flats (living space $45-120 \mathrm{~m}^{2}$ ),
- apartments (living space under $45 \mathrm{~m}^{2}$ ).

For the assessment of the price ratios and developments in 2007/2008 the corresponding indices for these real estate categories in relation to administrative districts/independent cities were requested from the boards of expert valuers.

Thefollowing average values for the corresponding administrative districts or independent cities were ascertained:

- plot area (with the exception of freehold flats/ apartments),
- living space;
- sales price per $\mathrm{m}^{2}$ of living space,
- total sales price.

In order to differentiate the price level more precisely, the buildings were also differentiated with respect to their construction year as follows:

- construction year before 1919 ,
- 1919 to 1949,
- 1950 to 1974,
- 1975 to 1989,
- construction year after 1990,
- new buildings; renovated and then sold buildings.

Sufficient data is available for a more precise analysis of price levels and developments for the categories of single- and two-family houses (approx. 200 administrative districts/independent cities per year) and freehold flats (approx. 220). For this reason, in the following the price levels for these categories are analysed in more detail. Conclusions can be drawn from the development of these submarkets about the development of the markets for terraced houses and semi-detached houses, as well as apartments. Experience has shown that the development is similar.

## Detached single- and two-family houses

In Germany in the years 2007 and 2008 about $€ 34$ billion and $€ 35$ billion respectively were invested into developed plots with detached single- and two-family houses.

For the analysis of the price levels for singleand two-family houses the following indicators were available for all administrative districts and independent cities:

- average price per $\mathrm{m}^{2}$ of living space (195 administrative districts/independent cities),
- average total purchase price (224),
- average living space (199).

For this purpose the boards of expert valuers assessed a total of 33,000 purchase agreements.

As the living area strongly influences the purchase price, this figure was analysed in more detail and compared with and validated by the corresponding indicators. Furthermore, the average values were weighted against the corresponding number of purchase agreements given by the boards of expert valuers.

This means there is data available for a more detailed analysis from 199 administrative districts/independent cities. Overall this results in the following indicators (Tab.4-4):

| Feature | 2007 | 2008 <br> (change) |
| :---: | :---: | :---: |
| Price per $\mathrm{m}^{2}$ of living <br> space $\left[€ / \mathrm{m}^{2}\right]$ | 1,281 | 1,235 <br> $(-3.6 \%)$ |
| living space <br> $\left[\mathrm{m}^{2}\right]$ | 147.0 | 143.7 <br> $(-2.2 \%)$ |
| average price |  |  |
| $[€]$ |  |  |$\quad 188,307$ (-5.8\%) 

Tab.4-4: Indicators for developed single- and two-family house plots for 2007/2008

This means, the price per $\mathrm{m}^{2}$ of living space fell from 2007 to 2008 by about $3.6 \%$ and the total price of single- and two-family houses fell by $5.8 \%$.

When divided according to the year of construction of the buildings, the following picture presents itself (2008) (Tab.4-5):

| Year of construction | Living space [ $\left.\boldsymbol{\epsilon} / \mathrm{m}^{2}\right]$ | Price increase compared to the previous construction year class [\%] |
| :---: | :---: | :---: |
| before 1919 | 927 | - |
| 1919 to 1949 | 1,157 | +25 |
| 1950 to 1974 | 1,238 | +7 |
| 1975 to 1989 | 1,340 | +8 |
| after 1989 | 1,521 | +14 |
| new builds | 1,874 | +23 |

Tab. 4-5: Prices for developed single- and two family house plots (grouped by construction years)

It is noticeable that the older buildings constructed before 1919 lie far below the prices of the next construction year bracket ( $25 \%$ ). In the following brackets of construction years prices increase by between $7 \%$ to $14 \%$. The prices for new construction are again by about $23 \%$ higher than for buildings from the years after 1989.

This means new houses lose about $25 \%$ of their value in the first years.

To gain an overview of the price levels of secondhand single- and two-family houses, how the reported average purchase prices per $\mathrm{m}^{2}$ of living space depend on various socio-economic data available for all administrative districts and independent cities was tested.

For this analysis the above-mentioned random samples of data from 199 administrative districts and independent cities were used. The origin of the data can be seen III. 4-12 in the map.

It could be established that there is a significant dependence ( $R^{2}=0.83$ ) of the average price for living space in the administrative districts and independent cities on

- the year of sale of 2007 or 2008 ,
- the average rent offered for the corresponding areas (2nd half of 2008),
- the population density
- the purchasing power per resident and
- location in the eastern, western or southern part of Germany

This allows the deduction of estimated values for the average purchase price per $\mathrm{m}^{2}$ of living space in all administrative districts and independent cities in Germany.

The map III. 4-12 shows the resulting price level for single- and two-family houses (in $€$ per $\mathrm{m}^{2}$ of living space) for 2008. Furthermore, it should be obvious that the estimated values deduced from the calculations shown above, in particular for the southern federal states, have been calculated on the basis of a comparatively small amount of reported data.

The highest values for 2008 can be found in München ( $3,950 € / \mathrm{m}^{2}$ ) and Düsseldorf $\left(3,190 € / \mathrm{m}^{2}\right)$, closely followed by the administrative district of Starnberg, and the cities of Wiesbaden and Frankfurt (Main) $\left(3,865 € / \mathrm{m}^{2}\right.$ to $\left.3,850 € / \mathrm{m}^{2}\right)$.

The lowest purchase prices for the year 2008 were found in the Rhein-Lahn district (RhinelandPalatinate, $485 € / \mathrm{m}^{2}$ ), followed by the administrative districts of Prignitz (Brandenburg, 494€/ $\mathrm{m}^{2}$ ), Demmin (Mecklenburg-Vorpommern, 572€/ $\mathrm{m}^{2}$ ) and Görlitz (Sachsen, $613 € / \mathrm{m}^{2}$ ).

III.4-12: Living space prices reported and estimated by applying the regression function for developed plots for single- and two-family houses (2008)

| Federal state | Price per m² of living space |  |
| :--- | :---: | :---: |
|  | 2007 | $\mathbf{2 0 0 8}$ |
| Baden-Württemberg | 1,690 | 1,922 |
| Bayern | 1,616 | 1,421 |
| Berlin | 1,575 | 1,548 |
| Brandenburg | 1,112 | 1,101 |
| Bremen | 1,230 | 1,195 |
| Hamburg | 2,549 | 2,502 |
| Hessen | 1,382 | 1,312 |
| Mecklenburg-Vorpommern | 949 | 957 |
| Niedersachsen | 1,021 | 1,001 |
| Nordrhein-Westfalen | 1,367 | 1,302 |
| Rheinland-Pfalz | 1,411 | 1,349 |
| Saarland | 1,185 | 1,145 |
| Sachsen | 1,080 | 1,146 |
| Sachsen-Anhalt | 795 | 767 |
| Schleswig-Holstein | 1,220 | 1,174 |
| Thüringen | 887 | 848 |
| Total | $\mathbf{1 , 2 8 1}$ | $\mathbf{1 , 2 3 5}$ |

Tab. 4-6: Living space prices for second-hand developed single- and two-family house plots by federal state (partly estimated)

The result on a state by state basis is shown above (Tab.4-6). However, it must be taken into consideration that in particular for the figures for the southern federal states, but also for Schleswig-Holstein and parts of MecklenburgVorpommern, the estimates are less certain.

Overall prices fell between 2007 and 2008. Only Baden-Württemberg and Sachsen seem to show
a price increase. Apparently the prices fell most sharply in Bayern and Hessen.

In 2008, the highest prices for second-hand single- and two-family houses were paid in Hamburg and Baden-Württemberg, followed by Berlin and Bayern (III.4-13).

III. 4-13: Living space prices for second-hand developed single- and two-family house plots 2008 (partly estimated)

The lowest prices for second-hand single- and two-family houses were observed in SachsenAnhalt, Thüringen, Mecklenburg-Vorpommern and Niedersachsen.

## Freehold flats (excluding apartments)

Overall in the years 2007 and $2008 € 26.3$ billionand $€ 27.0$ billion respectively were spent for freehold flats in Germany. This means, the amount of money invested - as in the case of developed land for single- and two-family houses - has risen slightly.

There was not enough information available about the sales of new freehold flats to derive secure statements about the levels and development of prices. Below, the sales of second-hand freehold flats in average locations in administrative districts and independent cities in Germany are analysed.

For this purpose, boards of expert valuers analysed 33,000 (2007) and 38,000 (2008) purchase contracts based on information available from approx. 230 administrative districts and independent cities. The price per $\mathrm{m}^{2}$ of living space was examined. First the figures were examined by comparing them to other data provided, then the calculations were weighted in relation to the corresponding number of purchase contracts.

The following indicators could be determined for the sales of second-hand freehold flats (Tab.4-7):

| Feature | 2007 | 2008 <br> (change) |
| :---: | :---: | :---: |
| price per $\mathrm{m}^{2}$ of living <br> space $\left[€ / \mathrm{m}^{2}\right]$ | 1,266 | 1,248 <br> $(-1.4 \%)$ |
| living space <br> $\left[\mathrm{m}^{2}\right]$ | 75.0 | 74.0 <br> $(-1.3 \%)$ |
| average price |  |  |
| $[€]$ |  |  |$\quad 94,950 \quad$| 92,352 |
| :---: |
| $(-2.7 \%)$ |

Tab.4-7: Indicators for second-hand freehold apartments for 2007/2008

Compared to the falling prices for single- and two-family houses (about -6\%), the average prices for freehold flats did not fall as steeply. Apparently the decrease in prices was caused in nearly equal shares by the smaller flat sizes
(-1.3\%) and the falling price per $\mathrm{m}^{2}$ of living space (-1.4\%).

When broken down into the groups by construction years, a picture presents itself which at first sight seems difficult to understand (Tab.4-8):

| Year of <br> construction | Living space <br> $\left[\epsilon / \mathrm{m}^{2}\right]$ | Price increase <br> compared to <br> the previous <br> construction year <br> class [\%] |
| :--- | :---: | :---: |
| before 1919 | 1,400 |  |
| 1919 to 1949 | 1,251 | -11 |
| 1950 to 1974 | 1,063 | -15 |
| 1975 to 1989 | 1,272 | +20 |
| after 1989 | 1,566 | +23 |
| New builds | 2,207 | +41 |

Tab. 4-8: Price development for second-hand freehold apartments divided into groups by construction years

Flats in older buildings have a higher price than freehold flats in buildings belonging to more recent years of construction. This circumstance certainly corresponds to the experience gained in the assessment of freehold flats. The strong jumps in price can be explained with the fact that freehold flats in older buildings have often been partially or totally renovated. In addition, they are often in older, organically developing locations in the town centre and form an attractive market segment. The buildings from the construction period between 1950 and 1974 belong to a reasonably priced segment which may be linked to the quality of the construction of these buildings, their location and the type of flats.

For analysis of price levels for sales of secondhand freehold flats in Germany information was available from in total 226 (2007) and 237 (2008) administrative districts and independent cities. The origin of the data can be seen on the map III. 4-14. The price per $\mathrm{m}^{2}$ of living space was examined.

To also calculate the value levels for areas from which no market information could be reported, the available market data was related to other socio-economic data. It was tested in what way and how accurately the average prices for
living space depend on this data. A significant dependence was established $\left(R^{2}=0.84\right)$ between the price for living space in the administrative districts and independent cities and

- the population density,
- the purchasing power per resident and
- the location in the eastern, western or southern region in Germany.
- the year of sale 2007 or 2008 ,
- the average rent offered in the corresponding areas (2nd half of 2008),

III. 4-14: Reported living space prices for second-hand freehold apartments estimated by applying the regression function

This allows the deduction of estimated values for the average purchase price per $\mathrm{m}^{2}$ of living space in all administrative districts and independent cities.

The map III.4-14 illustrates the price levels calculated for the sale of second-hand freehold flats for the year 2008. Furthermore, the map also indicates that the estimated values deduced from the calculations shown above particularly for the southern federal states such as Thüringen and Sachsen have been determined on the basis of a comparatively small amount if data.

The highest values can be found in the city of München ( $2,370 € / \mathrm{m}^{2}$ ) and the administrative district of München $\left(2,230 € / \mathrm{m}^{2}\right)$, closely followed by the administrative district of Starnberg $(2,137 € /$ $\mathrm{m}^{2}$ ).

A larger-scale analysis also clearly shows the cost-intensive areas around München and south of München, as well as in the area surrounding Wiesbaden/Frankfurt (Main) and the coastal areas.

Last come the administrative districts of ElbeElster in the southern part of Brandenburg on the border to Sachsen ( $240 € / \mathrm{m}^{2}$ ) and Güstrow in Mecklenburg-Vorpommern ( $470 € / \mathrm{m}^{2}$ ) bordering on the south side with the administrative district of Bad Doberan. Osterode in the Harz mountains ( $560 € / \mathrm{m}^{2}$ ), Mansfeld-Südharz ( $540 € / \mathrm{m}^{2}$ ) and the independent city of Pirmasens $\left(495 € / \mathrm{m}^{2}\right)$
also belong to the areas with very low prices for freehold flats.

The result on a state by state basis is as follows (Tab. 4-9):

Country-wide prices fell between 2007 and 2008. However, the federal states developed differently. Whereas partially strong price increases could be observed in Mecklenburg-Vorpommern (+29\%), Baden-Württemberg (+15\%) and SachsenAnhalt ( $+11 \%$ ), prices fell in Berlin ( $-9 \%$ ), Bayern (-6\%) and Bremen (-6\%). In Rheinland-Pfalz, Brandenburg and Hamburg prices remained steady.

The picture for freehold flats with high prices and in states with low prices is similar to the one for developed land for single- and two-family houses (III.4-15). The highest prices for secondhand freehold flats were paid in Hamburg and Baden-Württemberg, followed by MecklenburgVorpommern and then Bayern and Hessen.

The lowest prices were registered in the federal states of Sachsen-Anhalt, Saarland and Niedersachsen. The prices in Thüringen, Nordrhein-Westfalen and Schleswig-Holstein are in the middle range.

| Federal state | Price per $\mathbf{m}^{2}$ of living space |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Baden-Württemberg | 1,357 | 1,558 |
| Bayern | 1,469 | 1,377 |
| Berlin | 1,337 | 1,219 |
| Brandenburg | 1,212 | 1,222 |
| Bremen | 1,039 | 975 |
| Hamburg | 1,690 | 1,708 |
| Hessen | 1,436 | 1,377 |
| Mecklenburg-Vorpommern | 1,201 | 1,552 |
| Niedersachsen | 934 | 899 |
| Nordrhein-Westfalen | 1,158 | 1,135 |
| Rheinland-Pfalz | 1,055 | 1,035 |
| Saarland | 910 | 891 |
| Sachsen | 1,045 | 1,064 |
| Sachsen-Anhalt | 714 | 794 |
| Schleswig-Holstein | 1,145 | 1,108 |
| Thüringen | 1,143 | 1,117 |
| Total | $\mathbf{1 , 2 6 6}$ | $\mathbf{1 , 2 4 8}$ |

Tab.4-9: Living space prices for second-hand freehold apartments (partly estimated)

III.4-15: Living space prices for second-hand freehold apartments for 2008 (partly estimated)

### 4.1.4 Analysis of different settlement patterns in Germany

Apart from the variables considered thus far, it seems useful to compare the price levels for undeveloped and developed plots for individual residential real estate in different geographical areas with specific settlement patterns.

The boards of expert valuers provided assessments for the following settlement patterns:

- big city areas - generally cities with more than 100,000 inhabitants
- pattern of the surrounding area - mostly affluent suburbs around bigger cities
- rural areas

The developments in price structure in large city areas, the surrounding areas and even in rural areas can be assessed and interpreted thanks to the fairly extensive record of forwarded data.

An overview of the regional structures shows the distribution of the whole of Germany into three subareas to be opportune, and these can be assessed - on their own - with sufficient certainty. The areas illustrated for "East", "West" and "South" can also be compared with one another after having been analysed separately. Due to its price level the western part of Berlin has been included in the "West" region (III.4-16).

All assessments relate to "average locations" for the year 2008.

III. 4-16: Distribution of Germany into regions

Developable land prices - individual residences

In the following analysis average locations were assessed, because the most extensive data was reported by the boards of expert valuers for this section. The corresponding number of boards of expert valuers that contributed data for the analysis is documented in the table. Values have been deduced from the indicative land values for 2008. Divided into the different regions the
following price levels for the patterns of large cities, their surrounding areas and rural areas can be deduced (Tab.4-10).

The relation between the three different settlement patterns within each of the three regions can be derived from these figures. The striking land value that is 3.8 times higher in large city structures of the "East" region can mainly be assigned to the price level in the area of Potsdam, which significantly characterises the federal state of Brandenburg. Overall, the expected picture
shows that the building land price development has an upward trend in all structures from the rural through to large city structures. The ratios are shown in the illustration and the III.4-17 table Tab.4-11.

The comparison of the different prices for building land for individual residential real estate by region also gives the expected picture of increased prices for building land starting in the "East" region" through to the "West" region and ending in the "South" region (III.4-18 and Tab. 4-12).

| Regions | Large city pattern <br> $\left[\boldsymbol{\epsilon} / \mathbf{m}^{2}\right]$ | Surrounding pattern <br> $\left[\boldsymbol{\epsilon} / \mathbf{m}^{2}\right]$ | Rural pattern <br> $\left[\boldsymbol{\epsilon} / \mathbf{m}^{2}\right]$ |
| :--- | :---: | :---: | :---: |
| "East" region | 115.00 | 52.75 | 30.33 |
|  | $(6 \mathrm{GA})$ | $(12 \mathrm{GA})$ | $(20 \mathrm{GA})$ |
| "West" region | 187.86 | 113.75 | 79.50 |
| (with West Berlin) | $(15 \mathrm{GA})$ | $(36 \mathrm{GA})$ | $(42 \mathrm{GA})$ |
| "South" region | 342.00 | 256.33 | 123.33 |
|  | $(20 \mathrm{GA})$ | $(25 \mathrm{GA})$ | $(23 \mathrm{GA})$ |

Tab.4-10: Average building land prices for "Individual Residential Real Estate" in average locations from indicative land values in 2008 [GA = boards of expert valuers]

III.4-17: $\quad$ Price for building land Ratio divided into structures (base = rural structure)

| Regions | Large city pattern | Surrounding area <br> pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 3.8 | 1.7 | 1.0 |
| "West" region <br> (with West Berlin) | 2.4 | 1.4 | 1.0 |
| "South" region | 2.8 | 2.1 | 1.0 |

Tab.4-11: Price for building land Ratio divided into patterns (base = rural pattern)

III.4-18: Building land price Ratio divided into regions (base = "East" region)

| Regions | Large city pattern | Surrounding area pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 1.0 | 1.0 | 1.0 |
| "West" region <br> (with West Berlin) | 1.6 | 2.2 | 2.6 |
| "South" region | 3.0 | 4.9 | 4.1 |

Tab. 4-12: Price for building land Ratio divided into regions (base = "East" region)

## Developed plots - Single- and two-family houses (resale 2008)

After analysing the prices for building land for residential homes there comes an analysis of developed plots in the regions. First the resales of single- and two-family houses in the report year 2008 are analysed. The random sample sizes with resales and reporting boards of expert valuers are illustrated in the table Tab.4-13.

As already documented in the values for building land for residential homes, a trend of rising prices can be observed in the area of single- and twofamily houses in both rural structures to large cities and from the "East" region via the "West" region to the "South" region. It is noteworthy in this context that the "East" and "West" regions experience a relatively homogeneous price increase towards large cities, whereas in the "South" region the prices for single- and twofamily houses divided into two flats virtually reach

| Regions | Large city pattern [ $€ / \mathrm{m}^{2}$ ] | Surrounding pattern [ $€ / \mathrm{m}^{2}$ ] | Rural pattern [ $€ / \mathrm{m}^{2}$ ] |
| :---: | :---: | :---: | :---: |
| "East" region | 191,091 | 140,512 | 93,966 |
|  | $\begin{gathered} (718 \mathrm{KF}) \\ (10 \mathrm{GA}) \end{gathered}$ | $\begin{gathered} (1,708 \mathrm{KF}) \\ (15 \mathrm{GA}) \end{gathered}$ | $\begin{gathered} (1,784 \mathrm{KF}) \\ (24 \mathrm{GA}) \end{gathered}$ |
| "West" region | 251,870 | 183,282 | 144,436 |
| (with West Berlin) | $\begin{array}{r} (3.723 \mathrm{KF}) \\ (16 \mathrm{GA}) \end{array}$ | $\begin{aligned} & (6,132 \mathrm{KF}) \\ & (37 \mathrm{GA}) \end{aligned}$ | $\left.\begin{array}{c} (7,910 \mathrm{KF}) \\ (35 \mathrm{GA}) \end{array}\right)$ |
| "South" region | 297,344 | 290,454 | 155,737 |
|  | $\begin{gathered} (1,951 \mathrm{KF}) \\ (18 \mathrm{GA}) \end{gathered}$ | $\begin{gathered} (4,672 \mathrm{KF}) \\ (31 \mathrm{GA}) \end{gathered}$ | $\begin{gathered} (3,845 \mathrm{KF}) \\ (31 \mathrm{GA}) \end{gathered}$ |

Tab. 4-13: Single- and two-family houses sold in 2008 [KF = purchases; GA = boards of expert valuers]
this level in the immediate surrounding of large cities.

The ratios develop correspondingly within the individual regions. From rural areas to large cities it becomes apparent that single- and two-family houses have a twice as high a price level (III. 4-19 and Tab.4-14).

When looking at the price level of the corresponding structures and comparing the "East", "Wes" and „South" regions (III.4-20 and Tab.4-15), the picture is relatively homogeneous. While large cities and rural structures in the South reach a level for single- and two-family houses that is 1.6 to 1.7 times higher than in the "East" region, the increase for "structures surrounding large cities" from "East" to "South" is 2.1 times higher. This can mainly be explained, as already illustrated above, with the fact that the
resales of single- and two-family houses in areas surrounding large cities in the "South" region nearly reach the level of large cities.

III. 4-19: $\quad$ Single- and two-family houses Ratio divided into pattern (base = rural pattern)

| Regions | Large city pattern | Surrounding area <br> pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 2.0 | 1.5 | 1.0 |
| "West" region <br> (with West Berlin) | 1.7 | 1.3 | 1.0 |
| "South" region | 1.9 | 1.9 | 1.0 |

Tab.4-14: Single- and two-family houses Ratio divided into patterns (base = rural pattern)

III. 4-20: $\quad$ Single- and two-family houses Ratio divided into regions (base = "East" region)

| Regions | Large city pattern | Surrounding area pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 1.0 | 1.0 | 1.0 |
| "West" region <br> (with West Berlin) | 1.3 | 1.3 | 1.5 |
| "South" region | 1.6 | 2.1 | 1.7 |

Tab.4-15: Single- and two-family houses Ratio divided into regions (base = "East" region)

## Developed plots - Semi-detached houses and terraced houses (resale 2008)

The developments in the segment of semidetached houses and terraced houses can be analysed on the basis of the data records provided by the boards of expert valuers, although the sample size is small compared to the records for single- and two-family houses. The sample size for the sales and of the boards of expert valuers providing them is illustrated in the table Tab.4-16.

It shows a very homogeneous price development within the "East", "West" and "South" regions from rural structures to areas surrounding large cities and large cities. Significant outliers could not be found in the assessment.

