Structure of my Paper: 6 Points

1. Law and Organisation of Valuation in Germany: Advisory Committees and private Valuers
2. Digital Purchase Prices Collections and the Analysis
3. Standard Ground Values – derivated annual
4. Reports of Real Estate Markets – derivated annual
5. The best German Way to find Market Values: Comparison Method with Conversion-factors
6. Looking in Today and in Future: The new Online-Price-Calculator for Standard-objects and Presentation in Internet for everybody, for all user!! And the German Project „VBORIS“

Aim of our works:
Providing Transparency in Markets of Real Estate:

Point 1:
- Law and Organisation of German Valuation,
- Advisory Committees and private Valuers
- Purchase Price Collection
Legality - the base by law and following instructions

- § 194 Federal Building Code (BauGB): With Definitions
- "Verkehrswert" (Market Value)
- WertV
- WertR

Purpose of all valuations in Germany - Establish transparency for everybody for each property market

Base:
- All contracts of sale in Germany about 1 Million contracts per annum 1,000 to 15,000 per valuation board

Since:
- 1960
- 1976
- 1996

The official Valuation of Real Estate in Germany - the base and all products

Products of valuation committees (1) and independent valuers (2)

Price contour maps, yearly

Expert opinion on market value of a special object (1)

Report on the local market with all important informations, yearly

Annual report of purchase price collection

Since:
- 1960
- 1976
- 1996

The official Valuation of Real Estate in Germany - the base and all products

Essential task: Provide Transparency for all markets of Real Estate by Purchase Price Collections

Valuation of Real Estate in Germany

Valuation Committees

Independent Valuers

Approx. 5000

Approx. 300

The key: At this side "Data Protection"!!!
**Purchase Price Collection**

The diagram illustrates the factors affecting purchase prices, including:
- Special circumstances
- Arrangements into kinds of real estate
- Personal circumstances
- Valuation factors

**Collection of Contracts of Sale**

**Registration of the sold built object in 3 files**

- Index card
- in the map
- File card with picture

**Influential characteristics on market value**

The 4 characteristics mainly influence the property market:
- Location
- Real characteristics
- Economic circumstances
- Legal characteristics

**First steps in 1961 in Lower Saxony with the automatically managed Purchase Price Collection**

- Location
- Size
- Date of selling
- Purchase price

**Collection of contracts of Sale for a build on Real Estate**

- Evaluation of contracts of sale
- Supplementation remaining influences like living space, sanitary facilities,
AKS only in Lower Saxony!!
- Is only made to use for her own (= individual solution !)
- Made from Lower-Saxony to use by Lower-Saxony
- Using by Advisory Committees only
- Constructed with strong individualism
- Using academic knowledge from TU Hannover
- In particular from Professor Werner Ziegenbein
- Realized in 1994 for all Advisory Committees in Lower Saxony
- Temporary used by several of the 16 Federal states

Official "Standard Ground Values"
Presentation in maps annually–
in different typs –
Printed, on CD/DVD
and in Internet

The annual map of recommended
approximate values of land

Digital site plan – product of „AKS“

Presentation of all Prices of Property of Real
Estate in „AKS“

Automatisierte KaufpreisSammlung
Niedersachsen (AKS)“

The automate „Purchase Price Collection“ in „Lower Saxony“ - a very sucessfull story - starting in 1961 - and is running well today

AKS is running and running like the VW constructed in Lower Saxony too

Point 3:
1. Law and Organisation of German Valuation Valuation Committees and private Valuers
2. Digital Purchase Prices Collections and the Analysis
3. Standard Ground Values – derivated annual by Advisory Committees

Geoinformationssystem "ArcView"
Presentation of all Prices of Property of Real Estate in “AKS“

1. Law and Organisation of German Valuation Valuation Committees and private Valuers
2. Digital Purchase Prices Collections and the Analysis
3. Standard Ground Values – derivated annual by Advisory Committees
Standard ground values in the administrative district of Braunschweig (1985, €)

The Highest Standard Ground Values we found in Munich for today:

Maximum: Stuttgart and Munich

Standard Ground Values „Residential Sites“ in whole Germany - in 3D

The Annual Standard Ground Value Map” - Internet-Presentation

Some of 16 German Countries in Germany are ready for online mode – next will follow soon.

Standard Ground Values Presentation in Internet

Start - Einzelauskunft

Enter URL

www.gutachterausschuessenli.de

Start presentation

Standard Ground Values for Business/Commercial Properties: Marketplace: Marienplatz, Centre in Munich
1. Law and Organisation of German Valuation Advisory Committees and private Valuers
2. Digital Purchase Prices Collections and the Analysis
3. Standard Ground Values – derived annual
4. Reports of Real Estate Markets – derived annual by Advisory Committees

"Market Report"
Report of the local market with all important informations

"Price development of Real Estate individual for one-family-houses here presented for Berlin"

"Evaluated objects... for all types you must know"
Point 5:

1. Law and Organisation of German Valuation
2. Digital Purchase Prices Collections and the Analysis
3. Standard Ground Values – derivated annual
4. Reports of Real Estate Markets – derivated annual
5. The best of all German Ways to find out Market Values: Comparison Method with Conversion factors

Conversion - Coefficients for different living-spaces

<table>
<thead>
<tr>
<th>Living space m²</th>
<th>100.00</th>
<th>130.00</th>
<th>160.00</th>
<th>190.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.00</td>
<td>1.10</td>
<td>1.20</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Reports of Real Estate

This is the first Report of whole Germany – produced by Eurohypo

In English!!

The expensive, the extravagant solution:

Write „Expert Opinion“, for example: 1000 Euro fee

Valuation of build-on Properties in Germany

The daily works of Experts of Valuation
German Valuers know 3 Methods
to find out the Market value of a build – on property,
written down in German Law:

1. Comparable method of valuation
   („Vergleichswertverfahren“)
2. Income approach to valuation
   („Ertragswertverfahren“)
3. Depreciated replacement coast approach or
   Asset value method („Sachwertverfahren“)

The very best
Strategy of Comparable Method

Strategy: Comparable Method

Comparable objects - digital pictures, registered in the Purchase Price Collection

Evaluation of market value

In Germany 3 methods are being used

- Price comparison
- Capitalisation method
- Summation method

What is the price of a comparable property?
What is the price of the property?
What is the price of the stronger and the building substance?

Result: Comparable value

- „Return“ value
- „Real“ value

Transformation to level valuation object

Comparable-factor

Distance between both objects

Original-Purchase price
€/m² living space

Reduction, Extra pay

Result: 887 X 168 = rd. 149 000 Euro = Wanted Value of valuation object!

Look: „Data-protection is kept“!!
Only „Municipality“ is written

Data Protection

Carry out a spot check for an „Expert opinion“:
The best 15 comparable objects with there 9 characteristics are be found
by AKS and are written down

Looking for e.g. 15 best comparable objects in the whole region with characteristics near the valuation object (mostly 300 to 600 contracts in one year)

Strategy of Comparable Method
Report of Real estate market
Influential factors and their quantity of influence

One-family houses
In region Lüneburg, marketed, written down in €/m²-living-space
of an object to a deadline of 01.01.2003

5 characteristics are influential
on market value of real estate:
- Year of construction
- Living space
- Furnishing of the building and Dimensions and plot and site
- Location

Object: Constructed: 1975, Living-space: 100 m², Furnishing: normal, Plot: 830 m², Value of plot: 600 Euro without development.

Differences in furnishing, workflow and so on will guide to values of more and less max. +/- 20 %

Object:
Constructed: 1975, Living-space: 100 m², Furnishing: normal, Dimensions of plot: 830 m², Value of plot: 600 Euro without development.

Look right into graphics: ca. 1850,- €/m² * Factor 1,16 *

Comparable Value:
round 225.000,- Euro

A short view to North Rine Westphalia and to the Product BORIS.NRW

Description of Parcel

Main-Functions

Choose Adresse

Extract of Map with Valuation Object

Point 6:
1. Law and Organisation of German Valuation
Valuation Committees and private Valuers
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5. The best German Way to find out Market Values:
Comparison Method with Conversion-factors
6. Looking for Today and in Future: Writing an Online-Price-Calculator for Standard-objects and present it in Internet for everyone, for all users
Here: For build-on Objects !!!
We have seen a solution with „BORIS“, realized for NRW (Presentation Wanzke this day)

Informations about Values of Standard-houses via Internet in IRIS.NRW

Target: Average Values of site for:
• One- and two-family-houses
• Condominiums
• More-family-houses
• Row houses

Survey of Stages of Development during the last 40 years:
Valuation of Real Estate: The German Approach