Setting out from the price level of areas with rural structures in all regions a development can be observed between a 1.6 times higher value in the "West" region to a 1.7 times higher value in the "South" region and a 1.9 times higher

| Regions | Large city pattern [ $\boldsymbol{\epsilon} / \mathrm{m}^{2}$ ] | Surrounding pattern [ $\boldsymbol{\epsilon} / \mathrm{m}^{2}$ ] | Rural pattern [ $\epsilon / \mathrm{m}^{2}$ ] |
| :---: | :---: | :---: | :---: |
| "East" region | $\begin{gathered} 143,826 \\ (447 \mathrm{KF}) \\ (9 \mathrm{GA}) \end{gathered}$ | $\begin{gathered} \hline 111,153 \\ (69 \mathrm{KK}) \\ (15 \mathrm{GA}) \end{gathered}$ | $\begin{aligned} & 75,669 \\ & (83 \mathrm{KF}) \\ & (24 \mathrm{GA}) \end{aligned}$ |
| "West" region (with West Berlin) | 197,627 <br> (1,965 KF) (15 GA) | $\begin{array}{r} 147,625 \\ (2,772 \mathrm{KF}) \\ (35 \mathrm{GA}) \end{array}$ | $\begin{gathered} 126,890 \\ (2,373 \mathrm{KF}) \\ (34 \mathrm{GA}) \end{gathered}$ |
| "South" region | $\begin{array}{r} 254,704 \\ (923 \mathrm{KF}) \\ (18 \mathrm{GA}) \end{array}$ | $\begin{gathered} 206,099 \\ (1,788 \mathrm{KF}) \\ (25 \mathrm{GA}) \end{gathered}$ | $\begin{array}{r} 153,637 \\ (758 \mathrm{KF}) \\ (28 \mathrm{GA}) \end{array}$ |

Tab.4-16: Semi-detached houses and terraced houses sold in 2008 [KF = purchases; GA = boards of expert valuers]
value in the "East" region for resales of semidetached houses and terraced houses (III.4-21 and Tab.4-17). The price difference for areas of structures surrounding large cities lies at about $50 \%$ of the price difference between areas with rural structures and large cities.

When looking at the price development within the individual structures from the "East" region to the "West" region and the "South" region, a very homogeneous price development for resales of semi-detached houses and terraced houses can be observed.(III.4-22 and Tab.4-18). This means, the "South" region achieves prices for the resale of semi-detached houses and terraced houses that are 1.8 to 2.0 times higher than those in the "East" region. Depending on the structural area, the "West" region achieves values that are 1.3 to 1.7 times higher than the "East" region.

A concluding look at the regions reveals a price differential from the "South" to the "West" and "East" region and within the structures from "large cities" to "areas surrounding large cities" to "rural structures" for both undeveloped plots for the construction of residential homes and developed plots with single- and two-family houses, as well as semi-detached houses and terraced houses. In this context the fact that can be derived from these data records is indicative: the resales of single- and two-family houses in the structures surrounding large cities in the "South" region nearly reach the level of resales in large cities, while the resales of semi-detached houses and terraced houses tend to be oriented at the general price development in the other regions.

III. 4-21: Semi-detached houses and terraced houses Ratio divided into patterns (base = rural pattern)

| Regions | Large city pattern | Surrounding area pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 1.9 | 1.5 | 1.0 |
| "West" region <br> (with West Berlin) | 1.6 | 1.2 | 1.0 |
| "South" region | 1.7 | 1.3 | 1.0 |

Tab.4-17: Semi-detached houses and terraced houses Ratio divided into patterns (base = rural pattern)

III. 4-22: $\quad$ Semi-detached houses and terraced houses Ratio divided into regions (base = "East" region)

| Regions | Large city structure | Surrounding area pattern | Rural pattern |
| :--- | :---: | :---: | :---: |
| "East" region | 1.0 | 1.0 | 1.0 |
| "West" region <br> (with West Berlin) | 1.4 | 1.3 | 1.7 |
| "South" region | 1.8 | 1.9 | 2.0 |

Tab.4-18: Semidetached houses and terraced houses Ratio divided into regions (base = "East" region)


### 4.2.1 General information

As part of the data collection for this report as a first step many indicators for the submarket for investment properties and commercial properties were collected from local boards of expert valuers. The returned data in particular in the sector of special properties was - as expected - quite incomplete.

For the following submarkets there is sufficient data available for analysis:

- commercial plots for classical businesses,
- plots for the construction of multiple dwelling units,
- developed plots with multiple dwelling units,
- developed plots with commercial or industrial buildings.

It is also possible to analyse the data and draw conclusions about the transaction turnover in regions for which no data is available. For this purpose, the available real estate market data is related to other available socio-economic data for all administrative districts/independent cities (e.g. total spending power).

Additionally, the boards of expert valuers were asked to provide information about indicative land values for undeveloped commercial plots. From this data an overview may be given of the price level for undeveloped commercial plots in Germany.

In order to be able to provide statements for commercial real estate and investment properties in Germany, the editorial team decided to collect additional data on the turnover for all undeveloped and developed commercially used land areas for certain selected cities in Germany. To be able to describe a longer-term development, we requested data on the financial and area turnover for the following site categories in the period between 1990 and 2008 (Tab. 4-19):

### 4.2 Investment properties and commercial properties

Classical business use (GE) refers to fully improved plots that are ready for development and reserved for commercial use according to

| Type of use | GE | hG \& MK | $\mathbf{\Sigma}$ (GE, hg, MK) |
| :--- | :---: | :---: | :---: |
| undeveloped plots <br> (turnover | $\times$ | $\times$ | $\times$ |
| in € and ha) | $\times$ | $\times$ |  |
| developed plots <br> (turnover in €) | - | - | $\times$ |

Tab.4-19: Plot categories polled for turnover
planning regulation guidelines. In this category typical examples are plots in classical commercial enterprises, as well as logistics companies.

Plots with a higher value commercial use (hG \& MK) are fully improved plots that are ready for development and reserved for a mainly "higher value commercial use" (tertiary or service oriented) according to planning regulation guidelines. Typical examples for this category are plots in areas that are nearly exclusively used for office spaces.

The data used for the city analysis comprises the financial and area turnover in real estate transactions between 1999 and 2008 in the following 20 cities:

- Berlin
- Stuttgart
- Reutlingen
- München
- Nürnberg
- Bremen
- Hamburg
- Frankfurt (Main)
- Wismar
- Braunschweig
- Hannover
- Oldenburg
- Osnabrück
(BE)
(BW)
(BW)
(BY)
(BY)
(HB)
(HH)
(HE)
(MV)
(NI)
(NI)
(NI)
(NI)

| - Düsseldorf | (NW) |
| :--- | :--- |
| - Essen | (NW) |
| - Hagen | (NW) |
| - Köln | (NW) |
| - Mainz | (RP) |
| - Dresden | (SN) |
| - Leipzig | (SN) |

Even this small selection of data providers shows that a collective analysis of all 20 cities is not very sensible simply because a joint presentation of the results fails due to the scaling of the analysis chart.

Therefore, the results presented as shown in the table Tab.4-20 are grouped into size classes.

| Size classes | Cities providing data |
| :---: | :---: |
| $\begin{gathered} \text { I } \\ \text { (>= } 880,000 \\ \text { inhabitants) } \end{gathered}$ | Berlin (B), Hamburg (HH), München (M), Köln (K), Frankfurt (Main) (F), Stuttgart (S), Düsseldorf (D) |
| $\begin{gathered} \hline \text { II } \\ \text { (<580,000 } \\ \text { inhabitants } \\ \&>250,000 \\ \text { inhabitants) } \end{gathered}$ | Essen (E), Bremen (HB), <br> Hannover (H), Leipzig (L), <br> Dresden (DD), Nürnberg (N) |
| $\begin{gathered} \hline \text { III } \\ \text { (<= 250,000 } \\ \text { inhabitants) } \end{gathered}$ | Braunschweig (BS), Mainz (MZ), Hagen (HA), Osnabrück (OS), Oldenburg (OL),Reutlingen (RT), Wismar (HWI) |

Tab.4-20: Size classes of the analysed cities
Overall sufficient data is available to be able to make a meaningful analysis of the following submarkets:

## Undeveloped plots

- Total financial turnover for commercial sites
- Financial and area turnover for commercial sites in selected cities in Germany
- Price level for commercial plots, classical businesses
- Price level of plots for three- to five-storeyed multiple dwelling units


## Developed plots

- Financial turnover for three- to five-storeyed multiple dwelling units
- Financial turnover for developed commercial plots in selected cities in Germany


### 4.2.2 Undeveloped plots

## Total financial turnover

The authors had access to information about the financial turnover for undeveloped commercial sites from 292 (2007) and 291 (2008) administrative districts and independent cities. With respect to the price development for commercial plots and to the average land prices, sufficient information was not available; therefore it was not possible to perform a sufficiently exact country-wide analysis of these issues.

We have already looked extensively at the number of signed purchase contracts in see chapter 3.2.4 III. 3-20 to III. 3-22, therefore in the following we are going to analyse the investment turnover in terms of money and area sold in more detail.

The authors were provided with sufficient data for the analysis of the turnover of the following real estate categories in administrative districts and independent cities:

- Industrial usage,
- Classical businesses (e.g. plots for use as large shops and production sites),
- Administration and service industry (e.g. plots for use for IT technology buildings or laboratories),
- Plots in fields with a mainly tertiary usage (e.g. service, trade, large-scale retail and offices).

Concluding summary figures about the turnover for all categories could only be reported for about 290 administrative districts and independent cities. After the reported data was validated and the outliers eliminated there was only data from 285 (2007) and 284 (2008) administrative districts/independent cities available.

It was possible to establish a significant dependence ( $\mathrm{R}^{2}=0.78$ ) of the average financial turnover in the administrative districts and independent cities on

- the yearof sale,
- the spending power available for the corresponding area (2007) and
- the number of inhabitants (2007).

This allows the derivation of estimated values for the transaction amounts for undeveloped commercial plots in the administrative districts and independent cities.

There was not sufficient information available for the individual categories because the boards of expert valuers often do not analyse the corresponding purchase contracts in sufficient detail; consequently it is not possible to distinguish the above-mentioned categories.

For 2007 this results in an estimated countrywide transaction amount of in total $€ 5.5$ billion $€$, which was reduced by nearly $€ 1.7$ billion to $€ 3.8$ billion in 2008. This corresponds to a reduction of about $30 \%$.

The estimated and reported transaction amounts for 2008 are shown on the map III. 4-23.

More than half ( $53 \%$ ) of the administrative districts and independent cities in Germany present a smaller amount of investments in commercial building land (less than $€ 5$ million). In about $20 \%$ of the administrative districts/ independent cities investments of $€ 5-10$ million and $€ 10-25$ million respectively were recorded. In the remaining approx. $7 \%$ of the regions higher amounts (> €25 million) were turned over.

III. 4-23: financial turnover for undeveloped commercial land that was reported and estimated based on the regression function (2008)

The main investments for 2008 were made in the regions of Nordrhein-Westfalen, BadenWürttemberg, around Hamburg and around Berlin. The frontrunners were the cities of Hamburg ( $€ 200$ million), Berlin ( $€ 153$ million), Frankfurt (Main) ( $€ 126$ million), followed by München ( $€ 119$ million).

The lowest turnover was recorded in the administrative districts of Mecklenburg-Strelitz in the south of Mecklenburg-Vorpommern ( $€ 40,000$ ), in the administrative district Birkenfeld in Rheinland-Pfalz north-east of Saarland $(€ 50,000)$ and in Wolfsburg in Niedersachsen (€70,000).

The results on a state by state order for the years 2007 and 2008 Tab. 4-21 are as shown in the table.

The strongest decrease was noticed in Berlin (-54\%), Bayern (-44\%), Saarland (-35\%) and Baden-Württemberg ( $-38 \%$ ). The turnover only increased in Thüringen ( $+5 \%$ ), RheinlandPfalz (+18\%) and in Mecklenburg-Vorpommern (+25\%).

The highest increase for 2008 was achieved in Nordrhein-Westfalen, closely followed by BadenWürttemberg and Bayern. Then follow Hessen and Niedersachsen after a certain distance (III. 4-24).

The lowest turnovers were recorded in Saarland, Mecklenburg-Vorpommern and Bremen, as well as in Thüringen and in Sachsen-Anhalt.

| Federal state | Financial turnover [million $€$ ] |  |  |
| :---: | :---: | :---: | :---: |
|  | 2007 | 2008 | Change [\%] |
| Berlin | 333 | 153 | -54.1 |
| Bayern | 1,221 | 683 | -44.1 |
| Saarland | 17 | 11 | -35.3 |
| Baden-Württemberg | 1,137 | 704 | -38.1 |
| Schleswig-Holstein | 166 | 111 | -33.1 |
| Hessen | 524 | 356 | -32.1 |
| Sachsen | 179 | 124 | -30.7 |
| Brandenburg | 132 | 101 | -23.5 |
| Hamburg | 259 | 200 | -22.8 |
| Sachsen-Anhalt | 84 | 69 | -17.9 |
| Nordrhein-Westfalen | 951 | 817 | -14.1 |
| Niedersachsen | 258 | 250 | -3.1 |
| Bremen | 40 | 40 | 0.0 |
| Thüringen | 38 | 40 | 5.3 |
| Rheinland-Pfalz | 124 | 147 | 18.5 |
| Mecklenburg-Vorpommern | 28 | 35 | 25.0 |
| Total | 5,490 | 3,841 | -30.0 |

Tab.4-21: Financial turnover for undeveloped commercial sites on a state by state basis (estimated in part)

III.4-24: 2008 financial turnover for undeveloped commercial sites (estimated in parts)

## Area and financial turnover for selected cities in Germany

The sales figures shown for the cities listed at the beginning of this chapter also indicate that the absolute values depend on the size class the individual cities belong to (III.4-25 until III.4-27).

In relation to the number of inhabitants the turnover of land also depends on the size class. In cities belonging to size class I twice as much
land was sold than in those belonging to class II. The turnover in cities of class III is much lower than in the other two classes.

III. 4-25: Financial and area turnover for undeveloped sites (GE, hG and MK) of the class size I (2008)

III.4-26: Financial and area turnover for undeveloped commercial sites (GE, hG and MK) of the class size II (2008)

III.4-27: Financial and area turnover for undeveloped commercial sites (GE, hG and MK) of the class size III (2008)

Price level for undeveloped commercial plots

- classical business

With respect to the permitted use of building land commercial plots are classed as follows:

Land for

- classical business (e.g. production facilities, storage facilities, repair shops, etc.),
- Administration and service industry (e.g. IT, laboratories, representative buildings, technology parks, etc.),
- Premises with a mainly tertiary use (e.g. service, trade, large-scale retail, etc.),
- Industrial areas.

For building land that is mainly suitable for classical business, the authors were provided with information for 2008 from 160 administrative districts and independent cities; this corresponds to nearly $40 \%$ of the administrative districts and independent cities in Germany. There was not sufficient information available for other types of commercial land use.

The price levels for building plots for classical business in average locations without public funding in these 160 areas are as shown in the following illustration (III.4-28).

The table below summarises the average values and ranges Tab.4-22. It is evident that the price
level of land in good locations is twice as high as the price of land in modest locations. It also becomes apparent that the overall price level increased slightly between 2007 and 2008.

III. 4-28: Price level for undeveloped commercial plots for classical business in average locations without public funding (2008)

| Quality of location | Number of involved administrative districts/ independent cities | Average land value [ $€ / \mathrm{m}^{2}$ ] | Min. <br> [ $€ / \mathrm{m}^{2}$ ] | Max. <br> [ $\left.€ / \mathrm{m}^{2}\right]$ |
| :---: | :---: | :---: | :---: | :---: |
| 2007 |  |  |  |  |
| good location (without public funding) | 110 | 69.27 | 10 | 420 |
| average location (without public funding) | 153 | 53.73 | 5 | 350 |
| average location (with public funding) | 65 | 31.05 | 5 | 220 |
| modest location (without public funding) | 111 | 33.41 | 3 | 150 |
| 2008 |  |  |  |  |
| good location (without public funding) | 114 | 71.25 | 10 | 420 |
| average location (without public funding) | 160 | 55.86 | 5 | 350 |
| average location (with public funding) | 62 | 31.99 | 5 | 230 |
| modest location (without public funding) | 114 | 33.81 | 3 | 150 |

Tab.4-22: Price range for undeveloped commercial plots (classical business) in average locations (2008)

## Price level - building plots for three- to fivestoreyed residential buildings

In the sector of building land on which construction of three- to five-storeyed multiple dwelling units is permitted, the authors had information from about 150 administrative districts and independent cities. On the basis of this, it is not possible to derive definitive country-wide statements about the price structure. The graphic below shows the top values of the reported regions.

The highest prices for building plots for the construction of multi-storeyed multiple dwelling units are paid in München and Wiesbaden ( $€ 1,000$ / $\mathrm{m}^{2}$ ), followed by the administrative district of Starnberg (€950/m²) (III. 4-29).

III. 4-29: Highest prices prices for plots and building land for the construction of multiple-storeyed residential houses (3- to 5-storeys) in average locations

The lowest values of the reported administrative districts are paid in e.g. Lüchow-Dannenberg (Niedersachsen), in the Salzland district (Sachsen-Anhalt) and in the Vogelsberg district (Hessen) with €20-25/m² (III.4-30).

For the chosen cities the price level for undeveloped building plots for multi-storeyed
multiple dwelling units is shown in the table Tab. 4-23 below.

Mainz, Reutlingen, Wismar and Leipzig did not provide any information about the price level of multi-storeyed multiple dwelling units.

III.4-30: lowest prices for plots and building land for the construction of multiple-storeyed residential houses (3-to 5-storeys) in average locations

| City | Price level <br> $\left[€ / \mathbf{m}^{2}\right]$ |
| :--- | :---: |
| München | 1,000 |
| Frankfurt (Main) | 580 |
| Stuttgart | 540 |
| Hamburg | 440 |
| Köln | 410 |
| Essen | 310 |
| Nürnberg | 280 |
| Berlin | 280 |
| Dortmund | 250 |
| Osnabrück | 220 |
| Bremen | 210 |
| Hannover region | 200 |
| Braunschweig | 180 |
| Oldenburg (Oldenburg) | 170 |
| Dresden | 125 |
| Hagen | 120 |

Tab.4-23: Price level for undeveloped building plots for multiple-storeyed residential houses (2008)

### 4.2.3 Developed plots

As part of the data collection for the turnover of developed commercial sites or sites that are used for business purposes, the financial turnover for the market categories listed below was requested:

- Multiple dwelling units,
- Commercial and industrial buildings,
- Office and administrative buildings,
- Business buildings,
- Trade and specialist consumer markets,
- Hotel properties.

Out of the 413 administrative districts and independent cities in Germany in total the boards of expert valuers forwarded information about multiple dwelling units in 227 administrative districts and independent cities for 2008; therefore, it was possible to analyse this real estate category.

There is less information available for the turnover of commercial and industrial buildings, office and administrative buildings, business buildings, trade and specialist consumer markets, and hotel
properties. It is necessary to conduct an analysis split into different regions, as country-wide statements that are sufficiently exact, cannot be made.

## Financial turnover for three- to five-storeyed multiple dwelling units

The authors obtained of information about multiple dwelling units sold in Germany in 230 (2007) and 227 (2008) administrative districts and independent cities. A contrasting analysis of the transaction amounts with an average offered rent in administrative districts and independent cities does not show that the financial turnover significantly depends on the amount of rent paid. The link between financial turnover in administrative districts/independent cities and the corresponding amount of purchasing power
shows that - as for the undeveloped commercial sites - in areas with higher spending power a higher financial turnover than in areas with a lower spending power could also be registered.

When consolidating the financial turnover data that is only partially available for Germany with the comprehensive data about the spending power available for all of Germany, it is possible to make a valid statement about the total turnover for multiple dwelling units in Germany. Hereby the exactness of the assessments depends on whether there is data available on the administrative districts and independent cities in the federal states.

The estimated and reported transaction amounts for multiple dwelling units for 2008 are shown in the map III.4-31:

III. 4-31: Financial turnover for multiple dwelling units reported and estimated based on the regression function (2008)

It becomes apparent that the turnover picture is heterogeneous. The majority of investments are made in Nordrhein-Westfalen, around Hamburg, around Berlin, in the region of Hannover and in Baden-Württemberg and Sachsen.

A clear decrease of investments in all federal states can be noticed between 2007 and 2008. The transaction amounts presented a particular strong decrease in Thüringen (-68\%) and Sachsen ( $-45 \%$ ), but also in Brandenburg, Schleswig-Holstein and Hamburg with -44\% each (Tab. 4-24).

For 2007 the estimated total amount of investments rose to about $€ 31.5$ million. For 2008 this amount shrank by about $37 \%$ to about $€ 19.9$ billion.

The frontrunners for financial turnover in the years 2007 and 2008 were the capital Berlin and the city of München, however, turnover still shrank a great deal. While Hamburg was in third place in 2007, the Hanseatic city was replaced by Köln in 2008 (III. 4-32).

In turn, in 2008 Dortmund appeared for the first time in the list of the 20 regions with the highest turnover, the city of Wuppertal on the other hand, fell back on the 30th position with a turnover of €130 million. Consequently, the administrative district of München could advance to position 19 (III. 4-33).

| Federal state | Financial turnover for multiple dwelling units (estimated) [million $€$ ] |  |  |
| :---: | :---: | :---: | :---: |
|  | 2007 | 2008 | Change [\%] |
| Baden-Württemberg | 5,679.4 | 3,709.5 | -34.7 |
| Bayern | 3,397.3 | 2,278.2 | -32.9 |
| Berlin | 3,625.3 | 2,259.8 | -37.7 |
| Brandenburg | 396.2 | 223.6 | -43.6 |
| Bremen | 360.0 | 227.5 | -36.8 |
| Hamburg | 1,133.0 | 637.4 | -43.7 |
| Hessen | 2,604.4 | 1,641.8 | -37.0 |
| Mecklenburg-Vorpommern | 255.7 | 206.5 | -19.2 |
| Niedersachsen | 2,285.9 | 1,436.9 | -37.1 |
| Nordrhein-Westfalen | 6,765.0 | 4,482.7 | -33.7 |
| Rheinland-Pfalz | 482.1 | 374.0 | -22.4 |
| Saarland | 261.6 | 160.0 | -38.8 |
| Sachsen | 2,169.8 | 1,189.6 | -45.2 |
| Sachsen-Anhalt | 538.2 | 361.3 | -32.9 |
| Schleswig-Holstein | 1,085.4 | 609.1 | -43.9 |
| Thüringen | 483.6 | 154.2 | -68.1 |
| total | 31,522.9 | 19,952.0 | -36.7 |

Tab.4-24: Financial turnover for multiple dwelling units (estimated)

III. 4-32: Highest financial turnover for multiple dwelling units (2007)

III. 4-33: Highest financial turnover for multiple dwelling units (2008)

Financial turnover for developed commercial land - selected cities -

Analogous to the undeveloped plots the prices for developed commercial land in large cities (size class I) differs significantly from the average level of values.

In the size class I the annual turnover of all cities with the exception of Berlin (the locations in core areas were probably not analysed) was close to or above the $€ 1$ billionthreshold. Particularly in the years 2006 and 2007 peak sales were achieved in e.g. Frankfurt (Main) with $€ 4.5$ billion (2007) or in München with $€ 3.2$ billion (2006) and Hamburg with $€ 3.4$ billion (2007) (III. 4-34).

In relation to the number of inhabitants the cities of size class I also achieved peak values, whereby Frankfurt (Main) - as in the case of undeveloped plots - took the top position with about $€ 6,800$ (2007) per inhabitant. The cities of Düsseldorf and Stuttgart follow after a large gap with $€ 4,000$ (2006) and $€ 2,600$ (2007) per inhabitant.

The illustrations III. 4-34 to III. 4-37 show how the real estate market for commercially used plots has developed in the last three years.

*Regional type of use: G, GP and price determining real estate type: Business, office and and administrative buildings (incl. trade), warehouses, commercial buildings, buildings for manufacturing industries, petrol stations
III. 4-34: Financial turnover for developed commercial land (GE, hG and MK) of the class size I (2006-2008)

III. 4-35: Financial turnover for developed commercial land (GE, hG and MK) of the class size II (2006-2008)

III.4-36: Financial turnover for developed commercial land (GE, hG and MK) of the class size III (2006-2008)

III.4-37: Turnover per inhabitant for developed commercial plots in 20 selected cities (2006 - 2008)

The following illustrations III.4-38 to III.4-40 show the development of financial turnover in the last 10 years. A relatively constant development can be noted for all size classes in the years from 1999 to 2005.

In this period, the turnover for size class I is on average about $€ 815$ million, for size class II it is about $€ 180$ million and for size class III about $€ 45$ million per year. In the years 2006 and 2007 in all classes the turnover showed a relatively even 2.3 fold (size class III) to 2.7 fold increase
(size class I and II) and in 2007 was up to $60 \%$ above the average value for the period from 1999 to 2005. The peak turnover of the cities listed here was registered in Frankfurt (Main) with about $€ 4.5$ billion and in Hamburg with about $€ 3.4$ billion.

The graphics illustrate very clearly how the real estate boom especially in the submarket of commercial plots influenced the turnover in 2005 to 2007 .

Particularly the example of the city of Frankfurt (Main) clearly shows how the jumps in sales presented themselves on the market. Within one year (2008) the turnover fell below the level of 2004, which corresponds to a slump in turnover of about $€ 3.8$ billionor a loss of about $85 \%$ compared to the previous year.

It also shows that the market could regulate itself in a very short period of time with the exception of a few cases. It can be assumed that the turnover for 2009/2010 will probably reach the long-term average.

III.4-38: Turnover development 1999 - 2008 in size class I

III. 4-39: Turnover development 1999-2008 in size class II

III. 4-40: Turnover development 1999-2008 in size class III


# 4.3 Portfolio sales and large-scale investments 

For the last few years especially large transactions have taken place on the real estate market with the so-called portfolio sales and large-scale investments. Both kinds of transactions are direct transactions of properties and can involve both commercial and residential properties. For example, in 2008 Nordrhein-Westfalen was talked about because of the sale of its State Development Corporation (LEG) to Whitehall Real Estate Funds, the real estate investment fund of the US-American investment bank Goldman Sachs. With a transaction amount of $€ 787$ million this sale has been one of the largest deals for residential property in Germany to date [7]. In 2006 the Kröpke-Center in Hannover was sold together with other buildings for about $€ 2$ billionto the British company Eurocastle of the American fund corporation Fortress.[16]. These are commercial properties right in the centre of the capital of Niedersachsen.

It is difficult to measure the size of the market for portfolio sales and large-scale investments. Many boards of expert valuers only register the minimal amount of transaction data and do not research the object of purchase any further.

With respect to their spatial dimensions portfolios are not restricted to the scope of responsibility of one board of expert valuers; often these portfolios consist of country-wide or even international real estate packages. Until now boards of expert valuers have not been able to indicate the total volume for plot values for the entire German market for large-scale investments and portfolio sales.

The Deutsche Gesellschaft für Immobilienfonds (DEGI) estimates the transaction volume of the investment market for Jahr 2008 at $€ 25.4$ billion, out of which nearly $38 \%$ is taken up by portfolios. The year prior to that the transaction volume amounted to $€ 61.3$ billion; however, they claim 2007 was an unusually strong-selling year. Generally speaking, in 2008 fewer portfolio sales were observed than in 2007. DEGI itself has been
a market participant and bought and sold several large portfolios in the past[6].

In 2007 the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) within the Federal Office for Building and Regional Planning (BBR) analysed the transactions of residential portfolios and compiled the corresponding report on this topic. It particularly analysed the connections between the structures of offer and demand for flats in multi-storeyed buildings in Germany. According to their information, in 2005 more than 353,000 flats in portfolios with more than 800 residential units were sold for $€ 17.2$ billion. A data pool referring to expert knowledge and published notifications about transactions has served as the base data for this analysis[4]. In subsequent periods the number of large-scale portfolio sales has been reduced, but the number of small portfolios rose significantly in 2008 [5].

## Niedersachsen

The board of expert valuers in Niedersachsen defined in 2007 starting from what transaction amount a sale has to be considered a portfolio or large-scale investment. According to them largescale investments or portfolio sales are transactions over a sales price of $€ 5$ million. Portfolio sales (also block sales) are sales of properties in which the individual sold properties may have a lower sales price, but are sold as part of a larger agreement.

The table Tab.4-25 shows the distribution of financial turnover in the analysed submarkets. The figures of the previous year are included in brackets.

| Submarket | Financial turnover 2008 (2007) |  |
| :--- | :---: | :---: |
|  | Share on the total turnover of the <br> submarket <br> [\%] |  |
| Multiple dwelling units | 190 |  |
| $(501)$ | 22 |  |
| Commercial and <br> administrative <br> buildings | 820 <br> $(2,134)$ | 49 |
| Other buildings | 609 <br> $(827)$ | $(63)$ |
| Total | 1,619 | 43 |
| $(3,462)$ | $(50)$ |  |

Tab.4-25: Distribution of financial turnover for large-scale investments/portfolios in the submarkets (Niedersachsen)

Out of all vendors $17 \%$ were private individuals and $79 \%$ other vendors (e.g. institutional investors, such as insurance companies, pension funds, investment trusts and banks). Eleven percent of the buyers were private individuals and $87 \%$ were other buyers.

Large-scale investments were made mainly in large cities and in the areas surrounding them (c. $60 \%$ of the financial turnover for large-scale investments). With a share of $40 \%$ (c. $€ 650$ million) the region of Hannover played the most important rolellI.4-41).

III. 4-41: Large-scale investments in Niedersachsen 2008 [19]

The table below Tab.4-26 illustrates the gross yield factor for the submarkets of multiple dwelling units, commercial and administrative buildings - distributed into residential and commercial buildings, as well as department stores and shopping halls. The analysis only includes contracts that included the sale of the plots (e.g. no exchange, compulsory auction, etc.) and that did not involve unusual or personal circumstances (e.g. family relations, other business relations, etc.). The current figures for large-scale investments were extracted from the data for 2007 and 2008. The figures of the previous year (data of 2007) are included in brackets.

It shows that the gross income multipliers of largescale investments/portfolio sales are slightly higher than on the "normal" submarket (excluding large-scale investments). This is explained with the fact that particularly large-scale investors are usually interested in obtaining properties in good locations (large cities and affluent suburbs) that can be expected to have a comparatively high security of return.

The local boards of expert valuers in Niedersachsen provided the state board of expert valuers with a total of 24 contracts (previous year: 42) for country-wide portfolio sales in 2008. In these contracts several properties were always sold, out of which one or several were located in Niedersachsen and further properties were located in other federal states. The 24 portfolio sales comprise 2 to 1,240 individual properties, in total 2,023 individual properties were registered in these contracts, in which also the plots in Niedersachsen were sold. On this basis, the state board of expert valuers of Niedersachsen can make valid statements about the market behaviour for large portfolio sales.

The individual properties of these 24 analysed portfolios are distributed over the entire national territory. The highest number of them with an amount of $20 \%$ was in Bayern, followed by the federal states of Niedersachsen, NordrheinWestfalen, Sachsen and Baden-Württemberg with approx. $10 \%$. The lowest number of properties was in Bremen and Hamburg with about $1 \%$. In Niedersachsen the majority of properties was located in the region of Hannover. The total purchase prices ranged from $€ 5$ million to $€ 1,600$ million, in total about $€ 3.8$ million were turned over (previous year: $€ 5.1$ billion). About $40 \%$ of the buyers resided abroad, out of which $60 \%$ were based in Luxembourg. In these package sales mainly multiple dwelling units and commercial and administrative buildings were sold, and these often included several types of buildings in the same package.

Thanks to the data included in the contracts and further inquiries at the certifying public institutions sufficient information was available from the contracts of the years 2007 and 2008 in order to calculate an average gross income multiplier. For the concerned portfolios we calculated an average gross income multiplier of 13.1 (range: 8.0 - 17.9). in the previous year ( 20 contracts for the year 2007) the average gross income multiplier was 13.4 (range 9.9 -17.9).

## Nordrhein-Westfalen

Since 2005 the state board of expert valuers of Nordrhein-Westfalen has summarised special cases of purchase price collection, which concern the area of responsibility of several boards of expert valuers, as portfolio sales. For 2008 there were 250 contracts of the areas of responsibility of 15 of the total of 78 (today 77) boards of expert valuers; an all-encompassing

| Submarket | Gross income multiplier 2008 (2007) |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | for large-scale investments |  |  |  | without large-scale <br> investments |
|  | Number | Average value | Minimum | Maximum | Average value |
| Multiple dwelling | 99 | 12.6 | 4.7 | 19.7 | 11.3 |
| units | $(74)$ | $(12.5)$ | $(7.4)$ | $(19.7)$ | $(12.4)$ |
| Residential and | 49 | 12.2 | 6.7 | 19.6 | 11.0 |
| commercial buildings | $(38)$ | $(12.2)$ | $(7.4)$ | $(19.6)$ | $(11.3)$ |
| Office buildings | 55 | 12.9 | 6.2 | 18.7 | 10.7 |
|  | $(26)$ | $(14.5)$ | $(11.2)$ | $(18.7)$ | $(11.3)$ |
| Department stores | 45 | 12.9 | 9.3 | 18.5 | 12.3 |
| and shopping halls | $(39)$ | $(13.0)$ | $(9.3)$ | $(18.5)$ | $(12.5)$ |

Tab.4-26: Gross income multipliers for the submarkets (Niedersachsen)
feed-back on portfolio sales was not available. In 2008, the sales volume amounted to more than $€ 1.5$ billion. (2007: €1.1 billion).

In a few cases the local board of expert valuers also registered and analysed direct portfolio sales. This approach is not only restricted to large cities with high turnover, but is also done to a certain extent in small and medium-sized towns, because these towns are also affected by portfolio sales and large-scale investments.

## Berlin

The board of expert valuers in Berlin registers and analyses portfolio sales. For the analysis of portfolio sales the deals are classed with respect to the current market environment and the involved investors are analysed accordingly. In 2008, 14 portfolios with a total of 70 developed plots and a value of $€ 267.2$ million were sold. This corresponds to a reduction in financial turnover compared to 2007 of more than $€ 540$ million. With regards to volume in Berlin a significant portion was taken up by portfolio sales with residential or part-ownership. In 2008, 2,885 residential and part-ownership rights were sold as part of 399 portfolio sales. The value of these transactions amounted to $€ 218$ million. The decrease compared to the previous year was less noticeable in this submarket, but still amounted to $€ 58$ million. The board of expert valuers in Berlin does not consider sales of residential property construction companies that own real estate, because the reporting of these sales is not mandatory. In the information we only considered data for real estate located in Berlin [12].

## München

An analysis of the market activities in the area of responsibility of the board of expert valuers for the regional capital München with regards to largescale investments with a transaction volume of more than $€ 5$ million had clear results. Out of the 610 undeveloped building plots sold in 2008, 33 transactions had a sales volume of more than $€ 5$ million. These 33 large-scale investments have a sales volume of $€ 352$ million and take up nearly $52 \%$ of the financial turnover for undeveloped sites. Out of the 1,558 transactions with developed plots, 73 transactions have a volume of more than $€ 5$ million each. These 73 large-scale investments have a sales volume of $€ 1.31$ billion and take up $53 \%$ of the total turnover for all developed plots. Developed plots for housing and commercial use are considered here.


### 4.4 Agricultural and silvicultural land

### 4.4.1 General information

For 2008 data on turnover and price level from 250 administrative districts and independent cities is available to describe the submarket of land used for agricultural and forestry purposes (2007: 253). This covers approx. $64 \%$ of the land in Germany (see chapter 3.2.1 III. 3-2).

Based on the total number of reported sales in this submarket it can be calculated that in 2008 about 134,000 agricultural and forestry plots were sold, and in 2007 there were approx. 128.000 sales, approx. $5 \%$ less (see chapter 3.2.3 III. 3-6).

The total market for agricultural and forestry land can be divided further into submarkets considering the different possible usage.

For the three "main markets"

- agricultural land,
- grass land and
- forest areas
a higher density of data is available. For other submarkets it is too low to be able to make substantiated statements. Therefore, the following analyses are restricted to the three mentioned submarkets.

The illustrations III.4-42 to III.4-44 show the distribution of the turnover for the submarkets agricultural land, grassland and forest areas reported for 2008.

From the illustrations it can be deduced that the highest market share is taken up by agricultural land. Out of the number of reported sales nearly half of these ( $49 \%$ ) are taken up by this submarket. Even higher shares in the financial turnover ( $67 \%$ ) and area ( $61 \%$ ) indicate that higher prices are achieved for agricultural land and that larger plots of land are sold than for grass land and forest areas.

The shares of reported sales for grass land ( $25 \%$ ) and forestry land ( $26 \%$ ) are about the same size. Regarding financial turnover, the share of forestry land is, with $18 \%$, slightly higher than the share of grass land ( $15 \%$ ). Approx. $22 \%$ of the reported area turnover is for forestry land, the share of grassland is the lowest with $17 \%$.

The turnover share for agricultural land has risen slightly compared to 2007. However, it is not possibly to securely deduce trends, as the data coverage is incomplete. The following explanations give an overview of the reported turnover and the price level for the agricultural and forestry submarkets in the federal states. In some federal states the data is not comprehensive, therefore, it is not possible to show the total

III.4-42: Distribution of the reported sales in the submarkets (2008)

III.4-43: Distribution of the reported financial turnover in the submarkets (2008)

III.4-44: Distribution of the reported area turnover in the submarkets (2008)
turnover in these states. On the other hand, in states with comprehensive data trends can be deduced.

### 4.4.2 Agricultural land

Data about the turnover from agricultural land for 2008 is available from 205 administrative districts and independent cities (2007: 194). This data covers approx. $50 \%$ of Germany.

The involved boards of expert valuers reported about 25,200 transactions of agricultural land for 2008, about 3,800 more than in 2007. The reported area turnover has risen from about 69,000 ha in 2007 to about 84,500 ha in 2008. In 2008 the reported financial turnover has also risen to about $€ 760$ million, which is higher than in the previous year (about $€ 600$ million $€$ ).

The table Tab.4-27 presents an overview of the turnover for agricultural land reported from the federal states. Apart from the turnover for 2007
and 2008 this table also shows the data coverage in the individual states. Comprehensive data is available from Brandenburg, Niedersachsen, Rheinland-Pfalz and Sachsen-Anhalt. The data of the city-states of Berlin and Hamburg is not sufficient, and no trends can be deduced. For the other federal states the data coverage for 2008 ranges between $2 \%$ in Baden-Württemberg and $78 \%$ in Mecklenburg-Vorpommern. No data is available from Bremen and Thüringen.

Due to the incomplete data situation, it cannot be securely stated that the the total turnover has risen between 2007 and 2008; however, there is more data material available for 2008 than for the previous year. Therefore, the illustrations III.4-45 to III. 4-47 only show the development of turnover in federal states where the same boards of expert valuers reported data for both years of this report.

The illustrations show that the turnover for agricultural land in states with comprehensive data has risen between 2007 and 2008. With an increase of $44.5 \%$ for the transaction figures

| Federal state | involved administrative districts/ independent cities (area coverage) |  | Number of sales |  | Area turnover [ha] |  | Financial turnover [million $€$ ] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 |
| BW | 1 (0\%) | 7 (2\%) | 4 | 240 | 0.7 | 103.8 | 0.02 | 4.02 |
| BY | 16 (9\%) | 17 (9\%) | 675 | 834 | 737.2 | 897.1 | 23.74 | 29.17 |
| BE | 1 (100\%) | 1 (100\%) | 0 | 2 | 0 | 2.8 | 0 | 0.18 |
| BB | 18 (100\%) | 18 (100\%) | 2,879 | 4,187 | 19,078.8 | 26,504.3 | 55.60 | 100.29 |
| HB | 0 (0\%) | 0 (0\%) | no information |  |  |  |  |  |
| HH | 1 (100\%) | 1 (100\%) | 2 | 1 | 2.0 | (*) | 0.10 | (*) |
| HE | 6 (22\%) | 6 (27\%) | 29 | 34 | 16.8 | 16.2 | 1.19 | 2.32 |
| MV | 9 (68\%) | 11 (78\%) | 1,897 | 2,208 | 13,852.5 | 15,577.6 | 75.94 | 99.79 |
| NI | 46 (100\%) | 46 (100\%) | 4,701 | 5,054 | 10,976.4 | 11,481.9 | 178.67 | 195.25 |
| NW | 37 (71\%) | 39 (73\%) | 2,045 | 2,232 | 4,174.1 | 4,697.2 | 110.01 | 129.15 |
| RP | 34 (99\%) | 34 (99\%) | 3,899 | 4,450 | 3,321.4 | 3,498.9 | 31.15 | 37.18 |
| SL | 2 (40\%) | 2 (40\%) | 749 | 1,018 | 276.3 | 383.6 | 2.29 | 3.13 |
| SN | 3 (5\%) | 3 (5\%) | 27 | 22 | 135.9 | 126.1 | 0.61 | 0.53 |
| ST | 14 (100\%) | 14 (100\%) | 4,168 | 4,571 | 14,507.1 | 19,415.3 | 81.43 | 126.70 |
| SH | 6 (36\%) | 6 (36\%) | 318 | 303 | 1,940.5 | 1,750.1 | 32.98 | 28.60 |
| TH | 0 (0\%) | 0 (0\%) | no information |  |  |  |  |  |
| sum | 194 (50\%) | 205 (51\%) | 21,393 | 25,156 | 69,019.7 | 84,455.2 | 593.73 | 756.31 |

* not published for reason of data protection

Tab.4-27: Total overview of the reported turnover of the federal states for arable land 2007/2008

III. 4-45: $\quad$ Number of reported sales of arable land 2007/2008

III. 4-46: Reported financial turnover for agricultural land 2007/2008

III. 4-47: Reportedarea turnover for arable land 2007/2008

Arbeitskreis der Gutachterausschüsse
and an increased financial turnover of $80.4 \%$, the highest increase took place in Brandenburg. The turnover of agricultural area has also risen by $38.9 \%$ between 2007 and 2008. The second highest increase could be noted in SachsenAnhalt with purchase figures increasing by $9.7 \%$, financial turnover by $55.6 \%$ and area turnover by $33.8 \%$. The turnover sank slightly in the federal state of Schleswig-Holstein, from which comprehensive data was not available.

The increase of turnover for agricultural land in the states with a strong agricultural focus, Brandenburg, Niedersachsen, Rheinland-Pfalz and Sachsen-Anhalt, suggests the conclusion that the total turnover for agricultural land
in Germany has risen as well. However, a substantiated statement about the development of turnover can only be made when generally comprehensive data is available.

The boards of expert valuers involved determined average sales prices for land used for agricultural purposes. Table Tab.4-28 contains apart from information about the area turnover and the number of sales, the average size of the agricultural land sold and the price range which were determined based on the sales in the report year 2008. Due to the in part small number of available data not all federal states have been included in the table. The reported average values do not give any information whether the prices

| Federal state | Settlement patterns | Area turnover [ha] | Number of sales | Average size [ha] | $\varnothing$ sales price [range in $€ / \mathrm{m}^{2}$ ] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bayern | predominantly urban partially urban rural | $\begin{array}{r} 141.3 \\ 321.8 \\ 433.9 \end{array}$ | $\begin{aligned} & 139 \\ & 426 \\ & 269 \end{aligned}$ | $\begin{aligned} & 1.0 \\ & 0.8 \\ & 1.6 \end{aligned}$ | $\begin{array}{r} 2.05-15.00 \\ 1.73-6.00 \\ 1.42-2.87 \end{array}$ |
| Brandenburg | predominantly urban partially urban rural | $\begin{array}{r} 228.9 \\ 151.7 \\ 26,123.7 \end{array}$ | $\begin{array}{r} 38 \\ 30 \\ 4,119 \end{array}$ | $\begin{aligned} & 6.0 \\ & 5.1 \\ & 6.3 \end{aligned}$ | $\begin{gathered} \text { k. A. } \\ 0.28-0.53 \\ 0.18-0.53 \end{gathered}$ |
| MecklenburgVorpommern | predominantly urban partially urban rural | $\begin{array}{r} 7.5 \\ 15,570.1 \end{array}$ | $\begin{array}{r} 4 \\ \text { no } \\ 2,204 \end{array}$ | 1.9 <br> ormation <br> 7.1 | k. A. $0.41-0.95$ |
| Niedersachsen | predominantly urban partially urban rural | $\begin{array}{r} 294.4 \\ 2,710.4 \\ 8,477.2 \end{array}$ | $\begin{array}{r} 80 \\ 1,520 \\ 3,454 \end{array}$ | $\begin{aligned} & 3.7 \\ & 1.8 \\ & 2.5 \end{aligned}$ | $\begin{aligned} & 2.00-4.00 \\ & 1.00-3.50 \\ & 1.00-3.00 \end{aligned}$ |
| NordrheinWestfalen | predominantly urban partially urban rural | $\begin{array}{r} 844.5 \\ 3,213.6 \\ 639.1 \end{array}$ | $\begin{array}{r} 486 \\ 1,408 \\ 338 \end{array}$ | $\begin{aligned} & 1.7 \\ & 2.3 \\ & 1.9 \end{aligned}$ | $\begin{aligned} & 1.51-5.85 \\ & 1.25-4.09 \end{aligned}$ <br> no information |
| Rheinland-Pfalz | predominantly urban partially urban rural | $\begin{array}{r} 463.4 \\ 1,010.7 \\ 2,024.8 \end{array}$ | $\begin{array}{r} 852 \\ 1,599 \\ 1,999 \end{array}$ | $\begin{aligned} & 0.5 \\ & 0.6 \\ & 1.0 \end{aligned}$ | $\begin{aligned} & 0.80-5.00 \\ & 0.60-2.00 \\ & 0.40-1.00 \end{aligned}$ |
| Saarland | predominantly urban partially urban rural | 383.6 | $\begin{array}{r} \text { no } \\ \text { no } \end{array}$ | ormation $0.4$ <br> ormation | $0.71-0.96$ |
| Sachsen-Anhalt | predominantly urban partially urban rural | $\begin{array}{r} 119.7 \\ 94.3 \\ 19,201.3 \end{array}$ | $\begin{array}{r} 35 \\ 22 \\ 4,514 \end{array}$ | $3.4$ <br> 4.3 $4.3$ | $\begin{gathered} \text { NA } \\ \text { NA } \\ 0.38-1.05 \end{gathered}$ |

Tab.4-28: agricultural and forestry land (arable land 2008)
depend on characteristics relevant to the value of individual sold properties. In table Tab.4-28 the average prices for the federal states are related to the settlement patterns according to the BBSR (see chapter 2.4.3 III. 2-16); therefore, it is possible to give specific price ranges according to the regional structures.

Based on the collated data it can be seen that the prices for agricultural land can vary strongly in the individual federal states. Illustration III.4-48, they rise continuously towards the West. The highest average purchase prices for agricultural land have been registered in the north-west of Nordrhein-Westfalen and in Niedersachsen with more than $3.00 € / \mathrm{m}^{2}$. Towards the south a decrease of value has been observed. RheinlandPfalz exhibits particularly low values for large areas - with the exception of individual regions
with high prices - of up to $1.00 € / \mathrm{m}^{2}$. However, definite statements about the southerly states can only be made to a very limited degree due to the insufficient amount of data. It seems possible to achieve high prices generally for agricultural land in Bayern, particularly in predominantly urban areas. The available data from Hessen, BadenWürttemberg and Thüringen does not allow any statements. For predominantly urban structures as conurbations it can be said that a "normal" agricultural and forestry property market exists less frequently. The price structure is usually influenced by other projects and plans.

The minimum and the maximum prices obtained for agricultural land in Germany have been registered in Brandenburg and Bayern respectively. In Brandenburg the lowest average price was paid in the administrative district of

III. 4-48: Average sales price for arable land 2008

Oderspreewald-Lausitz, with $0.18 € / \mathrm{m}^{2}$. The highest average price was reported for Nürnberg and amounted to $15.00 € / \mathrm{m}^{2}$.

Regional analyses as part of state-specific property market reports have indicated that in some areas the value of agricultural land depends on the property value figures. This is going to be illustrated with the example of the administrative districts of Peine and Wolfenbüttel in Niedersachsen. In other areas such a dependance cannot be proven. A in-depth analysis of the whole country can only be carried out with comprehensive data available.

The average square meter price for the administrative district of Peine has risen by about $3 \%$ compared to last year to $2.10 € / \mathrm{m}^{2}$. The average area was 1.4 ha (2007: 2.3 ha ) (Tab.4-29).