Technological development

Electronic data processing

Internet, e- and m- Commerce

Networking GIS - Support

Electronic data processing

Situation of public-authority Valuation in Germany, specially in Lower-Saxony

Aim of research:
10 transactions or more !!
Not found 5 transactions:
No information !!
IRIS-NRW

- vom Browser
- als PDF-Dokument
- oder als Karte

Ergebnis der Recherche

ca. 75 800 Euro

BORISplus – Inquiries of Price-level

ETW-Condominiums

Outlook of all 16 Countries in Germany:
VBORIS
(Vereinigtes BodenrichtwertinformationsSystem)
German-wide tuning in an ADV - Project

VBORIS-Modell is GDI-conform
Link up to a network, named:
Bodenrichtwertinformationssysteme der Bundesländer and their network (VBORIS)
Integration with other products of Advisory Committees are intended (Report of Real Estate, Influencial factors, ...)

„IPC“
Immovables-Price-Calculator in Lower-Saxony (Germany)

The youngest Online-Product of Advisory Committees in Lower Saxony
Calculate the Price of your Property
... And now: A new Way to provide Transparency in Real Estate Markets - Something like „BORIS“ in NRW …

Who will be the users for „IPC“?

We think, like users of Standard Ground Values in Internet?

LOGIN
by
Standard
Ground
Values all
the time:

1. Banken = 80% !!

2. Administrative Bodies

Charge, fee:
round about 20 Euro per question (like NRW)

Projekt 2006 in Lower Saxony (Germany)

A rough Calculation of Market-values of One-Family-Houses and Condominiums

... based on Models of the local Advisory Committees of Valuation
Construction and Function of „IPC“

Inquiries of Price-Level of Residential-houses (Standard-typs) (EFH, DHH, ETW, RH / Fee: 19.90 €)

No Marketvalue!
Influential Factors for Calculation

1. Year of construction
2. Living space
3. Location = Ground Value
4. Size of parcel

These are the 4 most influential factors all the time in valuation of Real Estate in Germany

Possibilities of Application

Homogeneous parts of market:
- One-family-house
- Twin-houses
- Row-houses
- Condominiums

Not use for Special-objects!
No consideration special influences!

Resonance

Visitors / Login = 150/day and more
Freistehende Ein- und Zweifamilienhäuser
in Abhängigkeit von Lage und Baujahr

Baujahr €/m² Wohnfläche

BRW 10 €/m² 550 650 770 875 950
BRW 30 €/m² 610 725 870 975 1050
BRW 50 €/m² 710 830 970 1075 1150

Korrekturfaktor bei abweichender Wohnfläche

0,70
0,80
0,90
1,00
1,10
1,20
1,30
1,40

Wohnfläche in m²

Korrekturfaktor

Example in Market-Report:

Nachweisbar nehmen fünf Merkmale Einfluss auf den Wert derartiger Grundstücke:

- Baujahr,
- Wohnfläche und
- Ausstattung des Gebäudes
- Größe und Lage (in Form des Bodenrichtwertes) des Grundstücks.

Anwendungsbeispiel:

Freistehende Ein- und Zweifamilienhäuser
Im Bereich des Landkreises Musterort, angegeben in €/m²-Wohnfläche des Objektes zum Stichtag 01.01.2003

Wertverhältnisse für ein Objekt mit 130 m² Wohnfläche, 830 m² Grundstücksfläche und mittlerer Ausstattungsqualität

Umrechnungskoeffizienten für abweichende Wohnflächen
Abweichungen in Ausstattung und Unterhaltung führen zu Mehr- oder Minderwerten von bis zu 20 %.

Objekt:

Baujahr 1975, Wohnfläche 100 m², Ausstattung normal, Grundstücksgröße 830 m², Bodenrichtwert 60 €/m² ohne Erschließung.

Nach den Grafiken: ca. 1850,- €/m² * Faktor 1,16 * 100 m² Wohnfläche

Vergleichswert: rund 225.000,- € inkl. Bodenwert

Construction and Function of „IPC“

Calculation of „multiple Regressions“
(Formula-Example: Referring to a special Condominium in Region of Wolfenbüttel)

\[ \text{Target} = a \cdot K_{\text{BAUJ}} + b \cdot K_{\text{LIVE}} + c \cdot K_{\text{ITAL}} + d \cdot K_{\text{FLAC}} + e \cdot K_{\text{WORT}} + \text{Absolutglied} \]