The average square meter price in the administrative district of Wolfenbüttel is $2.08 € /$ $\mathrm{m}^{2}$ with 75 fields (2007: 72) which is $28 \%$ higher compared to the previous year. The average area was 2.0 ha (2007: 2.3 ha ) (Tab.4-30).

| Administrative district Peine |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of fields | Sales | Average <br> size [ha] | Sales price $\left[€ / \mathrm{m}^{2}\right]$ |  |
|  |  |  | Average | Range |
| up to 40 | 33 | 1.5 | 1.63 | 0.80-2.58 |
|  | (17) | (2.1) | (1.35) | (0.51-2.28) |
| 41-60 | 26 | 1.1 | 2.04 | 1.46-3.84 |
|  | (17) | (2.3) | (1.95) | (0.88-3.12) |
| 61-80 | 15 | 1.0 | 2.59 | 2.00-3.82 |
|  | (6) | (1.3) | (2.05) | (1.19-2.60) |
| > 80 | 18 | 1.6 | 2.69 | 1.61-3.77 |
|  | (18) | (2.9) | (2.57) | (1.00-3.50) |

Tab.4-29: Prices agricultural land and property value figures for the administrative district of Peine

| Administrative district Wolfenbüttel |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of fields | Sales | Average <br> size [ha] | Average | rice $\left[€ / \mathrm{m}^{2}\right]$ <br> Range |
| up to 40 | $\begin{gathered} 1 \\ (1) \end{gathered}$ | $\left(^{*}\right)$ | (*) | (*) |
| 41-60 | $\begin{gathered} 10 \\ (15) \end{gathered}$ | $\begin{gathered} 1.6 \\ (1.5) \end{gathered}$ | $\begin{gathered} 1.66 \\ (1.38) \end{gathered}$ | $\begin{gathered} 1.05-2.25 \\ (0.79-3.36) \end{gathered}$ |
| 61-80 | $\begin{gathered} 28 \\ (22) \end{gathered}$ | $\begin{gathered} 2.3 \\ (3.5) \end{gathered}$ | $\begin{gathered} 2.00 \\ (1.46) \end{gathered}$ | $\begin{gathered} 1.20-2.86 \\ (0.76-2.12) \end{gathered}$ |
| > 80 | $\begin{gathered} 36 \\ (20) \end{gathered}$ | $\begin{gathered} 2.0 \\ (1.4) \end{gathered}$ | $\begin{gathered} 2.34 \\ (2.26) \\ \hline \end{gathered}$ | $\begin{gathered} 1.20-3.70 \\ (1.50-3.06) \end{gathered}$ |

Tab.4-30: Prices agricultural land and property value figures for the administrative district of Wolfenbüttel [ * not published for reasons of data protection]

### 4.4.3 Grass land

The data situation for turnover figures for grass land is similar to that for arable land. The data reported from 196 administrative districts and independent cities in 2008 (2007: 186) covers about $50 \%$ of Germany. The number of reported sales has risen from approx. 11,000 to approx. 12,700 . The financial turnover (from approx. $€ 150$ millionto $€ 170$ million) and area turnover (from approx. 18,900 ha to approx. 23,200 ha) have also risen.

Table Tab.4-31 presents an overview of the development of turnover for grass land between 2007 and 2008 in the federal states. There is no or rather only incomplete data for ten of the federal states, therefore it is not possible to make secure statements about the financial turnover and trends for these states.

Illustration III.4-49 contrasts the sales figures for grassland of the years 2007 and 2008 for the federal states of Brandenburg, MecklenburgVorpommern, Niedersachsen, Rheinland-Pfalz, and Schleswig-Holstein. Due to the fact that the same amount of turnover data is available in both report years, it is possible to deduce trends for the development of turnover. It is apparent that most transactions were registered in Niedersachsen (2008: c. 3,500 ), followed by Rheinland-Pfalz (2008: c. 3,000 ) and Brandenburg (2008: c. 1,900 ). In all listed states the number of sales has risen between 2007 and 2008. The strongest increase was noted in Brandenburg (+37.9\%) and Mecklenburg-Vorpommern (+18.5\%).

| Federal state | involved administrative districts/independent cities (area coverage) |  | Number of sales |  | Area turnover [ha] |  | Financial turnover [million $€$ ] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 |
| BW | 1 (0\%) | 7 (2\%) | 23 | 191 | 5.1 | 41.9 | 0.11 | 1.71 |
| BY | 14 (9\%) | 15 (9\%) | 466 | 503 | 555.0 | 359.3 | 11.96 | 15.59 |
| BE | 1 (100\%) | 1 (100\%) | 0 | 12 | 0 | 12.6 | 0 | 0.42 |
| BB | 18 (100\%) | 18 (100\%) | 1,412 | 1,933 | 3,481.3 | 4,536.4 | 7.69 | 12.70 |
| HB | 0 (0\%) | 0 (0\%) | no information |  |  |  |  |  |
| HH | 1 (100\%) | 1 (100\%) | 19 | 7 | 41.6 | 22.4 | 3.00 | 0.70 |
| HE | 6 (28\%) | 4 (21\%) | 0 | 0 | 0 | 0 | 0 | 0 |
| MV | 10 (69\%) | 10 (77\%) | 1,161 | 1,376 | 2,364.0 | 4,047.5 | 6.53 | 14.89 |
| NI | 46 (100\%) | 46 (100\%) | 3,179 | 3,510 | 7,080.8 | 7,930.5 | 65.32 | 75.03 |
| NW | 35 (70\%) | 39 (73\%) | 783 | 825 | 1,288.1 | 974.3 | 29.24 | 18.95 |
| RP | 31 (98\%) | 32 (98\%) | 2,701 | 3,027 | 1,576.4 | 1,707.7 | 9.99 | 11.75 |
| SL | 0 (0\%) | 0 (0\%) | no information |  |  |  |  |  |
| SN | 3 (5\%) | 3 (5\%) | 29 | 29 | 23.5 | 36.4 | 0.20 | 0.19 |
| ST | 14 (100\%) | 14 (100\%) | 945 | 993 | 1,522.4 | 2,436.7 | 4.40 | 8.01 |
| SH | 6 (39\%) | 6 (36\%) | 270 | 301 | 999.7 | 1,137.5 | 7.89 | 9.74 |
| TH | 0 (0\%) | 0 (0\%) | no information |  |  |  |  |  |
| Sum | 186 (50\%) | 196 (50\%) | 10,988 | 12,707 | 18,937.9 | 23,243.2 | 146.34 | 169.67 |

Tab.4-31: Total overview of the reported turnover of the federal states for grass land 2007/2008

III.4-49: Number of reported sales of grass land 2007/2008

The distribution of financial turnover for grass land in the selected states can be seen in illustration III.4-50. Niedersachsen stands out with $€ 75$ million compared to lower figures in the other states. In the other presented states the reported financial turnover is under $€ 20$ million. The total
financial turnover of all the states covered has risen between 2007 and 2008. The strongest increase was registered in the eastern states of Mecklenburg-Vorpommern (+128.0\%), SachsenAnhalt (+82.0\%) and Brandenburg (+65.1 \%).

III. 4-50: reported financial turnover for grass land 2007/2008

The illustration III.4-51 compares the area turnover for grass land in the six selected federal states for 2007 and 2008. It becomes apparent that compared to all other states the highest area turnover (approx. 7,900 in 2008) was achieved in Niedersachsen. In Brandenburg and Mecklenburg-Vorpommern a high turnover was achieved with more than 4,000 ha of grass land each in 2008. The area turnover in all six states has risen compared to the previous year, whereby the highest increase was measured in Mecklenburg-Vorpommern (+71.2\%), SachsenAnhalt (+60.1 \%) and Brandenburg (+30.3\%).

It is not possible to deduce a country-wide trend in the development of grass land, because only data for $50 \%$ of Germany is available; however, it is apparent that the market situation for grass land has improved in the eastern federal states.

When comparing the federal states with respect to settlement patterns (see chapter 2.4.3 III.2-16), the rural regions of Niedersachsen achieved the highest area turnover with c. 5,700ha, followed by Brandenburg with about $4,400 \mathrm{ha}$. The third highest area turnover was registered in the rural portions of MecklenburgVorpommern with approx. 4,000 ha.

III. 4-51: Area turnover for grass land 2007/2008

Table Tab.4-32 lists the different average areas and ranges for the average sales prices according to the regional patterns for 2008, as well as the recorded area turnover. States with a data sample that is too low are not included.

Illustration III.4-52 shows the distribution of the reported average sales prices for grass land in Germany in 2008. The maps also indicates the spatial distribution of the available data. In the new federal states the price for grass land is under $0.50 € / \mathrm{m}^{2}$. Moving westwards a continuous increase can be measured via Niedersachsen through Nordrhein-Westfalen.

In Niedersachsen the range for grass land is between $0.41 € / \mathrm{m}^{2}$ and $2.00 € / \mathrm{m}^{2}$ (see Tab. 4-32). The highest average price is in NordrheinWestfalen with $5.01 € / \mathrm{m}^{2}$. The lowest price for grass land in Germany was achieved in Brandenburg with a range of $0.11 € / \mathrm{m}^{2}$ to $0.35 € /$ $\mathrm{m}^{2}$. It is not possible to make statements about an assumed North-South divide because the data density is not sufficient.

| Federal state | Settlement patterns | Area turnover [ha] | Number of sales | Average size [ha] | $\varnothing$ sales price [range in $€ / \mathrm{m}^{2}$ ] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bayern | predominantly urban partially urban rural | $\begin{array}{r} 47.6 \\ 29.9 \\ 281.8 \end{array}$ | $\begin{array}{r} 93 \\ 179 \\ 231 \end{array}$ | $\begin{aligned} & 0.5 \\ & 0.2 \\ & 1.2 \end{aligned}$ | $\begin{aligned} & 1.47-2.71 \\ & 1.50-1.68 \\ & 0.80-1.36 \end{aligned}$ |
| Brandenburg | predominantly urban partially urban rural | $\begin{array}{r} 115.3 \\ 34.2 \\ 4386.9 \end{array}$ | $\begin{array}{r} 35 \\ 22 \\ 1876 \end{array}$ | $\begin{aligned} & 3.3 \\ & 1.6 \\ & 2.3 \end{aligned}$ | $\begin{gathered} \text { NA } \\ 0.11-0.24 \\ 0.18-0.35 \end{gathered}$ |
| MecklenburgVorpommern | predominantly urban partially urban rural | $\begin{array}{r} 27.8 \\ 4019.7 \end{array}$ | $\begin{array}{r} 10 \\ \text { no } \\ 1366 \end{array}$ | formation $2.9$ | NA $0.26-0.64$ |
| Niedersachsen | predominantly urban partially urban rural | $\begin{array}{r} 90.0 \\ 2101.3 \\ 5739.3 \end{array}$ | $\begin{array}{r} 53 \\ 992 \\ 2465 \end{array}$ | $\begin{aligned} & 1.7 \\ & 2.1 \\ & 2.3 \end{aligned}$ | $\begin{gathered} \text { NA } \\ 1.00-2.00 \\ 0.41-2.00 \end{gathered}$ |
| NordrheinWestfalen | predominantly urban partially urban rural | $\begin{array}{r} 289.3 \\ 586.8 \\ 98.2 \end{array}$ | $\begin{aligned} & 259 \\ & 443 \\ & 123 \end{aligned}$ | $\begin{aligned} & 1.1 \\ & 1.3 \\ & 0.8 \end{aligned}$ | $\begin{gathered} 1.15-5.01 \\ 1.01-3.65 \\ \text { NA } \end{gathered}$ |
| Rheinland-Pfalz | predominantly urban partially urban rural | $\begin{array}{r} 39.1 \\ 414.2 \\ 1254.4 \end{array}$ | $\begin{array}{r} 148 \\ 986 \\ 1893 \end{array}$ | $\begin{aligned} & 0.3 \\ & 0.4 \\ & 0.7 \end{aligned}$ | $\begin{aligned} & 0.60-1.20 \\ & 0.50-1.20 \\ & 0.40-0.70 \end{aligned}$ |
| Sachsen-Anhalt | predominantly urban partially urban rural | $\begin{array}{r} 3.6 \\ 8.3 \\ 2424.8 \end{array}$ | $\begin{array}{r} 2 \\ 5 \\ 986 \end{array}$ | $\begin{aligned} & 1.8 \\ & 1.7 \\ & 2.5 \end{aligned}$ | no information $\begin{gathered} \text { NA } \\ 0.26-0.45 \end{gathered}$ |
| SchleswigHolstein | predominantly urban partially urban rural | $\begin{array}{r} 124.5 \\ 1013.0 \end{array}$ | $\begin{array}{r} 53 \\ 248 \end{array}$ | $2.3$ <br> dications <br> 4.1 | no information $0.96-1.19$ |

Tab. 4-32: Agricultural and forestry land (grass land 2008)

III. 4-52: Average sales price for green land 2008

### 4.4.4 Forest land

Data is available from 257 administrative districts and independent cities (2007: 248) about transactions with forest land with tree population, which corresponds to a country-wide coverage of about $63 \%$. The reported number of forest areas with tree population sold has risen from about 13,500 in 2007 to about 13,600 in 2008. While the reported area turnover has been reduced from about 35,800 ha to about 30,600 ha, the reported financial turnover has risen from about $€ 180$ million to about $€ 200$ million. However, due to the fact that comprehensive data about the turnover of forest area is only available in six federal states, this statement does not apply to the entire country. Table Tab.4-33 presents an overview of the reported turnover for forest land in Germany. It is evident that the highest financial
turnover and the second highest area turnover were reported for Bayern, although only just under $50 \%$ of the states have provided turnover data. Although Bayern proves to be very active in this submarket of forest land, the missing data coverage does not allow for secure conclusions.

It is only possible to make secure statement about the development of turnover of forest land for the states of Brandenburg, Niedersachsen, Nordrhein-Westfalen, Saarland and SachsenAnhalt, because the data situation in these states has been constant in 2007 and 2008. The development of turnover in these states between 2007 and 2008 is included in the illustrations III. 4-53 to III. 4-55.

| Federal state | involved administrative districts/ independent cities (area coverage) |  | Number of sales |  | Area turnover [ha] |  | Financial turnover [million $€$ ] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 | 2007 | 2008 |
| BW | 3 (1\%) | 9 (3\%) | 65 | 135 | 12.8 | 37.1 | 0.18 | 0.38 |
| BY | 49 (48\%) | 51 (47\%) | 3,104 | 3,258 | 3,567.6 | 5,533.7 | 61.42 | 84.27 |
| BE | 1 (100\%) | 1 (100\%) | 2 | 2 | 0.3 | 0.6 | 0.06 | 0.03 |
| BB | 18 (100\%) | 18 (100\%) | 2,038 | 1,705 | 13,702.2 | 7,297.7 | 24.69 | 14.47 |
| HB | 0 (0\%) | 0 (0\%) | no indications |  |  |  |  |  |
| HH | 1 (100\%) | 1 (100\%) | 4 | 2 | 3.3 | 0.5 | 0.40 | 0.02 |
| HE | 8 (30\%) | 6 (20\%) | 1 | 2 | 1.4 | 9.3 | 0.09 | 0.81 |
| MV | 14 (80\%) | 15 (100\%) | 1,097 | 942 | 3,680.9 | 2,482.2 | 10.90 | 8.80 |
| NI | 46 (100\%) | 46 (100\%) | 1,265 | 1,373 | 3,870.6 | 3,442.0 | 25.77 | 24.31 |
| NW | 48 (91\%) | 47 (91\%) | 1,282 | 1,537 | 3,284.7 | 3,496.7 | 31.44 | 32.27 |
| RP | 29 (97\%) | 32 (98\%) | 3,170 | 3,336 | 2,418.3 | 4,450.7 | 14.32 | 14.49 |
| SL | 4 (68\%) | 4 (68\%) | 223 | 298 | 59.4 | 102.0 | 0.46 | 0.69 |
| SN | 4 (12\%) | 3 (11\%) | 68 | 119 | 356.7 | 464.4 | 1.11 | 2.64 |
| ST | 14 (100\%) | 14 (100\%) | 1,060 | 801 | 4,351.4 | 2,967.3 | 8.41 | 6.30 |
| SH | 9 (59\%) | 10 (70\%) | 106 | 113 | 451.5 | 292.6 | 3.73 | 12.91 |
| TH | 0 (0\%) | 0 (0\%) |  |  | no indi | tions |  |  |
| Sum | 248 (62\%) | 257 (63\%) | 13,485 | 13,623 | 35,761.1 | 30,576.8 | 182.98 | 202.39 |

Tab.4-33: Total overview of the reported turnover of the federal state for forestry land 2007 /2008

III. 4-53: Number of reported sales of forestry land 2007/2008

In 2008, the majority of the transactions with forest land in the selected federal states took place in Brandenburg with about 1,700 sales, followed by Nordrhein-Westfalen with about 1,500 sales (III. 4-53). The development of sales
figures between 2007 and 2008 is different in the five states. While more transactions took place in Niedersachsen, Nordrhein-Westfalen and Saarland, the sales figures plummeted in Brandenburg and Sachsen-Anhalt.

III. 4-54: Reported financial turnover for forestry land 2007/2008

III. 4-55: Reported area turnover for forestry land 2007/2008

The illustration shows the development of financial turnover for forest land with tree population in the above-mentioned states III.4-54. Out of these federal states Nordrhein-Westfalen achieved the highest financial turnover (2008: about $€ 32$ million), followed by Niedersachsen (about $€ 24$ million) and Brandenburg (about $€ 14$ million). The development of turnover between 2007 and 2008 is declining in Brandenburg, Niedersachsen and Sachsen-Anhalt, but in Nordrhein-Westfalen and Saarland the financial turnover has risen slightly. The turnover has plummeted worst in Brandenburg. In 2008, the financial turnover for forested areas was 41.4 \% lower than in 2007.

Although with a substantial decline of about 6,400 ha from 2007 to 2008, the highest area turnover was achieved in Brandenburg
with 7,300 ha (III.4-55). The area turnover in Nordrhein-Westfalen with about 3,500 ha and about 3,400 ha in Niedersachsen remained about the same for 2008. As in the case of financial turnover, there is a regressing development for area turnover in Brandenburg, Niedersachsen and Sachsen-Anhalt. The decline is particularly noteworthy in Brandenburg (-46.7 \%).

Due to the incomplete data and the different trends in the federal states it is not possible to make definite statements for the development of the submarket of forest land in all of Germany.

Table Tab.4-34 presents the average areas of land and the ranges for the average sales prices for the federal states for 2008, based on sufficient available data and divided by settlement patterns (see chapter 2.4.3 III. 2-16). On average, the largest forest areas per sale are exchanged in Brandenburg, the smallest ones in Saarland. The illustration presents a spatial distribution of the average sales prices for forestry land III. 4-56.

It shows that the lowest prices for forest land are paid in the north-eastern federal states of Germany. However, in larger parts of RheinlandPfalz the average sales price for forest land is also very low with less than $0.50 € / \mathrm{m}^{2}$. Prices between $0.50 € / \mathrm{m}^{2}$ and $1.50 € / \mathrm{m}^{2}$ are achieved in Niedersachsen and Nordrhein-Westfalen. The highest prices are paid in Bayern and Saarland with $3.00 € / \mathrm{m}^{2}$ and $4.00 € / \mathrm{m}^{2}$ respectively.

| Federal state | Settlement patterns | Area turnover [ha] | Number of sales | Average size [ha] | $\varnothing$ sales price [range in $€ / \mathrm{m}^{2}$ ] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bayern | predominantly urban partially urban rural | $\begin{array}{r} 140.2 \\ 901.1 \\ 4492.4 \end{array}$ | $\begin{array}{r} 89 \\ 825 \\ 2344 \end{array}$ | $\begin{aligned} & 1.6 \\ & 1.1 \\ & 1.9 \end{aligned}$ | $\begin{aligned} & 0.62-4.00 \\ & 0.80-3.00 \\ & 1.05-4.00 \end{aligned}$ |
| Brandenburg | predominantly urban partially urban rural | $\begin{array}{r} 79.0 \\ 194.5 \\ 7024.2 \end{array}$ | $\begin{array}{r} 39 \\ 22 \\ 1644 \end{array}$ | $\begin{aligned} & 2.0 \\ & 8.8 \\ & 4.3 \end{aligned}$ | $\begin{aligned} & 0.31-0.41 \\ & 0.21-0.31 \\ & 0.13-0.27 \end{aligned}$ |
| MecklenburgVorpommern | predominantly urban partially urban rural | 2482.2 | $\begin{array}{r} \text { no i } \\ \text { no i } \\ 942 \end{array}$ | dications <br> dications <br> 2.6 | $0.20-0.35$ |
| Niedersachsen | predominantly urban partially urban rural | $\begin{array}{r} 15.9 \\ 729.5 \\ 2696.6 \end{array}$ | $\begin{array}{r} 13 \\ 447 \\ 913 \end{array}$ | $\begin{aligned} & 1.2 \\ & 1.6 \\ & 3.0 \end{aligned}$ | $\begin{gathered} \text { NA } \\ \text { NA } \\ 0.46-1.00 \end{gathered}$ |
| NordrheinWestfalen | predominantly urban partially urban rural | $\begin{array}{r} 1603.9 \\ 844.1 \\ 1048.7 \end{array}$ | $\begin{aligned} & 827 \\ & 453 \\ & 257 \end{aligned}$ | $\begin{aligned} & 1.9 \\ & 1.9 \\ & 4.1 \end{aligned}$ | $\begin{aligned} & 0.70-6.00 \\ & 0.64-1.36 \\ & 0.82-1.14 \end{aligned}$ |
| Rheinland-Pfalz | predominantly urban partially urban rural | $\begin{array}{r} 86.3 \\ 796.9 \\ 3567.5 \end{array}$ | $\begin{array}{r} 133 \\ 1395 \\ 1808 \end{array}$ | $\begin{aligned} & 0.6 \\ & 0.6 \\ & 2.0 \end{aligned}$ | $\begin{aligned} & 0.30-3.50 \\ & 0.20-0.50 \\ & 0.20-0.30 \end{aligned}$ |
| Saarland | predominantly urban partially urban rural | $\begin{array}{r} 3.3 \\ 98.8 \end{array}$ | $\begin{aligned} & 16 \\ & 282 \\ & \text { no inc } \end{aligned}$ | 0.2 0.4 cations | $3.04-3.44$ <br> NA |
| Sachsen-Anhalt | predominantly urban partially urban rural | $\begin{array}{r} 0.1 \\ 9.0 \\ 2958.2 \end{array}$ | $\begin{array}{r} 1 \\ 3 \\ 797 \end{array}$ | $\begin{aligned} & 0.1 \\ & 3.0 \\ & 3.7 \end{aligned}$ | $\begin{gathered} \text { NA } \\ \text { NA } \\ 0.17-0.27 \end{gathered}$ |
| SchleswigHolstein | predominantly urban partially urban rural | $\begin{array}{r} 10.8 \\ 8.7 \\ 273.1 \end{array}$ | $\begin{array}{r} 12 \\ 6 \\ 95 \end{array}$ | $\begin{aligned} & 0.9 \\ & 1.5 \\ & 2.9 \end{aligned}$ | NA <br> NA <br> NA |

Tab. 4-34: Agricultural and forestry land (forests 2008)

III. 4-56: Average sales price for forestry land 2008

## 5 Information Required for Real Estate Valuation



### 5.1 Principles for the determination of the requisite data

Under s.193(3)BauGB (Baugesetzbuch; German Building Code), the tasks of the boards of expert valuers include, but are not limited to, the determination of the data that is required for valuation purposes, such as market adjustment factors (which include property yields and asset value factors), index series, conversion factors, comparison factors etc. The boards use the purchase price collections for this purpose. All value relevant data contained in a contract by which a person undertakes to convey an interest in land or creates a hereditary building right (Erbbaurecht) in land in exchange for payment or by way of barter, must be recorded in the purchase price collection (s. 195 (1) BauGB). S. 197 BauGB provides further, that the board of expert valuers may also obtain oral or written information from persons who are able to provide information on the land that is to be valued or - under certain circumstances - also on comparable land.
With this obligation to keep and analyse the purchase price collection and to publish the data that is required for valuation purposes, the federal legislators intend in particular

- to achieve more market transparency and
- to provide legal certainty in relation to real estate valuations.

Ideal conditions for the preparation of marketcompliant valuations therefore exist, where the boards of expert valuers properly evaluate the purchase price collections and then publish the evaluation results, in the form of real estate market reports for example.
This first real estate market report for Germany is intended to present the most important data of the real estate market.

The publisher of this report on the whole of Germany - the Arbeitskreis der Gutachterausschüsse und der Oberen Gutachterausschüsse Deutschlands (working group of the boards of expert valuers and state boards of expert valuers in Germany) - has assumed responsibility for the publication of the standards that apply to the
determination of this essential real estate market data and recommends to all market participants, to work in accordance with them. The boards of expert valuers, which are under the legal obligation to determine this data, should, in particular, work in a uniform manner.

Using the approach in Rheinland-Pfalz as an example, the report will describe the determination of the most important data in the course of the following chapters.

## Most Important Valuation Principle

The valuation approaches provided for under the Valuation Regulations (Wertermittlungsverordnung) (the costapproach [Sachwertverfahren] and the income approach [Ertragswertverfahren] in particular) are, strictly speaking, mere calculation rules. The results of these approaches are only representative of the market, if the data, that is required for valuation purposes (s. 193 (3)BauGB) and that is mentioned below, is used together with the (valuation) model with which they were determined. Therefore, the following principle applies:

## "ALWAYS USE THE SAME MODEL FOR VALUATION PURPOSES, THAT WAS USED TO DETERMINE THE DATA"

It follows from that, that requisite compliance with this principle requires that a board of expert valuers states the respective model for every determination of its market data.

## Most important valuation method requirements

Market adjustment factors are an indispensable prerequisite for market-compliant valuations. No valuation model for the determination of the current market value is suitable to adequately describe the real estate market unless it allows for market adjustments to be carried out. S. 7 (1)Sentence 2 WertV (Wertermittlungsverordnung; Valuation Regulations) makes it therefore a requirement that the current market value must
be determined with the results of the respective model under consideration of the real estate market situation.

The Valuation Regulations (WertV) provide for three valuation models:

- the comparable approach (Vergleichswertverfahren),
- the income approach (Ertragswertverfahren) and
- the cost approach (Sachwertverfahren).

If the comparable approach is used, adjustment to the location in the real estate market takes place indirectly through comparable purchase prices in accordance with s. 13 WertV (socalled comparable purchase price method [Vergleichskaufpreisverfahren]) or directly through comparison factors (for the purposes of s. 12 WertV, for example) (so-called comparison factor method [Vergleichsfaktorverfahren]). If the income approach is used, the property yield has the function of a market adjustment factor. The property yield is determined from purchase prices of sufficiently comparable land by way of reversal of the formula for the income approach.
The counterpart to the property yield in the income approach is the asset value factor in the cost approach. The asset value factor is determined by subsequent appraisal of sold land that was developed with one specific property group; the model value (that was not adjusted to the market) is then compared to the achieved purchase price. It is then possible by means of adjustment computation, to determine the market adjustment factors from the divergence of the model values from the purchase prices.

### 5.1.1 Principles for the determination of property yields

## Preliminary remark

## §s. 11 (1)WertV defines property yield as the

"Interest rate that the current market value of a real estate property yields on average under usual market conditions."

Under sub-section 2 of the regulations, the property yield "must be determined on basis of appropriate purchase prices and the corresponding net proceeds of land that is developed and used in the same way under consideration of the remaining life expectancy of
the buildings in accordance with the principles of the income approach."

This definition in sub-section 1 and the determination provision in sub-section 2 in particular, provide that
a) the property yield primarily represents a calculable value only in the income model under the WertV;
b) that the property yield must be calculated as a mean value (average) of the interest returns, determined by means of the income model for various comparable property types (in doing this, the interest return must be determined by reversing the computation prescribed for the income approach);
c) that there are different property yields for the various real estate market segments (property/real estate types), for example for single-family houses and commercial real estate.

## Determination of the property yield

The property yield is the average of the interest of a specific real estate type (property group) that was determined in accordance with the income model of the WertV.

The property yield $p_{i}$ of a property is determined as follows:
$p_{i}=\frac{R E}{K P \pm b w U}-\frac{q-1}{q^{n}-1} \times \frac{G \pm b w U}{K P \pm b w U}$
(from $E W=K P=(R E-p \times B W) \times V+B W \pm b w U)$
The individual components are:
$E W=$ Ertragswert (capitalized income value)
RE = Reinertrag des Grundstücks i
(net proceeds from the land)
$K P=$ Kaufpreis für das Grundstück $i$
(purchase price for the land)
BW = Bodenwert des Grundstücks $i$
(land value of the property)
$G \quad=$ Value share of the buildings in the purchase price $=K P-B W$
$q=1+p_{i}$
$n \quad=$ Remaining life expectancy of the buildings
$b w U=$ special circumstances with an effect on value (structural defects/damage, reduced rents etc.)

As the determination of property yields involves the evaluation of a large number of
purchase prices and an inspection of individual properties is frequently limited to the exterior, it is recommended that, wherever possible, only properties are included in the evaluation that are free from damages and that do not have any conditions that would affect the value.

However, in some cases it is not possible to avoid the inclusion of such properties in the evaluation in order to obtain a sufficiently large number of reference values. In these situations, the particular circumstances must be considered in the calculation by using the formula mentioned under Background, provided that they have not already been considered through the rents that are achieved for the property.

Example: Determination of the interest return $p_{i}$ under the income model of the WertV

## A. Task

Determine the interest return $p_{i}$ on the purchase price KP for the following property featuring a multi-storey mixed use commercial/residential building.

## B. Facts

Remaining life expectancy
Annual net rent (gross proceeds)
Management and maintenance costs
Land value $190 € / \mathrm{m}^{2} \times 1,200 \mathrm{~m}^{2}$
Special circumstances that influence
the value (bwU)
Purchase price

50 years
€ 40,020
€ 8,150
$€ 228,000$
none
$€ 500,000$

## C. Solution

The formula must be resolved iteratively - i.e. in several steps - because variable $p$ is directly and indirectly $(q=1+p)$ contained on both sides:

Calculation:
$p_{i}=\frac{R E}{K P \pm b w U}-\frac{q_{i}-1}{q_{i}^{n}-1} \times \frac{G \pm b w U}{K P \pm b w U}$
(A)
(B)

## 1 Approximation

$A^{\prime}=p_{i}{ }^{\prime}=\frac{31.870 €}{500.000 €}=0,0637=6,37 \%$

## 2 Approximation

Correction term
$B^{\prime}=\frac{1,0637-1}{1,0637^{50}-1} \times \frac{272.000 €}{500.000 €}=0,0030 \times 0,544$
$B^{\prime}=0,0016=0,16 \%$

The interest return (2nd approximation) can then be calculated as
$p_{i}{ }^{\prime \prime}=A-B$
$p_{i}{ }^{\prime \prime}=6,37 \%-0,16 \%$
$p_{i}{ }^{\prime \prime}=6,21 \%$

## Background:

$\left.E W=K P=(R E-p \times B W) \times \frac{1}{\frac{q-1}{q^{n}-1}+p}+B W \pm b w U \right\rvert\, \pm b w U$
$\left.K P \pm b w U=(R E-p \times B W) \times \frac{1}{\frac{q-1}{q^{n}-1}+p}+B W \right\rvert\, \times \frac{q-1}{q^{n}-1}+p$
$(K P \pm b w U) \times \frac{q-1}{q^{n}-1}+(K P \pm b w U) \times p=R E-p \times(K P-G)+(K P \pm b w U-G \pm b w U) \times \frac{q-1}{q^{n}-1}+(K P-G) \times p$
$(K P \pm b w U) \times \frac{q-1}{q^{n}-1}+(K P \pm b w U) \times p=R E+(K P \pm b w U) \times \frac{q-1}{q^{n}-1}-(G \pm b w U) \times \frac{q-1}{q^{n}-1}$
$\left.(K P \pm b w U) \times p=R E-(G \pm b w U) \times \frac{q-1}{q^{n}-1} \right\rvert\, /(K P \pm b w U)$
$p=\frac{R E}{K P \pm b w U}-\frac{q-1}{q^{n}-1} \times \frac{G \pm b w U}{K P \pm b w U}$

## 3 Approximation

It is possible to calculate a 3rd approximation by determining the correction term B once again using the result of the 2 nd approximation ( $6.21 \%$ ):
$B^{\prime \prime}=\frac{1,0621-1}{1,0621^{50}-1} \times \frac{272.000 €}{500.000 €}=0,0032 \times 0,544$
$B^{\prime \prime}=0,0017=0,17 \%$
$p_{i}{ }^{\prime \prime \prime}=A-B$
$p_{i}{ }^{\prime \prime}=6,37 \%-0,17 \%$
$p_{i}{ }^{\prime \prime \prime}=6,20 \%$

This example shows that it was possible to achieve sufficient (mathematical) accuracy of $p$ already with the 2nd approximation.

## Dependencies

The aforementioned considerations under valuation theory and the results of empirical studies show that the property yield essentially depends on the following influential factors:

- the respective income model
in case of identical models, also on
- the respective factual market segment (property type)
- the respective land value.

This is why in the course of determination of capitalized income values it is necessary to use property yields, that are, among other, differentiated by property value. The need for property yields to be differentiated in such a way is apparent from the varying yields for residential properties in different sizes (for example, 1-, 2-, 3-, 4-, 5 -family homes etc.) as well as differing rental values.

The mere determination on basis of the rents per square metre in dependance on the property size is generally not sufficient. A residential multi-dwelling building may, for example, comprise 6 apartments with $80 \mathrm{~m}^{2}$ living area each and another building may comprise 24 apartments with $80 \mathrm{~m}^{2}$ living area each. The square metre rent is essentially the same for both properties.

The first property may, however, have a physical value of $€ 600,000$, while the other building has a value of $€ 2.5$ million.

Even though rents per square metre may possibly be at the same level, differences in the property yields must be presumed where properties differ in size.

- The remaining life expectancy of the buildings


## Furthermore, there is a lesser dependancy on

- the region (city/state, north/south etc.)
- situation and location

Reasons for relative insignificance of regional location

In regions (also situations, locations) with a higher rent level, higher net proceeds (fraction numerator) can be achieved. It is, however, at the same time also possible to achieve higher purchase prices (fraction denominator). The regional (or situational or locational) effect is therefore largely eliminated in the calculation of property yields.

The investor is generally primarily concerned about yield; the region is of secondary importance.

There are, however, regions within Germany where property yields deviate significantly from the average for the other regions.

- The general market situation (i.e. the temporary and economic fluctuations of the real estate market)

The property yield is - at least theoretically - largely free from temporary and regional fluctuations as can be seen by the

1. approximation $p^{\prime}=\frac{R E}{K P \pm b w U}$.

Reasons for relative insignificance of temporal effects

If the net proceeds (fraction numerator) increase due to inflation, the purchase price will, as capitalized income (fraction denominator), increase in approximately the same way, so that the temporal development is (largely) eliminated.

However, short-term yield fluctuations may occur due to differences in the development of rents and purchase prices.

## Effects of the property yield on the capitalized income value

It is possible to show by way of error theoretical considerations that property yield and gross proceeds typically determine the standard deviation of the capitalized income value to a large extent. It can be concluded from this, that these two data sets for the income approach require most attention in the course of determination and estimation.

## Application example

In order to comply with the most important valuation principle (see Chapter 5.1), the respective model must be stated. One example for yields of developed land for residential multidwellings and the associated model is presented below:

## Property type:

Residential multi-dwelling buildings
Market segment: up to 6 residential units

## Conditions:

Recent contracts (normally not more than 4 years old)

- Not a first-time sale
- If possible, no special circumstances that would affect the value (bwU)
- Market typical use


## Management and maintenance costs (BWK):

Management and maintenance cost flat-rate for residential multi-dwelling/multi-storey buildings as estimated by the market research company Sprengnetter Marktforschung

## Total useful life of building (Gesamtnutzungsdauer - GND):

According to building fit-out standard (see NHK 2000)

## Remaining life expectancy

(Restnutzungsdauer RND):
GND - Age; if necessary, with modified RND (see Sprengnetter Marktforschung; comparable properties with uniform RND distribution if possible)

Gross proceeds (Roherträge - RoE):
Sustainable proceeds from rents and lease payments

Net proceeds (Reinerträge - RE):
RoE - BWK

## Land value (Bodenwert - BW):

BRW (free from taxes and charges) taking into consideration the condition of the comparative real estate property, without any deduction from the value of the buildings

Building value (Gebäudewert - G):
KP - BW

## Calculation rules:

$$
p=\frac{R E}{K P \pm b w U}-\frac{q-1}{q^{n}-1} \times \frac{G \pm b w U}{K P \pm b w U}
$$

The analysis results in this respect are presented in illustration III. 5-1 and table Tab.5-1.

III. 5-1: Dependency of the property yield on the remaining life expectancy of multi-dwelling properties up to 6 residential units

| Rental yields for <br> apartment blocks <br> with 6 apartments |  |
| :---: | :---: |
| Data records | 64 |
| Multipl. orders (B) | $34 \%$ |
| Ø wF (living space) (building) | $320 \mathrm{~m}^{2}$ |
| Ø Apartment | 4,4 |
| Ø Land value level | $140 € / \mathrm{m}^{2}$ |
| $\mathrm{y}=1,1766 \mathrm{Ln}(\mathrm{x})+0,2679$ |  |
| RND | $\mathbf{p}$ |
| 20 | $3,8 \%$ |
| 25 | $4,1 \%$ |
| 30 | $4,3 \%$ |
| 35 | $4,5 \%$ |
| 40 | $4,6 \%$ |
| 45 | $4,8 \%$ |

Tab. 5-1: Property yields for multi-dwelling properties up to 6 residential units

### 5.1.2 Principles for the determination of asset value factors

## Market compliance of the cost approach

While the market adjustment of the income approach is provided for in the Valuation Regulations (see s. 11 WertV (property yield)), there is no respective counterpart in relation to the cost approach. The market adjustment in the course of the cost approach will only be provided for in the upcoming amendment of the Valuation Regulations. This may be the reason why the cost approach has not been presented as an appropriate model for valuation purposes in some publications. The cost approach is, for example, believed not to realistically reflect the market as the adjustment of the "interim cost value" (value of structural and other installations including land value without market adjustment) to the market situation requires deductions of up to $50 \%$.

These deductions are, however, derived from the market and therefore reflect average buyer behaviour. Therefore, if valuation takes place exactly within the model that was used to determine the market adjustment, then the model errors will be largely compensated.

Because market compliant results can even be achieved by using "nonsensical models" as long as the principle is adhered to, another condition must be that only plausible models, that reflect market reality, are applied in the course of valuation. It is, after all, only then possible to comply with the requirement that current market valuations must be comprehensible.

But the conclusion must not be that the cost approach should be rejected as a whole; it should rather be an incentive to amend the cost approach in such a way, that it better reflects market realities. I.e., the cost approach should lead to a methodological interim result that can then be further approximated to the local market situation by using minor deductions or allowances.

Through the determination of a graph for the average deduction from building value on account of age on the basis of purchase prices, for example, it would be possible to anticipate the necessary market adjustment to some degree; this would have the result that market adjustment factors (so-called asset value factors) will substantially less often deviate from "1" than they do at the moment.

## Evaluation model

There is, as was already stated, no express mention of market adjustment for the cost approach. Nevertheless, market adjustment must, of course, also be carried out in the course of the cost approach, i. e. the model value (interim - not adjusted - asset value) and the market prices (see s. 1 (1)Sentence 2 WertV ) must be put in relation with each other:

$$
k=\varnothing \frac{K P \pm b w U}{v . S W}
$$

$k=$ Asset value factor (market adjustment factor in the cost approach)
$K P=$ Purchase price
v.SW $=$ interim (i.e. not market adjusted) asset value
$b w U=$ special circumstances affecting value

Many years of analysis practice have shown that the asset value factor depends on

- the asset value amount (interim - i.e. not marketadjusted),
- the location,
- the type of property,
- the valuation model (see Chapter 5.1) and,
- to some extent, on the valuation effective date.

A dependance on the extent of any necessary investments should also be shown (repair costs, for example). A small, single-family home in good condition has therefore generally a better marketability than a large single-family home in very bad condition in the same location and with the same interim asset value. To compensate for this dependancy, it is necessary to derive the asset value factors from essentially damage free properties. The reasons for this will be dealt with below.

## Consideration of special circumstances affecting value in the determination of asset value factors

It was disputed among German valuation practititioners, whether special circumstances that affect value (such as, for example, decreases in value due to repair costs, capitalized reduced rents, encumbrances such as easements, usufruct, dwelling rights, land charges etc.) should be applied before or after market adjustment. Nowadays, this question is often answered by reference to "market activities"; the problem is ultimately interpreted as a valuation issue.

However, it really is - as will be shown below - a question of the model that is used. What are the consequences arising from that?

In some academic literature, market adjustment is defined as follows:

$$
k=\varnothing \frac{K P}{v \cdot S W}=\varnothing \frac{K P}{(G S+B W) \pm b w U}
$$

$k \quad=$ so-called "asset value factor"
$K P=$ Purchase price
$v . S W=$ interim (i.e. not market adjusted) asset value
GS = value of buildings
$B W=$ land value
$b w U=$ special circumstances affecting value (such as repair costs, cap. reduced rents etc.)

In the course of valuation, the interim asset value (v.SW) should then be adjusted to the market with the help of the asset value factors that were derived from the purchase prices as follows:

$$
\begin{aligned}
\begin{array}{l}
\text { Marktangepasster }
\end{array} & =\mathrm{k} \times \begin{array}{c}
\text { vorläufiger } \\
\text { Sachwert }
\end{array} \\
\text { Sachwert } & \\
S W & =k \times v . S W \\
S W & =k \times(G S+B W \pm b w U)
\end{aligned}
$$

This means that in this model the asset value factor $(k)$ is also determined by circumstances affecting the value (bwU), so that individual evaluations must take place for each "bwU" with a different amount. As a consequence, the respective evaluation efforts increase significantly. If there are only a few purchase prices available for certain property types (for example, for service station sites), a differentiated evaluation in accordance with the "literature model" is not possible.

For the determination of asset value factors it is therefore recommended, to only include damage-free properties and properties without any other circumstances that affect value. If it cannot be avoided to also include properties featuring special circumstances that affect value in the determination of the asset value factors, the above-mentioned model must be slightly modified.

$$
k=\varnothing \frac{K P \pm b w U}{v . S W}
$$

with $v \cdot S W=G S+B W$

In the reversed sense, it is now necessary that the asset value factor is applied during the evaluation to the interim asset value of the fictitious "damage-free" property (for example, on the interim asset value of the property without consideration of special measures affecting value) and only then may reductions because of special circumstances reducing the value - as, for example, high repair costs - be made. This procedure must also be followed in order to comply with the principle of "always work within the same model" (see Chapter 5.1).

$$
\begin{aligned}
S W \pm b w U & =k \times v . S W \\
S W & =k \times v . S W \pm b w U \\
S W & =k(G S+B W) \pm b w U
\end{aligned}
$$

The advantage of this approach is that the disadvantages of the competing model are avoided:

- significantly less effort
- can usually also be applied to property types for which only a few purchase prices are available

The cost approach is, furthermore, harmonized with the income approach in this respect.

The current Real Estate Valuation Regulations Bill (Immobilienwertermittlungsverordnung), for example, provides for this procedure as a binding regulation for the future.

## Evaluation example

In order to comply with the most important valuation principle, the respective model must be stated. An example of the asset value factors for developed land for single- and two-family houses including the model is provided below:

## Property type:

Single- and two-family houses
Market segments by location classes:
$15 € / \mathrm{m}^{2} ; 30 € / \mathrm{m}^{2} ; 60 € / \mathrm{m}^{2} ; 120 € / \mathrm{m}^{2} ; 240 € / \mathrm{m}^{2}$; $480 € / \mathrm{m}^{2}$

Use:
Owner-occupied (not let)

## Conditions.

Recent contracts (normally not more than 4 years old)

- Not a first-time sale
- If possible, no special circumstances that would affect value (bwU)
- Market typical use

NHK-Model (minimum extent):
according to NHK 2000

- not regionalized
- Application of the age classes
- Differentiation by basement spaces, roof shape etc.
- Number of floors
- Floor-to-floor height
- Masonry construction, timber construction, half-timbering, framed construction
- Quality standard
- End-of-terrace, mid-terrace, detached


## Basis year of the NHK:

2000

## Space/capacity:

Gross floor space (BGF)/Gross volume (BRI) (DIN 277, Edition 1987)

Construction cost index:
Construction cost index (all of Germany) on the basis of the construction cost index tables for residential buildings of the Federal Statistical Office.

## Percentage reduction in value due to age:

Percentage reduction in value due to age / residual value in accordance with Ross

## Total useful life of building

## (Gesamtnutzungsdauer - GND):

Respective building quality standard
Remaining life expectancy (Restnutzungsdauer - RND):

GND - Age; if applicable, with modified RND

## Ancillary construction costs

 (Baunebenkosten - BNK):According to NHK for example
Land value (Bodenwert - BW):
BRW (free from taxes and charges) taking into account the condition of the comparable land, without deduction from value of buildings

## Special circumstances affecting value (bwU):

Value reductions due to damage repairs or modernisation costs may not be deducted from the "interim asset value" but must be added to the purchase price. The same applies - with reversed signs - to value increases.

## Exterior installations:

Flat-rate amounts or by individual valuation

Calculation rules.

$$
k=\frac{K P \pm b w U}{v . S W}
$$

The example shows the evaluation result of the foregoing model (III. 5-2 and Tab. 5-2).

III. 5-2: Asset value factors 2008 (single- and two-family houses) for Rheinland-Pfalz

| Rheinland-Pfalz <br> Data records |  | 1.655 | $\mathrm{y}=\mathrm{a} \mathrm{x}$ (provisional real value/1,000,000)b |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\emptyset$ Multipl. orders |  | 64\% |  |  |  |  |
| a | 0,45207 | 0,48476 | 0,51754 | 0,55039 | 0,5833 | 0,61628 |
| b | -0,27241 | -0,28232 | -0,29066 | -0,29776 | -0,30389 | -0,30923 |
| vorl. SW | $15,-\in / \mathrm{m}^{2}$ | $30,-\epsilon / \mathrm{m}^{2}$ | $60,-\epsilon / \mathrm{m}^{2}$ | $120,-\epsilon / \mathrm{m}^{2}$ | $240,-\epsilon / \mathrm{m}^{2}$ | 480,- $\epsilon / \mathrm{m}^{2}$ |
| $100.000 €$ | 0,85 | 0,93 | 1,01 |  |  |  |
| $125.000 €$ | 0,80 | 0,87 | 0,95 | 1,02 |  |  |
| 150.000 € | 0,76 | 0,83 | 0,90 | 0,97 |  |  |
| $175.000 €$ | 0,73 | 0,79 | 0,86 | 0,92 | 0,99 |  |
| $200.000 €$ | 0,70 | 0,76 | 0,83 | 0,89 | 0,95 | 1,01 |
| $225.000 €$ | 0,68 | 0,74 | 0,80 | 0,86 | 0,92 | 0,98 |
| $250.000 €$ | 0,66 | 0,72 | 0,77 | 0,83 | 0,89 | 0,95 |
| $275.000 €$ | 0,64 | 0,70 | 0,75 | 0,81 | 0,86 | 0,92 |
| $300.000 €$ | 0,63 | 0,68 | 0,73 | 0,79 | 0,84 | 0,89 |
| $325.000 €$ | 0,61 | 0,67 | 0,72 | 0,77 | 0,82 | 0,87 |
| $350.000 €$ | 0,60 | 0,65 | 0,70 | 0,75 | 0,80 | 0,85 |
| $375.000 €$ | 0,59 | 0,64 | 0,69 | 0,74 | 0,79 | 0,83 |
| $400.000 €$ | 0,58 | 0,63 | 0,68 | 0,72 | 0,77 | 0,82 |
| $425.000 €$ |  | 0,62 | 0,66 | 0,71 | 0,76 | 0,80 |
| 450.000 € |  | 0,61 | 0,65 | 0,70 | 0,74 | 0,79 |
| 475.000 € |  |  | 0,64 | 0,69 | 0,73 | 0,78 |
| $500.000 €$ |  |  | 0,63 | 0,68 | 0,72 | 0,76 |
| $525.000 €$ |  |  |  | 0,67 | 0,71 | 0,75 |
| $550.000 €$ |  |  |  | 0,66 | 0,70 | 0,74 |
| $575.000 €$ |  |  |  |  | 0,69 | 0,73 |
| $600.000 €$ |  |  |  |  | 0,68 | 0,72 |
| $625.000 €$ |  |  |  |  |  | 0,71 |
| $650.000 €$ |  |  |  |  |  | 0,70 |
| $675.000 €$ |  |  |  |  |  | 0,70 |

Tab. 5-2: Asset value factors 2008 (single- and two-family houses) for Rheinland-Pfalz (vacant)

### 5.1.3 Principles for the determination of comparison factors

## Comparable purchase price method and comparison factor method

The comparable approach consists of

- the comparable purchase price approach and
- the comparison factor approach.

The comparable purchase price approach leads
to market-compliant results, if a sufficient number of comparable purchase prices is available, that sufficiently conform with the property that is to be valued. The comparative prices must be adjusted with respect to all characteristics that diverge from those of the property that is to be
valued (for example, location adjustment factors, floor space ratio and area conversion factors). It is only if this condition is satisfied, that the comparable approach has the high importance that is attributed to it in practice. This means that a market-compliant application of the comparable approach also requires a greater evaluation effort. In case of developed land, the likelihood that there is a sufficient number of comparative purchase prices is, however, generally low.

This is why s.8WertV Second Part mentions "comparison factors" that are necessary for valuation purposes and that are further specified in s. 12 WertV (comparison factor method). S. 12(1) provides that purchase prices for real estate of the same kind must be used for the determination of comparison factors for developed land.

Under s. 12(2) WertV, these purchase prices must be applied to the sustainable annual yield (yield determinant) or another suitable reference
unit, including but not limited to a space or area unit of the building (building factor). In practice, building factors prevailed in particular in relation to the valuation of freehold apartments and partowned real estate. Here, purchase prices for freehold apartments and part-owned real estate typically apply to the reference unit "living area".

The standardisation of comparative prices by referencing yields or metric units has the advantage, in contrast to the comparable purchase price approach, that the range of comparative prices, that can be considered, may be expanded. But the comparison factors must also be adjusted to the property that is to be valued in relation to diverging property characteristics. Appropriate adjustment and conversion factors must therefore be determined in this respect. Without these adjustment possibilities, comparison factors are merely suitable for value estimates. The general procedure for the determination of adjustment factors is described in the example on building factors for residential real estate (incremental process).

## Determination of the model components

## Property characteristics

Prior to evaluation, any property characteristics that may affect the purchase prices must be determined. The purchase prices of residential real estate are typically determined by the following property characteristics:

- Location,
- Unit size,
- Time of purchase,
- Building or apartment age (if necessary, in relation to a "fictitious" year of construction) or remaining life expectancy,
- Quality standard,
- Proportion of the purchase price for car parking spaces, garages and underground car parking facilities,
- Proportions of purchase price for special use rights,
- Apartment let/vacant.


## Description of standard unit (model)

For the determination of the indicative values (comparison factors) for residential real estate, it is necessary to clearly describe the standard unit from which these values are derived and those characteristics of same that affect value, so that it is possible to adjust the purchase prices accordingly. The model description must
at least contain the following information, in order to sufficiently comply with the principle that "evaluation must always take place within the model that was used to derive the market data" (here, the indicative values for residential real estate) (in doing so, variable model parameters, such as location or quality standard factors for example, should be determined for the main area of the samples):

- Effective date
- Quality standard
- External location value
- Internal location value
- Remaining life expectancy
- Unit size
- Special use rights
- Car parking space, garage, underground car parking
- Repair fund
- Structural defects/damage
- Rental situation


## Quantification of property characteristics

Past experiences in relation to car parking spaces, garages and underground car parking facilities
Experience figures are required for the validation of the purchase prices - i.e. for the adjustment of the purchase prices in line with the characteristics of the respective standard unit that affect value; this also includes car parking spaces, garages and underground car parking. In exceptional cases, general estimates will suffice. A first indicator may be the proportional purchase price that is often mentioned in purchase contracts (initial first-time sale). In case of second-hand sales, the proportional purchase price for car parking spaces, garages and underground carparking spaces is less often shown.

The experience figures for car parking spaces, garages and underground car parking must be applied to the remaininig life expectancy of the standard unit.

## Consideration of special use rights

The indicative values for residential real estate should not contain value shares for special use rights. This is the reason why respective value shares must be subtracted from the comparative prices.

The quantification of the value of special use rights can be carried out by way of capitalization of their monthly utility value.

Index series for consideration of the changed general value situation at time of purchase and at indicative value effective date
In Rheinland-Pfalz, index series for residential real estate can be derived from the intial first-time sales by adjusting these purchase prices to the circumstances of the standard unit that affect its value and by comparing the average purchase price in this respect with the average purchase price of the previous year; this is possible because the relative changes of the pricing within the market segment for "first-time sales" are often similar to those in the market segment for "second-hand sales".

## Quality standard factors for the adjustment of the comparative prices to the quality standards of the standard unit

In the research report on normal construction costs 1995 (Forschungsbericht über die Normalherstellungskosten - forerunner of the NHK 2000), fixed value ratios were attributed to the respective quality standards within a certain building type group [17]. Thus, the following quality standard factors apply, for example, for multi-dwelling units (Tab. 5-3):

| Quality standard | Quality Standard <br> Factor |
| :--- | :---: |
| simple | 100 |
| average | 105 |
| good | 114 |

Tab. 5-3: Quality standard factors

For the adjustment of the respective quality standard of the standard unit to the quality standard of the standard unit, it is therefore possible to determine with the help of the quality standard tables of NHK 2000 the respective quality standard and to then convert with the quality standard factor of the standard unit the comparative prices to the respective quality standards.

## Determination of adjustment factors to compensate for location differences <br> External location:

By using relative location factors it is intended to quantify differences between the location quality of the comparative properties and the standard unit. Relative land value differences are not suitable as location factors as the relative location differences are generally lower in case of developed land.

The location value of the standard unit should correspond to the main area of the samples and exist at least for the municipality level. The
location factor can be derived from the relative value differences between the asset value adjustment factors in the individual location classes.

Internal location value:
The value of a residential unit within a building depends on a number of factors, including but not limited to whether the common rooms are situated in a southern or northern direction, whether the units are located on the groundfloor (many tenants prefer - despite the stairs - a first floor location because of the lower risk of burglaries) or whether they are, for example, situated on the fifth floor (building is/is not fitted with lift). In this respect, it is usually possible to refer to past experiences.

Conversion factor for consideration of the remaining life expectancy
Differences in relation to the remaining life expectancy between the standard unit and the property that is to be valued are usually considered with respect to their residual values (= $100 \%$ - percentage reduction in value due to age (\%)) in accordance with the Ross tables.

Only the building value is adjusted, i.e. consideration of the condition that influences value requires separation from the land value share.

## Determination of the land value share

It is usually possible to determine the land value share to a sufficiently accurate degree by multiplying the overall land value with the coowned shares that are registered in the land registry. This is, however, only the case if the co-owned share corresponds adequately to the proportionate value of the real estate property that is to be valued.

Conversion factors for consideration of different unit sizes
Academic literature contains experience figures derived from cost-oriented purchase prices for first-time sales. This market behaviour is typically continued in the case of second-hand sales. It is, nevertheless, necessary to carry out checks. In Rheinland-Pfalz, for example (exceptions to this market behaviour can be found in cities, which have, for example, universities), the purchase prices ( $€ / \mathrm{m}^{2}$ living area) for the second-hand sale of small apartments ( $40 \mathrm{~m}^{2}$ ) are, by comparison, lower then those for apartments with an average size $\left(80 \mathrm{~m}^{2}\right)$.

## Purchase price validation in case of let comparative property

The purchase prices for let and vacant apartments can vary significantly if real property is primarily purchased for owner-occupation. This is the reason why the evaluation must make provision
for an adjustment in this respect in order to be able to allow for respective allowances or deductions.

## Evaluation result

The comparative prices that were adjusted to the standard unit in this manner, are finally reconciled in order to determine the comparison factors. The following is an example from Rheinland-Pfalz (Tab. 5-4 and Tab. 5-5):

## Model (abbreviated description)

| Effective date | 01.01 .2009 |
| :--- | ---: |
| Remaining life expectancy | 75 years |
| Remaining life expectancy | 95 years |
| Average quality standard | 113 |
| Number of residential units | 10 |
| Special use rights | No |
| Car parking space, underground | No |
| car parking, garage |  |
| One- and two-family houses No <br> Rental situation vacant${ }^{2}$ |  |

Tab. 5-4: Characteristics of the "standard freehold apartment"

All Germany comparison factors for land developed with single- and two-family houses and apartment ownership are shown in Chapter 4.1.3. The prices shown are average purchase prices per $\mathrm{m}^{2}$ living area.

### 5.1.4 Principles for the determination of conversion factors

## Basis

Variations in real estate value which arise from deviations of certain value-influencing
characteristics of properties that are of the same kind in all other respects, in particular arising out of a different level of structural use, must be considered with the help of conversion factors. Conversion factors are determined for certain deviation characteristics on the basis of a sufficient number of appropriate, evaluated purchase prices (see s. 10 WertV ). An effect on land value that can be observed often is caused by the level of permissible use that is frequently realised by the real estate market. This dependency is generally reflected by the floor space ratio conversion factor (Geschossfächenzahl Umrechnungkoeffizienten - GFZ). Values in this respect were published in the valuation guidelines (Wertermittlungsrichtlinien - WertR 2006).

In the course of his study, Seele discovered as far back as 1976, that the GFZ conversion factors of different cities or regions do not progress concurrently functionally [20]. It is therefore generally necessary to determine specific factors for the local market in this respect, if deviations from the federal average values (or from Seele's "rule of thumb") can be determined.

The theoretical error aspect must not be neglected in the application of GFZ conversion factors. Because of the relatively high uncertainty of the GFZ conversion functions, purchase prices should not be converted when GFZ differences are too big.

GFZ factors can be determined by standardising the purchase prices for undeveloped plots for one property type (single- and two-family houses, for example), that vary in terms of the value-relevant GFZ, with respect to one certain land state and one uniform effective date (for example, free of local infrastructure charges, normal layout, uniform plot size). As there are frequently not enough purchases available for one area, comparative purchases from different

## Average values for Rheinland-Pfalz

| Town/city/region: <br> Extent of random samples: |  | Rheinland-Pfalz 1568 purchases |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Residential location(s) | Location factor | $\varnothing$ Land value | Unit size |  |  |  | $\varnothing$ Land value share |
|  |  |  | $50 \mathrm{~m}^{2}$ | $70 \mathrm{~m}^{2}$ | $90 \mathrm{~m}^{2}$ | $110 \mathrm{~m}^{2}$ |  |
| III | 112 | $70 € / \mathrm{m}^{2}$ | 1,000€/m² | 1,080€/m² | 1,100€/m² | 1,070€/m² | 13.3\% |
| IV | 121 | $140 € / \mathrm{m}^{2}$ | 1,080€/m² | 1,170€/m2 | 1,190€/m² | 1,100€/m2 | 19.7\% |
| V | 143 | $255 € / \mathrm{m}^{2}$ | 1,275€/m² | $1,380 € / \mathrm{m}^{2}$ | 1,405€/m² | 1,365€/m² | 26.0\% |

Tab. 5-5: Indicative values for freehold residential real estate in Rheinland-Pfalz
areas must be combined after value variations due to location have been adjusted:

$$
U K_{G F Z i}=\frac{\sum \frac{K P_{G F Z i}^{\prime}}{n}}{\overline{K P}_{G F z 1.0}}
$$

| $U K_{G F Z}=$ | $G F Z$ conversion factor with the GFZ |
| :--- | ---: |
| $K P_{G F Z}^{\prime}$ | $=$ adjusted purchase price with |
|  | the GFZ |
| $\overline{K P}_{G F Z 1.0}=$ | average of all adjusted purchase |
|  | prices with the GFZ $=1.0$ |
| $n$ | $=$ |

## Value-relevant GFZ

The differing opinions on the influence of the GFZ on the land value do not always originate from varying market behaviour but from the approach to generally examine the GFZ influence on the land value in terms of planning law rather than the value-relevant influence of the GFZ. The difference between GFZ under planning law and the value-relevant GFZ will be explained in the following example.

Example: Value-relevant GFZ

## A. Facts

For an undeveloped plot with a size of $986 \mathrm{~m}^{2}$ in a largely developed development area of a small municipality with a population of approx. 2,500, the development plan determines a GFZ of not more than 1.2. The development plan provides further for the construction of individual houses with not more than 2 residential units. The development area predominantly consists of plot sizes ranging between $900 \mathrm{~m}^{2}-1,000 \mathrm{~m}^{2}$ and a floor space of approx. $300 \mathrm{~m}^{2}$. According to the description, the indicative land value ( $30 € / \mathrm{m}^{2}$ ) applies to a value-affecting GFZ of 0.3. There are no other deviations of the property for valuation from the indicative land value site.

## B. Task

To determine the current market value of the building plot

## C. Solution

The relative current market value of the undeveloped plot (= land value) is

$$
30 € / \mathrm{m}^{2}
$$

and the absolute value is

$$
\begin{array}{r}
986 \mathrm{~m}^{2} \times 30 € / \mathrm{m}^{2}=€ 29,580 \\
\text { c. } € 30,000
\end{array}
$$

## Reasons

An adjustment of the land value to a GFZ of 1.2 is not in line with market practice in the local real estate market. This is because a GFZ of 1.2 would correspond to a floor space of $1,200 \mathrm{~m}^{2}$ for the property to be valued, which is usually not done in case of single- and two-family houses.

The GFZ of 1.2 is therefore not value-relevant; the value, however, that is achieved on average within the indicative land value zone is of relevance. The average GFZ is approx. 0.3. This is also the reason why the indicative land value refers to this GFZ. This is because it was derived from purchase prices for land which was predominantly developed with properties that have a GFZ of 0.3 . Accordingly, it is clear that only a GFZ of 0.3 has an influence on the land value (so-called value-relevant GFZ).

## Example of a derivation result

The examined random samples are from the Westerwaldkreis in Rheinland-Pfalz and comprise 57 data sets for single- and two-family house plots. The random samples include plots with a value-relevant GFZ of 0.3 to 0.8 (one plot with GFZ $=1.0$ ). This means that the derived function only provides reliable results for this range. The results are compared to the factors of the valuation guideline (GFZ $=1.0 \wedge \mathrm{GFZ}_{\mathrm{Z}}$ factor $=1.00$ ). Illustration III.5-3 shows that the "Westerwald-Function" runs mainly above the WertR function; the GFZ conversion factors that were determined for the examined range (GFZ $0.3-0.8$ ) caused land value changes that are therefore higher overall but that still remain, with exception of the break from GFZ 0.3 to GFZ 0.4, within a similar range (Tab.5-6 and III. 5-3).

| GFZ | WertR 2006 | Westerwaldkreis |
| :---: | :---: | :---: |
| 0.30 | 0.59 | 0.55 |
| 0.40 | 0.66 | 0.66 |
| 0.50 | 0.72 | 0.74 |
| 0.60 | 0.78 | 0.81 |
| 0.70 | 0.84 | 0.87 |
| 0.80 | 0.90 | 0.92 |

Tab. 5-6: Comparison between GFZ conversion factors under WertR 2006 and Westerwaldkreis

III. 5-3: Comparison between GFZ conversion factors under WertR 2006 and Westerwaldkreis

### 5.1.5 Principles for the determination of index Seriess

## Preliminary remarks

Under s.9(1) WertV, any changes to the general value situations in the real estate market should be reflected by index series. Index series are statistical index figures that are calculated by means of appropriate models. Starting with a base period and the index number 100, the index numbers reflect the average ratio of real estate prices within a given period in relation to the base period.

The real estate price index series thus determined, then facilitates the conversion of a purchase price on purchase date $X$ to the value situation on
a certain effective date $Y$ (for example, valuation effective date).

When using the data that is required for valuation purposes, the user must know for which value ranges he will be able to obtain sufficiently precise results. This principle must also be observed in relation to land price index series. It is, thus, for example, not proper, to convert purchase prices from 1986 to 2006 because errors in the land price indices "amplify" from year to year - i.e. the error gets worse with increasing indices. The periods for which comparative prices may be projected, should normally not exceed five years.

## The determination of land price index series

Index numbers must be determined in a marketcompliant manner, i.e. they may only be determined from appropriate purchase prices for comparable locations (for example, good, average, modest) and uses (for example, within the market segment building plots for construction of residential real estate). Purchase prices are deemed appropriate if they are unaffected by unusual (additional purchase, for example) or personal (sale within the family, for example) circumstances or if the influence of such circumstances was considered through deductions from or allowances to the purchase price.

The determination of land price index series takes place in three steps. First, each suitable purchase price per square metre is adjusted with deductions or allowances to the land characteristics of the respective indicative land value plot and then divided by the respective indicative land value for the base period. This largely eliminates location differences in the comparative prices. The factors are then adjusted with a regression type in relation to their amount and the date of the purchase contract and subjected to a outliers test. The result of the reconciliation is land price indices for the 1st January of the respective year (or any other reference time)

## Examples

Below are examples of the regional land price index series and the average land price index series for the state of Rheinland-Pfalz (III.5-4 and III. 5-5 andTab. 5-7).

III. 5-4: Region distribution in Rheinland-Pfalz

III.5-5: Land price development for residential development land in the three regions mentioned in III.5-4 and Rheinland-Pfalz overall

| Region/area | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| North region ${ }^{1)}$ | 100,0 | 105,3 | 112,9 | 121,6 | 129,6 | 133,3 | 138,7 | 144,0 | 147,8 | 153,2 | 153,7 | 154,9 | 154,5 | 155,5 | 156,5 |
| Southeast region ${ }^{2)}$ | 100,0 | 113,5 | 122,2 | 129,1 | 135,3 | 140,2 | 148,2 | 148,6 | 148,9 | 149,9 | 149,2 | 151,5 | 155,2 | 155,1 | 156,7 |
| West region | 100,0 | 105,2 | 110,7 | 118,0 | 123,8 | 130,3 | 137,2 | 141,9 | 145,8 | 148,9 | 153,1 | 157,4 | 162,3 | 165,4 | 166,7 |
| Rheinland-Pfalz ${ }^{\text {3 }}$ | 100,0 | 108,3 | 115,4 | 122,8 | 129,1 | 134,5 | 141,6 | 144,8 | 147,3 | 150,0 | 151,7 | 154,8 | 158,3 | 159,9 | 161,3 |
| 1) excluding the Westerwaldkreis (Western Forest District) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2) excluding the cities of Mainz, Worms and Ludwigshafen am Rhein |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {3) }}$ excluding Westerwaldkreis (Western Forest District), the cities of Mainz, Worms and Ludwigshafen am Rhein |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Tab. 5-7: Land price index series in the three regions and in Rheinland-Pfalz

Another example is the Real Estate Index of Niedersachsen (Niedersächsische Immobilienindex - NIDEX) for land developed with singlefamily homes. The data basis for the determination is all purchases of single-family houses that are recorded in the automated purchase price collection in Niedersachsen. By means of mathematical-statistical methods (multiple regression), purchases have been evaluated separately for each index year since 1998. The various value-influencing characteristics of the comparable properties, such as plot size, land value, living area, quality standard, age and basement have been considered in terms of value in the course of this.

The examinations include all purchases of single-family houses with a year of construction after 1945. As newly-built properties are subject to other market practices than older buildings,
purchases involving newly-built properties were examined separately.

The comparative values used for index determination apply to an average detached single-family house in the state of Niedersachsen (model house) with the following characteristics:

- $130 \mathrm{~m}^{2}$ living space
- $700 \mathrm{~m}^{2}$ plot size
- indicative land value of $72 € / \mathrm{m}^{2}$
- average quality standard
- no basement

III. 5-6: NIDEX for single-family houses: newly-built and 10-to 50-year-old houses, base year $2000=$ index value 100



### 5.2 Analysis of existing data for Germany

### 5.2.1 Existing data overview

The following sections contain a first analysis of the data submitted by the boards of expert valuers. Analysis in this first real estate market report for Germany is limited to the data which was available to a sufficient degree.

- Property yields for multi-dwelling residential real estate
- Gross yield factors for multi-dwelling residential real estate
- Asset value factors for single- and two-family real estate
- Index series for development land for the construction of individual residential real estate

| Required data | Number of administrative districts/ independent cities |  |
| :---: | :---: | :---: |
|  | 2007 | 2008 |
| Property yields |  |  |
| Multi-dwelling properties with more than 6 residential units | 105 | 105 |
| Commercial buildings | 25 | 21 |
| Office and administrative buildings | 13 | 7 |
| Gross yield factors |  |  |
| Multi-dwelling properties with more than 6 residential units | 107 | 108 |
| Commercial buildings | 21 | 19 |
| Office and administrative buildings | 10 | 7 |
| Market adjustment factors |  |  |
| Single- and two-family houses | 119 | 121 |
| End-of-terrace houses and semi-detached houses | 99 | 99 |
| Mid-of-terrace house | 79 | 87 |
| Index Series |  |  |
| Land price index | 202 | 202 |

Tab. 5-8: Availability of necessary data for real estate valuation (2007/2008)

The data evaluation has shown that the "necessary data for real estate valuation" is available for all German federal states. However, the regional distribution varies sharply in this respect. It can generally be said that the regional distribution of the required data decreases from the north to the south of Germany. Property yields, index series, gross yield factors and asset value (adjustment) factors are most frequently determined by boards of expert valuers in the north of Germany.

Illustration (Tab.5-8) indicates the availability of this data that is required for real estate valuations.

The models used by the boards of expert valuers to determine the required data vary from each other. Only a few federal states have regulations, or at least recommendations, providing for the use of uniform models. The recommended or prescribed models were published by the state boards of expert valuers of the federal states. The models used by the local boards of expert valuers for their evaluations are often presented in the real estate market reports of the respective boards. There are efforts to increase standardisation over the coming years through the development of countrywide standards.

Accordingly, the results of the individual boards of expert valuers may only be compared with each other if the same models were used for the determination of same or after respective migration of individual results. Due to time restraints, it was, however, not possible to carry out this adjustment. Because the models used are largely compliant in their basic specifications, the editorial team was of the opinion that the following comparisons of usable statements lead at least to the determination of reliable trends.

### 5.2.2 Property yields

Approx. 300 property yields for both report years 2007 and 2008 were available for this report. The largest part of this applies to land developed with multi-dwelling properties with 6 or more residential units. The following map (III.5-7) documents the availability of this information throughout Germany.

## Property yields for multi-dwelling residential real estate

Average property yields for multi-dwelling residential real estate for 2007 and 2008 were reported for 105 administrative districts and independent cities. If the submitted property yields for multi-dwelling residential real estate for these two years are analysed, the following picture is obtained (Tab.5-9):

III. 5-7: Overview of reported property yields (2008)

| Multi-dwelling properties | Property yields <br> [\%] |  |
| :--- | :---: | :---: |
| Average value | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Land developed with <br> new multi-dwelling properties | 5.3 <br> (Range: $3,7-7,6$ ) | 6.3 <br> (Range: $4-6$ ) |
| (Range: 4,0-7,9) |  |  |

Tab. 5-9: Property yields for multi-dwelling residential real estate

Accordingly, the interest return for multi-dwelling residential units remained constant during both report years. The ranges are also almost identical. The property yield is essentially dependent on the remaining life expectancy of the buildings, the property size, the location of the property and the rents that can be achieved.

The property yield for land developed with new multi-dwelling units decreased slightly from $5.6 \%$ to $5.2 \%$, i.e. the return on investments in newly built properties is falling. As a response to this, there are fewer investments in this market segment. According to information from the Federal Statistical Office, the number of completed apartments in multi-dwelling units decreased again in 2008 by $9 \%$ if compared to 2007.

The development of property yields is generally quite different within the various regions in Germany. The board of expert valuers in Hamburg, for example, reported that yields for multi-storey apartment blocks (second-hand properties) have decreased by $3 \%$ to a range of $3.1 \%$ to $5.5 \%$ (generally depending on location and age of the building).

The boards of expert valuers in Niedersachsen were able to determine that property yields for multi-dwelling properties in rural areas remained stable. These amounted to $6.8 \%$ in 2007 and to an average of $6.7 \%$ in 2008. The yields within urban areas in Niedersachsen, by contrast, increased from an average of $5.7 \%$ in 2007 to $6.1 \%$ in 2008.

The following illustrations show the available data material that was submitted by the boards of expert valuers for 2008, the average property yields for multi-dwelling properties in relation to the average income (III.5-8) and the average population density (III. 5-9) respectively. Average income and population density refer to the respective areas for which the property yields were determined.

It can be seen from the illustrations that the yield decreases by max. $1 \%$ in regions where the average income is higher and where the population density is higher and for which the property yield had been determined. In other words, real estate is traded at higher prices in conurbations and in areas with higher incomes than in rural areas and in areas with lower incomes and that therefore yields are lower in these places.

III. 5-8: Average property yields for multi-dwelling units in dependance on income 2008

III. 5-9: Average property yields for multi-dwelling units in dependance on population density 2008

Illustration Tab. 5-10 shows average yields for multi-dwelling units in relation to the various federal states. Information from the state market reports were used for this in addition to the reported data. It is obvious that there are no substantial differences between the yield ranges in the individual states. Accordingly, the
highest price levels can be expected in Bremen, Hamburg, Hessen, Nordrhein-Westfalen and Rheinland-Pfalz. These statements are, however, highly generalized; price structures vary within the regions of all states.

III. 5-10: Ranges of the average property yields for multi-dwelling units in the federal states 2008

Property yields for commercial, office and administrative real estate

Only a few property yields for all of Germany are available for these market segments; the number is sufficient to indicate trends. Overall it can be clearly said, that the property yields in 2007 and 2008 for these segments of the real estate market in Germany remained very stable. Table Tab. 5-10 contains the average values and ranges.

It is, also in this respect, the case that property yields vary throughout various regions in Germany that are characterised by a highly varied structure. Hamburg, for example, reports that the property yield for land developed with commercial
buildings and office and administrative buildings increased by c. $6 \%$; property yields in the City of Hamburg were $4.2 \%$, yields for commercial and office buildings outside of the city amounted to $5.4 \%$ and $6.5 \%$ depending on the year of construction of the building.

In Niedersachsen - an example of a country area as opposed to an urban state like Hamburg - the picture is quite stable (Tab.5-11):

| Commercial real estate and office and Administrative real estate | Property yields [\%] |  |
| :---: | :---: | :---: |
|  | 2007 | 2008 |
| Commercial real estate prime location |  |  |
| Average value | $\begin{gathered} \hline 5.1 \\ \text { (Range: } 3.0-6.3 \text { ) } \end{gathered}$ | $\begin{gathered} 5.0 \\ \text { (Range: } 3.1-6.3 \text { ) } \\ \hline \end{gathered}$ |
| Commercial real estate secondary location |  |  |
| Average value | $\begin{gathered} \hline 5.8 \\ \text { (Range: } 3.4-7.9 \text { ) } \end{gathered}$ | $\begin{gathered} \hline 6.0 \\ \text { (Range: } 4.2-9.2 \text { ) } \end{gathered}$ |
| Commercial Real Estate Average Location |  |  |
| Average value | $\begin{gathered} 6.6 \\ \text { (Range: } 4.3-7.8 \text { ) } \end{gathered}$ | $\begin{gathered} 6.5 \\ \text { (Range: } 4.6-8.0 \text { ) } \end{gathered}$ |
| Land developed with office and administration buildings |  |  |
| Average value | $\begin{gathered} \hline 5.6 \\ \text { (Range: } 3.3-8.2 \text { ) } \end{gathered}$ | $\begin{gathered} 6.0 \\ \text { (Range: } 4.5-7.1 \text { ) } \end{gathered}$ |

Tab. 5-10: Property yields for commercial real estate and office and administrative real estate

| Commercial real estate and office <br> and administrative real estate | 2007 | Property yields <br> [\%] |
| :--- | :---: | :---: |
| Residential and commercial real estate |  |  |
| Average value in rural areas | 7.4 | 2008 |
| Average value major city and <br> peripheral locations | 6.6 | 7.5 |
| Office properties |  | 6.8 |
| Average value | 7.2 | 7.5 |

Tab. 5-11: Property yields for commercial real estate and office and administratiove real estate in Niedersachsen

### 5.2.3 Gross yield factors

Another appropriate dimension for the description of investment property and for the adjustment of the capitalized income value to the market situation is the gross yield factor. The gross yield factor represents the ratio of purchase price and annual net rent (gross yield). The annual net rent (Jahresnettokaltmiete) is the rent excluding any additional charges that are allocated to tenants but including management costs, maintenance costs and allowances for risk of rent loss. Gross yield factors were also requested from the boards of expert valuers for this report and were submitted to a similar extent as the property yields. The following illustration III. $5-11$ shows for which areas within Germany the gross yield factors are available.

## Gross yield factors for multi-dwelling residential real estate

The data situation for average gross yield factors for multi-dwelling residential real estate is, with 108 reported values for 2008 (2007: 107), similar to that for property yields. If the submitted gross yield factors for multi-dwelling residential real estate for 2007 and 2008 are analysed, the following picture is obtained (Tab.5-12):

If compared to 2007, the gross yield factor for multi-dwelling residential real estate remains almost unchanged in 2008. The ranges are also within similar limits. The factor usually increases with higher remaining life expectancy, higher land values and smaller living areas. There is only very little data on gross yield factors for new

III. 5-11: Overview of reported gross yield factors (2008)

| Multi-dwelling residential real <br> estate | Gross yield factor |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 0 8}$ |  |
| Average value | 11.3 | 11.4 |
| Land developed with <br> new multi-dwelling units | (Range: $6.0-25.9$ ) | (Range: $7.0-23.7$ ) |

Tab. 5-12: Gross yield factors for multi-dwelling residential real estate
multi-dwelling properties so that the determined average values can only indicate a trend.

Similar to the property yield, the submitted gross yield factors were also examined in relation to income and population density. It was, however, not possible to determine any significant dependency.

Illustration III. 5-12 shows, in highly generalised form, the ranges of average gross yield factors for multi-dwelling properties in various federal states. In the preparation of this illustration, information from the state market reports was used in addition to the reported data. It can be seen that the highest gross yield factors can be found in the city states of Berlin and Hamburg which is understandable due to the urban
structures with higher land prices and smaller living areas.

The boards of expert valuers in Niedersachsen determined the following results for their area: there was a gross yield factor of 11.0 for rural areas in 2008 (2007: 10.8). The factor was 11.3 for larger cities and their peripheries (2007: 12.4).

III. 5-12: Average gross yield factor ranges for multi-dwelling units in the federal states 2008

Property yields for commercial, office and administration real estate

As with the property yields, there is only little data available for all of Germany in respect of these market segments; but the number is sufficient to indicate trends. Overall it can be said, that the gross yield factors in 2007 and 2008 for these segments of the real estate market in Germany remained largely stable. Table Tab. 5-13 contains the average values and ranges.

It is in this respect also the case that gross yield factors vary throughout the various regions in Germany. Hamburg, for example, reports that the gross yield factors for office and administrative buildings increased by an average of c. $9 \%$. This
development is, however, varied. Within the city centre, the gross yield factor increased, while it decreased for office and administrative buildings that are located outside of the city centre (see also real estate market report Hamburg).

In Niedersachsen - an example of a country state as opposed to an urban state like Hamburg - the picture is almost stable (Tab. 5-14):

| Commercial real estate and office and administrative real estate | Gross yield factor |  |
| :---: | :---: | :---: |
|  | 2007 | 2008 |
| Commercial real estate prime location |  |  |
| Average value | $\begin{gathered} 14.5 \\ \text { (Range: } 8.2-19.0 \text { ) } \end{gathered}$ | $\begin{gathered} 14.1 \\ \text { (Range: } 6.3-20.0 \text { ) } \end{gathered}$ |
| Commercial real estate secondary location |  |  |
| Average value | $\begin{gathered} 13.9 \\ \text { (Range: } 11.6-22.0 \text { ) } \end{gathered}$ | $\begin{gathered} 13.2 \\ \text { (Range: } 10.8-18.4) \end{gathered}$ |
| Commercial real estate average location |  |  |
| Average value | $\begin{gathered} 11.6 \\ \text { (Range: } 4.0-17.0 \text { ) } \end{gathered}$ | $\begin{gathered} 11.8 \\ \text { (Range: } 6.0-17.4 \text { ) } \end{gathered}$ |
| Land developed with office and administrative buildings |  |  |
| Average value | $\begin{gathered} 14.7 \\ \text { (Range: } 9.2-22.0 \text { ) } \end{gathered}$ | $\begin{gathered} 13.3 \\ \text { (Range: } 9.6-21.0 \text { ) } \end{gathered}$ |

Tab.5-13: Gross yield factors for commercial real estate and office and administrative real estate

| Commercial real estate and office <br> and administrative real estate | 2007 | 2008 |
| :--- | :---: | :---: |
| Residential and commercial real estate |  |  |
| Average value in rural areas | 10.0 | 10.0 |
| Average value major city and <br> peripheral locations | 11.3 | 11.0 |
| Office real estate |  |  |
| Average value | 11.3 | 10.7 |

Tab. 5-14: Gross yield factors for commercial real estate and office and administrative real estate in Niedersachsen

### 5.2.4 Asset value factors

The asset value factors for single- and twofamily houses from 2008 that are contained in the databases of the the boards of expert valuers were also compared to the disposable income and the population density of the respective region. But no significant dependancies could be determined in the course of this study.

307 asset value factors for 2008 (2007: 297) were submitted for this report. The following map (III. 5-13) shows the distribution of the submitted asset value factors throughout Germany.

Asset value factors for land for the construction of individual residential real estate

If the asset value factors for land for the construction of individual residential real estate for 2007 and 2008 are analysed, the picture shown in table Tab.5-15 is obtained (secondhand sales only).

According to same, existing properties required on average $3-4 \%$ higher deductions for adjustment to the market situation in 2008 than in 2007.

III. 5-13: Overview of reported gross yield factors (2008)


Tab. 5-15: Asset value factors for land for the construction of individual residential real estate

### 5.2.5 Index series

Index series are statistical index figures that represent changes to the general value situation on a time scale. Index series that represent the development of real estate values are of particular economic importance. A more detailed explanation is provided in Chapter 5.1.5 .

This report contains index series for residential development land - for the construction of individual residential real estate - for 202 administrative districts/independent cities. Approx. $50 \%$ of Germany is thus covered. The overview shows the distribution throughout Germany (III.5-14). The periods covered by the index series vary and so do the reference years. The period from $1980-1992$ is thus not as well documented as the period 1993-1997. There is a consistently good data situation since 1998.

Using this extensive data, an index series for Germany was determined under consideration of the purchase price information that provides the basis for the individual index series. The result is presented as an overall index with reference year 2000 and start-year 1980 (III. 5-15). It shows that the prices for individual residential real estate in Germany have remained almost constant since 2001, following a sharp increase between 1990 and 2000.

For the eastern part of Germany, index series are available since 1990.

The data was first of all distinguished by "East" and "West" which resulted in two separate index series for east and west. These are shown in III. 5-16.

The progressions of the index series East and West are clearly different and correspond to the different developments in these areas. The sharp upturn in 1991 and 1992, the "consolidation phase" from 1993 to 2000 and a continuous decrease since then mark the price development for residential building land in East Germany since the reunification. The development in West Germany was more constant and had a slightly increasing trend even in the past few years up to 2007.

Because there is more data material available for the West German federal states, it was possible to carry out further evaluations for same. The allocation of the index series to the population and settlement patterns described in see chapter 2.4.3 III. 2-16 led thus to slightly different results about the development of building land prices over the past 30 years.

The evaluation of the index series for the three settlement types resulted for the western states in the development shown in illustration III.5-17. There is, at the same time, a similar price development with a strong growth for all three settlement types until 2000. While this development has continued between 2001 and 2008 to a slightly weakened level in the rural and partially urban areas, the value development for individual residential real estate in the predominantly urban areas is in light decline since 2001.

III. 5-14: Overview of reported index series (2008)

III. 5-15: Overall index series for individual residential real estate in Germany

Arbeitskreis der Gutachterausschüsse
und Oberen Gutachterausschüsse
in der Bundesrepublik Deutschland

III. 5-16: Overall index series for individual residential real estate by West and East

III. 5-17: Index series West Germany by structures

If the above-mentioned structures are applied to all of Germany, the picture shown in illustration III. 5-18 is obtained. As in West Germany, the progression of the index series for the three settlement types shows a similar continuous growth until 2000. For the partial urban areas in all of Germany, this trend is continuous for the following years and then weakens until 2008. In the rural and predominantly urban areas prices were in slight decline during this period.

The classification of the index series by predominantly urban, partially urban or rural areas of the Federal Republic of Germany shows that over the past 10 years there were different developments of the prices for building land for
the construction of individual residential real estate within these real estate market region types.

The prices for development land are thus stagnant or falling in urban areas in all Germany. Peripheral locations of urban areas or of conurbations show a rather increasing or constant price development.

As regards East Germany, prices for development land for the construction of individual residential real estate are falling or are stagnant in rural areas while they are increasing or stagnant, similar to the peripheral locations, in West Germany. There are thus clearly different developments for rural areas in the East and West.

III. 5-18: Index series all Germany by structures

Illustrations III. 5-15 to III. 5-18 herein provide for the first time a comprehensive presentation of the price development for development land for the construction of individual residential property in northern and eastern Germany. The index series determined here are based on an extensive data base and therefore provide a reliable representation of this market segment for these areas within Germany. For the south of Germany there is only selective information on the price development for development land for the construction of individual residential real estate available - and this predominantly for urban areas only. A projection of these analysis results for the whole south of Germany is therefore only possible to a limited extent.

## 6 Available real estate market reports



### 6.1 Boards of expert valuers

### 6.1.1 Organisation

The unhindered and free market development was restricted starting in 1936 by price freeze regulations. Thepricefreeze regulationswerelifted with introduction of the Bundesbaugesetzbuch (Federal Building Code) in 1960. At the same time, the legislators saw the need for more transparency in the real estate market in order to protect both sellers as well as purchasers of land. This was the main reason for the establishment of boards of expert valuers for the determination of land values. The Baugesetzbuch (BauGB; Building Code) of 1987 incorporated large parts of these regulations; some components of the current market transparency were even extended by it.

The boards of expert valuers were introduced by s. 192 BauGB. The building code provides for the collection of purchase prices as an essential characteristic of and the working basis for the boards of expert valuers. The BauGB determines a number of tasks for the boards of expert valuers and also makes provision in s. 198BauGB for the state boards of expert valuers and the central offices. The BauGB expressly authorizes the federal states to further expand and detail the tasks of the boards of expert valuers. One crucial aspect of the BauGB in relation to the determination of the market value is the introduction of the German definition of current market value ( 194 BauGB "Verkehrswert").

The boards of expert valuers are independent administrative bodies and conduct official state business. They consider themselves an
autonomous collegiate body of independent experts. The spatial field of activity is not further specified in the BauGB, but it is a stated objective of the federal legislators to create sufficiently large areas of responsibility to ensure that the boards of expert valuers are able to perform their tasks. The size of the individual areas of responsibility varies quite significantly throughout Germany (III.6-1). Every board of expert valuers is comprised of honorary experts who are presided over by a chairperson who is also the representative of the board of expert valuers. This board of experts valuers also includes a member of the respective fiscal authority who has experience in the area of tax assessment. Further details, such as the appointment of experts, are specified in the state regulations.

There are currently 1380 local boards of expert valuers throughout Germany; the number of boards within the individual federal states, however, varies strongly (III. 6-2).

The offices of a board of expert valuers, which provide support services to the board, are an essential component within the board. The offices of a board are situated within a public authority, but they are not bound by any directions from that public authority. You can find further information on the contact persons of the respective boards of expert valuers in Chapter 7 of this report.

The boards of expert valuers have, apart from their main tasks, i.e. the preparation of current market valuations for developed and undeveloped land and for rights in land and the creation of market transparency, also several

## s. 194 BauGB (Baugesetzbuch; German Building Code) current market value

The current market value (Verkehrswert) is determined by the price that could be achieved at the time of valuation in the ordinary course of business based on the legal situation and the actual characteristics, any other quality and the location of the land or the other object of valuation, without consideration of any unusual or personal circumstances.

III. 6-1: Areas of Responsibility of the local boards of expert valuers (incl. spatial and population coverage) [as of Summer 2009]
formal and substantive secondary tasks. These substantive secondary tasks include valuations in relation to compensation for pecuniary losses and those tasks that are assigned to them by other legal provisions. Other tasks include the collection and evaluation of purchase prices and the determination of other information that is required for valuation purposes. Other such data required for valuation purposes is defined and described in more detail in the respective regulations and in specialist literature. In doing this, particular significance is attributed to the indicative land values which are provided for in the building code. The independent boards of expert valuers increasingly support the preparation of local rental tables (Mietspiegel) that set out rental values within the locality and, to some degree, the publication of rent overviews.

Under s. 198BauGB as amended in 2008, state boards of expert valuers or central offices of boards of expert valuers must be established for one or more higher administrative authorities, if there are more than two boards of expert valuers within the respective federal state. The stated

III.6-2: Local boards of expert valuers per federal state (as of Nov. 2009)
objective of this is the supra-regional evaluation and analysis of the situation in the real estate market. Unlike central offices, state boards of expert valuers may be commissioned by courts to prepare review reports on an existing valuation issued by a board of expert valuers. Boards of expert valuers are generally independent from the state boards of expert valuers or the central offices, but they do cooperate in the assignment of tasks.

### 6.1.2 Publications

## Real estate market reports

Real estate market reports provide a general overview of the real estate market and are
usually published by the boards of expert valuers for their respective overall area of responsibility. These reports may contain information about the general market development as well as other data that is required for valuation purposes.

III.6-3: Publication of local real estate market reports in Germany (reported information) [as of January 2010]

The presentation of the real estate market evaluation and analysis results in these reports focuses on transactions involving both developed und undeveloped land. The evaluation is carried out with a view to the sales figures as well as space and monetary volumes within the various sub-segments. Undeveloped land and residential property is often further distinguished with respect to their particular characteristics; developed and commercial sites are increasingly moving into focus, especially if situated in prominent locations. The presentation of market developments typically includes comparisons to previous years. Some boards also include information about rents for non-subsidised residential housing or rental charges for commercial premises in their real estate market reports. The real estate market reports provide comprehensive data for valuations such as index series, conversion factors, comparison factors for developed sites as well as asset value factors and property yields which were determined by the boards of expert valuers for the local and regional real estate market.

Real estate market reports are usually prepared on an annual basis. In addition to the annual reports, some boards of expert valuers publish updated summary interim market information during the course of the year. These interim reports generally do not contain data that is required for valuations. Because of differing provisions under state law, the preparation of the real estate market report is not binding for all boards of expert valuers. There is thus a strongly heterogeneous approach in the preparation and the content of the real estate market reports. There were several attempts in the past to harmonise the structure and the content of real estate market reports beyond the provisions of state law.

The local boards of expert valuers that participated in the survey for this Report on the German Real Estate Market published information in 2008 on the real estate markets in 208 administrative districts and independent cities in their real estate market reports. If the survey outcome is projected, the result indicates the existence of a real estate market report for approx. $50 \%$ of the area in Germany. A significant difference between the individual federal states becomes apparent (III. 6-3 and Tab.6-1) in doing this. Some federal states are comprehensively portrayed in the real estate market reports of the local boards of expert valuers, while there are some clear spatial gaps in the market description of other states. These figures do not, however, allow a judgment on the actual content or extent of the market reports.

| Existing real estate market reports |  |  |  |
| :--- | :---: | :---: | :---: |
|  | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ |
| Administrative district/ <br> independent cities | 196 | 208 | 277 |
| Area coverage in Germany | $49.3 \%$ | $50.5 \%$ | $59.9 \%$ |

Tab.6-1: Nationwide coverage with real estate market reports (reported information)

In comparison to the previous year, the area covered by market reports has slightly increased.

State real estate market reports are published by the state boards of expert valuers and the central offices; these analyse and evaluate the overall real estate market situation in the federal state. State real estate market reports were not available in all federal states in autumn 2009 (III. 6-4).

III. 6-4: Publication of state real estate market reports (reported information)
[as of autumn 2009]

## Indicative land and real estate values

Indicative land values (Bodenrichtwerte) are average location values in terms of money per square metre of land $\left(€ / \mathrm{m}^{2}\right)$. They apply to land only and should take into consideration various land development conditions. The values are not limited to populated areas and may also be determined for agricultural and forestry land as well as other types of land. Under s. 196 BauGB, indicative land values are to be determined by boards of expert valuers over a wide area and by utilizing the collected purchase prices; under s. 193(5)BauGB, the determination is obligatory. It can therefore be presumed that indicative land values are available for all developable land in Germany.

Indicative land values are not binding and serve as guidance for market participants only. Under s. 196 BauGB as amended on 1st July 2009, indicative land values for indicative value zones must be determined in accordance with the allowable extent of development on comparable land. It is no longer permissible to show an indicative land value by way of referencing a certain location-typical property as was done in the past from time to time. Nowadays, sites with comparable characteristics that have an influential effect on their value must be grouped in indicative land value zones (zonal indicative land values). These characteristics that have an influential effect on the value of the (possibly notional but location-typical) indicative land value site are presented; it is only if they are included, that the indicative land value gains essence (III. 6-5).

III. 6-5: Zonal indicative land values example: City of Braunschweig

Apart from the determination of the current market value, indicative land values are gaining increasing significance in the assessment of taxes. Indicative land values must therefore be determined for various land development conditions. The determination of indicative land values must take place at least every two years. However, in reality they are usually re-determined every year. The determination of indicative land values takes place by means of various methods. In built-up, especially city-centre locations, it is also possible to determine current indicative land values by way of comparative examinations.

## Indicative land values for developable land

There are indicative land values for almost all developable land in Germany. In 2008, the boards of expert valuers that were involved in the preparation of this real estate market report determined approx. 170,000 indicative land values. These include both zonal as well as location-typical indicative land values. With the help of this data it is possible to estimate the number of indicative land values for developable land that are determined every year to be in the region of 240,000 .

## Indicative land values for agricultural land

In 2008, local boards of expert valuers determined indicative land values for agricultural land for 231 administrative districts and independent cities in Germany; that is 37 more than during the previous year and corresponds to an increase in coverage of $6.4 \%$ (Tab.6-2). Further improvement can be expected because of the building code amendment.

| Agricultural indicative land values |  |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Administrative <br> district/independent <br> cities | 194 | 231 |
| Area coverage in <br> Germany | $51.8 \%$ | $58.2 \%$ |

Tab.6-2: Nationwide coverage with agricultural
indicative land values (reported)

## Special indicative land values

Apart from the conventional zonal indicative land values, there are so-called special indicative land values. Under s. 196(1)BauGB, special indicative land values are determined upon request for individual areas in relation to a different point in time. Special indicative land values are of paramount importance in urban development and redevelopment in order to absorb any indicative land value increases that are brought about by these measures (III. 6-6).

III. 6-6: Special indicative land values - example: City of Stendal [effective date 01.01.2009]

## Indicative real property values

Indicative real property values (Immobilienrichtwerte) are comparative values under s.193(5) No.4BauGB and are determined by some boards of expert valuers, in particular in NorthRhine Westphalia. However, they only apply to developed locations and expressly include, in addition to the indicative land value, the value share of the location-typical building that is erected on the site. The determination includes an analysis of the building or plot characteristics that may have an influence on the value. These characteristics, that may have an impact on the value, are indispensable for the determination
of the indicative real property value (III.6-7). Indicative real property values are typically determined per square metre residential area and are not binding. They indicate a price level for the respective area while considering a multitude of value-altering characteristics for the area. But just like indicative land values they do not directly reflect the market value of an individual property.

III. 6-7: Location-typical indicative real property values in the City of Düsseldorf

## Other real estate market information

Some boards of expert valuers prepare reports including the information on rental charges they collect on an ongoing basis or in respect to a certain reference date. Apart from the determination of data that is required for valuation purposes, the property yields in particular, these rental charges are also used to determine typical local rental yields and for the determination of indicative land values in developed locations. The rental yields for investment properties are obtained directly by the owner or the user and may include commercial rental spaces in addition to the residential rental spaces. There is, however, no express statutory requirement for the collection and evaluation of rental charges.

In 2008, boards of expert valuers collected information on rental charges for 153 administrative districts/independent cities in Germany (Tab. 6-3).

| Collection of information on rental charges |  |  |
| :--- | :---: | :---: |
|  | $\mathbf{2 0 0 7}$ | 2008 |
| Administrative district/ <br> independent cities | 141 | 153 |
| Area coverage in <br> Germany | $36.3 \%$ | $38.2 \%$ |

Tab.6-3: Nationwide collection of information on rental charges (reported)

The distribution of the collected information on rental charges is quite heterogeneous throughout Germany. In some federal states the collection of rental charge information is comprehensive; however, in others it is rather sporadic. No examination is made regarding whether there are rents for residential or commercial spaces. In comparison to the previous year, the share of information on rental charges collected by the boards of expert valuers increased by $1.9 \%$; this corresponds to an absolute increase of 12 administrative districts or independent cities respectively. Similar to the collection of data on purchase prices, having the collected data be up-to-date is of great importance.

A rental table (Mietspiegel, i.e. 'rent mirror') is an overview of typical local comparable rents for rentable residential spaces. In order to warrant independence and close market proximity, the rent tables must be recognized by representatives of tenants or landlords and the local municipality and must be updated frequently. Boards of expert valuers can support the preparation of rental tables in many ways. Some of them can provide the necessary information on rental charges, have the necessary statistical competence and the required independence.

In order to expand the database, the overviews of rental charges for commercial rental areas are sometimes prepared in cooperation with the real estate market participants.

In 2008, boards of expert valuers were involved in various forms in the preparation of rental tables in 43 of the German administrative districts and independent cities.

Upon request, many boards of expert valuers also provide various evaluations on certain aspects of the land and real estate market for market analysis purposes or special valuation tasks that are based on the collected purchase price information. This may include information on yields, real estate transactions in the course of foreclosure auctions etc. Depending on the request, the objective of such an analysis may be quite individual, provided that the collected purchase price information can be evaluated accordingly. Boards of expert valuers are thus able to respond to specific requests in a sufficiently timely manner.


# 6.2 Other official publications 

### 6.2.1 Publications of the Federal Statistical Office

The Federal Statistical Office (Statistisches Bundesamt) keeps numerous statistics on the development of the real estate market and the people that are employed in the industry. The "Projektbericht: Immobilienwirtschaft in Deutschland 2006" ("Project Report: Real Estate Economy in Germany 2006") was published on 16th April 2007 and can be accessed from the homepage of the Federal Statistical Office (http:// www.destatis.de). The report gives an overview of the existing, ongoing real estate market statistics that are kept by the Federal Office. The project report is published at irregular intervals, but up-to-date statistical data is available. The statistics of the Federal Office focus on the corporate structure and the residential real estate market.

The data of the Federal Office is collected for all of Germany and presented in an aggregate manner. Some data is collected by way of full survey, some data by way of random samples. The board of expert valuers' role in this respect is to supply the data. Individual statistics on the real estate market are published on an annual or quarterly basis, others, however, are only recorded for the present moment in the course of a public census and then statistically projected. Apart from the individual statistics, the Federal Statistical Office provides in its quality reports information on the origin of data, survey type and the purpose of surveys.

The relevant information on the real estate market can be found in the statistics on construction activities and the statistics on the markets for developable, as well as agricultural and forestry land. In addition, a number of index series are published which have gained paramount significance as framework data for the real estate market. These include in particular the construction cost index and the house price index. The data of the Federal Statistical Office and that of the state statistical offices is much more
aggregated than the data of the boards of expert valuers. The target group for the issued data are the observers of the economic development, real estate market participants and the general public. The statistical offices do not analyse or interpret the data.

### 6.2.2 Information from the Federal Institute for Research on Building, Urban Affairs and Spatial Development

The Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) im Bundesamt für Bauwesen und Raumordnung (BBR) (Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) within the Federal Office for Building and Regional Planning (BBR)) conducts research on the transparency of the real estate market. The BBSR provides data and evaluations for the federal government, federal ministries and real estate market participants throughout the country. Both official as well as commercial information sources are utilized as data sources for the studies by the BBSR. The federal institute maintains its own database on the spatial and urban development (INKAR).

The federal institute is to publish the report "Wohnungs- und Immobilienmärkte in Deutschland" (Residential and Real Estate Markets in Germany) in 2010 which is to continue the series of reports under the same name from 2007. The reports, which are published every two to three years, include, apart from an analysis of the general conditions of the real estate market, an analysis of the markets for developable land and the residential and commercial real estate markets. The focus of the report is on the general development of the comprehensive German real estate market which is examined with respect to the supply and demand structure. Data is mainly represented graphically; spatially-aggregated data is often presented in the form of tables.

Unlike the boards of expert valuers, the reports do not include a closer examination of the local conditions. Unlike the publications of statistical authorities, the focus of the BBSR is on evaluation and analysis.

Further information is available on the Internet at http://www.bbsr.bund.de.

### 6.2.3 Information from the Deutscher Städtetag

The working group "Valuation" within the specialist commission "Kommunales Vermessungs- und Liegenschaftswesen" (Municipal Surveying and Real Estate) of the Deutscher Städtetag (i.e. congress of municipal authorities) has published its report "Immobilienmarkt in großen deutschen Städten" (Real Estate Market in Major German Cities) in the magazine "Der Städtetag" since 1955. The main component of the study is the transaction situation in the residential real estate market in the now more than 60 German cities. The participating cities are situated throughout Germany. The objective ofthis survey is to describe the development of the city-centre real estate markets in major cities. The study is primarily directed at the decision and policy makers of the cities that are members of the Städtetag, but the data is also used by many market participants and scientific institutions. The study of the overall real estate market has 1st April as its reference date and is collected directly from the boards of expert valuers by means of comprehensive questionnaire. The presentation of results is both graphical and numerical and facilitates conclusions in regards to the individual results of the respective cities. The data is published the summer after it is collected. The magazine "Der Städtetag" contains an abbreviated version. A detailed presentation of the results can be found on the homepage of the Städtetag.

Apart from that, there is a second publication which deals exclusively with the development of the residential real estate markets ("Markt für Wohnimmobilien"). This study has 1st January as its reference date and is also compiled from the boards of expert valuers in the course of a quick poll. This quick poll principally makes separate enquiries on the tendencies of the various residential real estate market segments within local markets. But it also contains shortterm projections for the next six months. The result of the study is published at the beginning of February.

It contains a presentation of the substantive results of this long-term examination of the city-centre residential real estate markets in Chapter 3.4.

You can obtain further information online at http://www.staedtetag.de. The current main focus points are the residential real estate market report and the real estate market report. Past reports can be partially accessed via the search function.


# 6.3 Real estate industry 

### 6.3.1 General information

A multitude of information on the German real estate market is published by the real estate industry in order to increase transparency. Some publications focus on individual segments such as the residential real estate market or commercial real estate. Other publications concern themselves with specific objectives and focus areas such as investment property or ancillary costs of buildings. The existing market information is often spatially limited to individual regions or presents the comprehensive German market in an aggregated manner by presenting selected, major markets. A comprehensive presentation in the form of comparable information on all essential sub-segments and objectives does not yet exist. Surrounding areas and rural regions are usually not considered at all.

The available market information on the German real estate market is differentiated below according to market observers and market participants. Market participants are active, independent market players, who pursue a certain objective and who, at the same time, generate market data and information from their market activities. However, their objectivity in relation to their ability to determine market data remains unaffected by this - this is not only possible but also generally the case. A market observer, on the other hand, evaluates market data objectively and without being influenced by any results that may be desired by a third party. This market activity allows independent market information to be generated. The Gesellschaft für immobilienwirtschaftliche Forschung e.V. (Society for Real Estate Economic Research) has evolved as a coordinating body for commercial market participants and market observers since 1993. Apart from research in the real estate sector, the society also strives for harmonisation and standardisation of market data and the determination of same.

The publications contained in Chapter 6.3.2 is a non-evaluated list of publications that are intended to provide a complete overview of the real estate market in Germany. This list does not claim to be complete. There is a multitude of other information sources for regional and local segments of the real estate market.

### 6.3.2 Publications

## Study "Real Estate as an Economic Factor"

The Deutscher Verband für Wohnungswesen, Städtebau und Raumordnung e.V. (German Association for Housing, Urban and Spatial Development) and the Gesellschaft für immobilienwirtschaftliche Forschung e.V. (Society for Real Estate Economic Research) published the study "Wirtschaftsfaktor Immobilien - Die Immobilienmärkte aus gesamtwirtschaftlicher Perspektive" ("Real Estate as an Economic Factor - The Real Estate Markets from a National Economic Perspective") during summer 2009. The study, which builds on research from 2003, examines the real estate market on an aggregated, overall national economic level and concerns itself with its significance. Apart from the real estate market itself, there is a particular focus on the underlying values and persons. The study was carried out by independent scientific institutes and is used for analyzing existing data from public authorities and commercial suppliers of information. No separate collection of data took place to any considerable extent. Commercial properties, which were examined in regard to prices, rents and users, constitute one significant focus point of the study.

Market Information from institutional market observers (examples)

| Publisher | Publication title | Time/ frequency of publication | Main substantial segments examined/ <br> spatial market coverage | Data basis | Particularities |
| :---: | :---: | :---: | :---: | :---: | :---: |
| European <br> Real Estate <br> Publishers <br> B.V. | "Germany <br> Real Estate <br> Yearbook <br> 2010" | annual | The focus is on the presentation of the commercial real estate markets; residential property is not considered. Mainly exceptional, spatial real estate markets considered. In addition to the regional market development, presentation also includes local projects. | Various data sources are used for the presentation of the real estate market which can, for the most part, be found in the publications of market participants. | Presentation consists of simple text and graphic representations which are loosened up with a multitude of photographs. |
| ifs Institut für Städtebau, Wohnungswirtschaft und Bausparwesen; prepared by GEWOS Institut für Stadt-, Regional- und Wohnforschung GmbH | "Preisentwicklung für Wohneigentum in Deutschland" ("Price Development of Residential Real Estate in Germany") | Autumn 2009/ annual | Analysis of transactions involving detached homes and freehold flats only. Apart from the current overall development in Germany, the analysis also describes the development within the individual federal states and selected regions. The evaluation of transactions includes a statistical quantity analysis. The smallest aggregate level is the administrative district/ independent city, but it is not comprehensively represented. | The data in the utilized IMA database is based on the market information provided by the boards of expert valuers. | In addition to the graphic representations, the aggregate figures on which these are based, are also published. |
| ImmobilienZeitung; prepared by Empirica, GfK GeoMarketing, BulwienGesa AG | "Frühjahrsgutachten Immobilienwirtschaft 2010 des Rates der Immobilienweisen" (Spring Report Real Estate Sector 2010 from the Council of Real Estate Experts) | February 2010/ planned | The focus of the publication is on office, retail and residential real estate. In terms of geographic location, the seven most important locations are examined. The evaluation presents the market for rental spaces within the individual real estate markets only and provides economic framework data. Apart from the development of turnover and rental charges, the evaluation also includes package deals. | The analysed data is derived from internal commercial surveys by the authors; however, their extent and origin is not stated. | The results are presented in graphic and numeric format. |

Market information from banks (examples)

| Publisher | Publication title | Time/ frequency of publication | Main substantial segments examined/ spatial market coverage | Data basis | Particularities |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bausparkasse der Sparkassen/ LBS Immobilien GmbH | "Markt für <br> Wohnimmobilien 2009" <br> ("Market for Residential Properties 2009"); Data Facts - Trends | annual | The publication provides an overview of the residential real estate market. It includes data for 650 cities throughout Germany. The report distinguishes between the new construction and the existing housing markets. It considers building plots, family homes and freehold flats. It also presents the framework data for housing loans. | The price table is based on a survey of company employees. The extent of this data is, however, unclear. The framework data is derived from public statistics. | - |
| DEGI mbH | "Neue <br> Perspektive; <br> Marktreport <br> Deutschland" <br> ("New <br> Perspective; <br> Market Report <br> Germany") | March 2009/ annual | The publication concerns itself with the real estate market segments office, retail and logistics. The presentation includes major locations but some medium-sized locations are also considered. The most important office locations in Germany are considered separately; the same applies to portfolio transactions. Framework data is used for the analysis and evaluation of the locations. | The data is based on any publicly accessible sources. | The so-called market data availability index (Marktdatenverfügbarkeitsindex) is published at regular intervals (in 2007 for example). This index assesses the availability of real estate market information in various cities. |
| Dekabank | "Deka <br> Immobilien <br> Monitor ("Deka <br> Real Estate <br> Monitor") | March/ <br> June/ Sept./ <br> December/ <br> quarterly | The publication deals with various European countries. The German market is presented on 14 pages. Particular emphasis is placed on the office market in the six largest locations. Framework data is also provided. | The publication is based on generally accessible data, which to some extent is not verifiable. | - |
| EuroHypo AG | "Marktbericht <br> Deutschland 2009" <br> ("Market <br> Report <br> Germany <br> 2009") | Autumn/ annual | The publication provides a general overview of the situation in the office, retail, hotel and residential real estate markets. The focus is on eight important locations for which a detailed analysis is provided. Apart from the rental market, portfolio sales are considered. | The report is based on centrallyevaluated data from valuations and publicly accessible information. | - |

## Market information from real estate agencies and other market participants (exemplary)

| Publisher | Publication title | Time/ frequency of publication | Main substantive market segments considered/ spatial market coverage | Data basis | Particularities |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Deutsche Immobilienpartner DIP | "Markt und Fakten" ("Market and Facts"); semiannual report | July and January/ annual | The analysis concerns itself primarily with the commercial real estate market for office, retail and commercial spaces in many major locations in which the publisher operates. Apart from the current developments in the spatial utilization markets, the report also includes an outlook. The market condition within the locations is assessed. | The report is primarily based on the experience from the publisher's activities in the real estate market. | The DIP is a country-wide association of nine real estate service providers. |
| Corpus Sireo | "Deutschlandstudie 2006" ("Germany Study 2006") and "Portfoliotransaktionen Deutschland" ("Portfolio Transactions Germany") | No information | The Germany Study places a diverse focus on commercial real estate in Germany. The analysis includes both land use as well as real estate investments. A multitude of framework data is used for the analysis. The analysis is spatially limited to a few major locations. Portfolio transactions are analysed in both publications. | The data is based on a multitude of information from professional market observers and commercial market participants. | - |
| TLG <br> Immobilien GmbH | "Immobilienmarkt Ostdeutschland" ("Real Estate Market East Germany") | Autumn 2009/ annual | The market report covers the office, retail, commercial and residential real estate markets for 27 independent cities in East Germany and Berlin. The focus is on residential real estate. Apart from the spatial utilization market and the market for developed and undeveloped land, framework data is also important for an evaluation of the market. | The TLG market analysis utilizes publiclyaccessible primary information. Apart from the data in the rental tables, this primarily includes information from the real estate market reports of the boards of expert valuers. | The market analysis deals in detail with the East German real estate market. |

## 7 Board of expert valuers in Germany



### 7.1 Website of official valuation in Germany

## Federal web portals

Boards of expert valuers for land values in the states of the Federal Republic of Germany
http://www.gutachterausschuesse-online.de/

Working Group of the Boards of Expert Valuers and State Boards of Expert Valuers in Federal Republic of Germany
http://www.immobilienmarktbericht-deutschland.info

## State portals

Baden-Württemberg
http://www.gutachterausschuesse-bw.de

## Bayern

http://www.gutachterausschuesse-bayern.de

Berlin
http://www.gutachterausschuss-berlin.de

## Brandenburg

http://www.gutachterausschuesse-bb.de

## Bremen

http://www.gutachterausschuss.bremen.de

## Hamburg

http://www.gutachterausschuss.hamburg.de

## Hessen

http://www.gutachterausschuss.hessen.de

## Mecklenburg-Vorpommern

http://www.regierung-mv.de/cms2/Regierungsportal_prod/Regierungsportal/de/im/Themen/
Kommunale_Themen/Geoinformation_und_Vermessung/Grundstueckswertermittlung/index.jsp

## Niedersachsen

http://www.gag.niedersachsen.de

## Nordrhein-Westfalen

http://www.gutachterausschuss.nrw.de

## Rheinland-Pfalz

http://www.gutachterausschuesse.rlp.de

## Saarland

http://www.lkvk.saarland.de

## Sachsen

http://www.gutachterausschuss.sachsen.de

## Sachsen-Anhalt

http://www.lvermgeo.sachsen-anhalt.de

## Schleswig-Holstein

http://www.gutachterausschuesse-sh.de

## Thüringen

http://www.gutachterausschuss-th.de


### 7.2 Contact addresses of Gutachterausschüsse (boards of expert valuers)

## Baden-Württemberg

In Baden-Württemberg, more than 1000 boards of expert valuers are established in the cities and/or local municipalities. Hence, each address has not been listed here, but referred to the Internet portal. The search function for the "Gutachterausschuss" (board of expert valuers) on the portal displays the address of the desired board of expert valuers and/or the city/local municipality.
http://www.gutachterausschuesse-bw.de

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## 9 List of German Abbreviations

| a.d. | (followed by a river name; used to describe a city's situation on a river) |
| :---: | :---: |
| Abs. | Absatz (sub-section of a legal provision) |
| AK | Arbeitskreis (working group) |
| AK-OGA | Arbeitskreis der Gutachterausschüsse und Oberen Gutachterausschüsse in der Bundesrepublik Deutschland (Working Group of the Panels of Experts and Higher Panels of Experts in the Federal Republic of Germany) |
| BauGB | Baugesetzbuch (German Building Code) |
| bb | bebaut (developed; site with building) |
| BB | Brandenburg (federal state) |
| BBI | Berlin Brandenburg International (airport) |
| BBR | Bundesamt für Bauwesen und Raumordnung (Federal Office for Construction and Spatial Planning) |
| BBSR | Bundesinstitut für Bau-, Stadt- und Raumforschung (Federal Institute for Research on Building, Urban Affairs and Spatial Development) |
| BE | Berlin (federal state and city) |
| BGF | Bruttogrundfläche (gross floor space) |
| Bio. | Billion (trillion) |
| BIP | Bruttoinlandsprodukt (gross domestic product) |
| BMR | Bergisch/Märkische Städteregion (region in Nordrhein-Westfalen) |
| BNK | Baunebenkosten (ancillary construction costs) |
| BORIS-TH | Bodenrichtwert-Informationssystem Thüringen (indicative land value information system in the state of Thüringen) |
| BRI | Bruttorauminhalt (gross (room) capacity) |
| Bsp. | Example (example) |
| BVVG | Bodenverwertungs- und -verwaltungs GmbH |
| BW | Baden-Württemberg (federal state) |
| BW | Bodenwert (land value (of a site)) |
| BWK bwU | Bewirtschaftungskosten (management and maintenance costs) besondere wertbeeinflussende Umstände (special circumstances affecting value) |
| BY | Bayern (federal state) |
| bzgl. | bezüglich (in relation/relative to) |
| bzw. | beziehungsweise (respectively) |
| ca. | circa (approximately) |
| CeBIT | Centrum für Büroautomation, Informationstechnologie und Telekommunikation (trade exhibition "Centre for Office Automation, Information Technology and Telecommunication") |
| d. h. | das heißt (id est (i.e.)) |
| DEGI | Deutsche Gesellschaft für Immobilienfonds mbH |
| DHH | Doppelhaushälfte (semi-detached house) |
| e.V. | eingetragener Verein (registered society) |
| EFH | Einfamilienhaus (single-family home) |
| etc. | et cetera |
| G | Gebäudewert (building value) |
| G8 | Gruppe der Acht (Group of Eight) |
| GA | Gutachterausschuss (board of expert valuers) |
| GAG | Gutachterausschuss für Grundstückswerte (board of expert valuers for land values) |
| GE | Gewerbegebiet (trade area (in accordance with land use regulations)) |
| GFZ | Geschossflächenzahl (floor space ratio (FSR)) |
| ggf. | gegebenenfalls (if necessary/appropriate) |
| GLL | Behörden für Geoinformation, Landentwicklung und Liegenschaften (agencies for geo-information, land development and real estate) |
| GmbH | Gesellschaft mit beschränkter Haftung (company with limited liability) |
| GND | Gesamtnutzungsdauer (remaining life expectancy) |
| ha | Hektar (hectare) |
| HB | (Hansestadt) Bremen (federal state and Hanseatic city of Bremen) |
| HE | Hessen (federal state) |
| hG | höherwertige Gewerbenutzung (high quality commercial use) |
| HH | (Hansestadt) Hamburg (federal state and Hanseatic city of Hamburg) |
| i. d. R. | in der Regel (usually, normally) |

i. d. R.
i. V.m.

ImmoWertV
inkl.
insb.
k.A.

Kfz-Kennzeichen
KP
LEG
LK

## max.

MFH
Mio.
MK
Mrd.
MV
NHK
NI
NIDEX
NRW
NW
o.g.
rd.
RE
RND
RoE
RP
s.g.

SächsGAVO

## SH

SL
SN
sog.
ST
TG
TH
tlw.
Tsd.
u.a.
u.ä.
ub
usw.
v.I.

VG
vgl.
WE
WertR
WertV
z.B.
Z. T. zum Beispiel (for example)

ZFH
ZGGH
im Sinne der/des (for the purposes of)
in Verbindung mit (in conjunction with)
inklusive (inclusive)
insbesondere (in particular)
No information (no information available)

Landkreis (administrative district)
maximal
Million
Milliarde (billion)
rund (approximately)
Reinertrag (net proceeds (of a property))
Rohertragsfaktor (gross yield factor)
so genannte (so-called) for the state of Sachsen)
Schleswig-Holstein (federal state)
Saarland (federal state)
Sachsen (federal state Sachsen)
so genannt (so-called)
Tiefgarage (underground car-parking)
Thüringen (federal state Thüringen)
teilweise (partially/in parts)
Tausend (thousand)
und ähnlich (and the like)
unbebaut (undeveloped/not built upon)
und so weiter (and so forth)
von links (from left)
Verbandsgemeinde (association)
vergleiche (compare/see) market value of real estate) the market value of real estate)
zum Beispiel (for example)
zum Teil (partially/in parts)
Zweifamilienhaus (two-family home)

Immobilienwertermittlungsverordnung (real estate valuation regulations)

Kraftfahrzeugkennzeichen (vehicle registration)
Kaufpreis (für das Grundstück) (purchase price (for the property))
landeseigene Entwicklungsgesellschaft (state development organisation)

Mehrfamilienhaus (multi-dwelling unit/apartment block)
Kerngebiet (core area (in accordance with land use regulations))
Mecklenburg-Vorpommern (federal state Mecklenburg-Vorpommern)
Normalherstellungskosten (normal production costs)
Niedersachsen (federal state Niedersachsen)
Niedersächsischer Immobilienindex (real estate index of Niedersachsen)
Nordrhein-Westfalen (federal state Nordrhein-Westfalen)
Nordrhein-Westfalen (federal state Nordrhein-Westfalen)
oben genannt (above mentioned/aforesaid)

Restnutzungsdauer (remaining life expectancy)
Rheinland-Pfalz (federal state Rheinland-Pfalz)
Sächsische Gutachterausschussverordnung (board of expert valuers regulations

Sachsen-Anhalt (federal state Sachsen-Anhalt)
unter anderem; unter anderen (among other, inter alia)

Wohnungseigentum (apartment/residential real estate ownership)
Wertermittlungsrichtlinien (valuation guidelines for the determination of the current
Wertermittlungsverordnung (regulations on the principles for the determination of

Zentrale Geschäftsstelle der Gutachterausschüsse des Landes Hessen
(central office of the boards of expert valuers in the federal state of Hessen)

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[^0]:    III. 2-14: Overall residential area of approved new developments (excluding hostels/residential homes etc.)

[^1]:    *participation per municipality

[^2]:    Showing package deals only related to Berlin.
    ${ }^{2)}$ Including small houses, villa plots a.o.