Example IPC I
Example IPC: Step 1

Example IPC: Step 2

Example IPC: Step 3

Example IPC: Step 4

Auskunft über das Preisniveau einer Immobilie mit folgenden Daten:

Objektart: Reihenhaus/Doppelhaushälfte
Bodenrichtwert: 555 €/m², MI g III
Gemeinde: Osnabrück, Stadt
Baustil: 1960
Straße: Natrupe Straße
Wohnfläche: 100 m²
Grundstücksgröße: 166 m²
Das mittlere Preisniveau der Immobilie beträgt: 110.000 €
Summary „IPC“

- With IPC you will find informations about level of prices of standard-objects of residential buildings:
- Free standing One-Family-House (and Two-Family-House)
- Row-Houses and Twin-Houses
- Condominiums

Written-down dates/graphics from the Valuation-Report (analysed with all prices of real estates from the Advisory Committees) are prepared:
- in Online-Station
- possible for Standard-Objects without specific qualities

Target are not MARKETVALUES, but rough values
- Free for everybody in Internet – Fee: 19,90 Euro

Online-Offer of the 16 German Countries

<table>
<thead>
<tr>
<th>Bundesländer</th>
<th>Bodenrichtwerte</th>
<th>Marktbericht</th>
<th>Erforderliche Daten</th>
<th>Auskunft Kaufpreissammlung</th>
<th>Sonstiges</th>
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</thead>
<tbody>
<tr>
<td>Baden-Württemberg</td>
<td>Nein</td>
<td>Nein1</td>
<td>Nein</td>
<td>Nein</td>
<td>Karlsruhe ja</td>
</tr>
<tr>
<td>Bayern</td>
<td>Ja (tlw.); im Aufbau</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
<td>IPK</td>
</tr>
<tr>
<td>Berlin</td>
<td>Ja</td>
<td>Nein *; Teilauszüge ja</td>
<td>Ja</td>
<td>Ja; anonymisierte Vergleichsobjekte</td>
<td>Nein Nein Nein</td>
</tr>
<tr>
<td>Brandenburg</td>
<td>Im Aufbau (bisher PPP), tlw. Ausschnitte</td>
<td>Nein *</td>
<td>Nein</td>
<td>Nein</td>
<td>IPK</td>
</tr>
<tr>
<td>Bremen</td>
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<td>Nein</td>
<td>Nein</td>
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<tr>
<td>Hamburg</td>
<td>Ja</td>
<td>Nein *</td>
<td>Nein</td>
<td>Nein</td>
<td>IPK</td>
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<tr>
<td>Hessen</td>
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<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
</tr>
<tr>
<td>Mecklenburg-Vorpommern</td>
<td>BRW typ. Orte bis 2004</td>
<td>Nein Nein Nein</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
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<tr>
<td>Niedersachsen</td>
<td>Ja (InterBRW)</td>
<td>Ja (PDF)</td>
<td>Nein</td>
<td>Nein *</td>
<td>IPK</td>
</tr>
<tr>
<td>NRW</td>
<td>Ja (BORISplus.NRW)</td>
<td>Ja (PDF)</td>
<td>Nein</td>
<td>Nein Allg. Preisauskunft</td>
<td>Nein</td>
</tr>
<tr>
<td>Rheinland-Pfalz</td>
<td>Ja (BORIS.RLP)</td>
<td>Ja (PDF)</td>
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<td>Saarland</td>
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<tr>
<td>Sachsen-Anhalt</td>
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<td>Nein (nur LMB)</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
</tr>
<tr>
<td>Schleswig-Holstein</td>
<td>Ja (tlw.), auf Seiten der jeweiligen örtl. GAG</td>
<td>Nein Nein Nein Verlinkung auf Seiten GAG</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
</tr>
<tr>
<td>Thüringen</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
<td>Nein</td>
</tr>
</tbody>
</table>

Quelle: www.gutachterausschuesse-online.de
Stand Juni 2008

City of Brunswik – Explanations:

Die Karte gibt einen Überblick über das Preisgefüge von Eigentumswohnungen innerhalb des Stadtgebietes Braunschweig.


Es wird der Kaufpreis pro m² Wohnfläche in der entsprechenden Lagezone dargestellt.

Die Marktrichtwerte präsentieren das Preisniveau für Eigentumswohnungen, f. d. gilt:

Wohnfläche [qm]: 70
Bauzeitklasse: 3

Die Marktrichtwerte sind nicht geeignet, unmittelbar auf den konkreten Verkehrswert einer Eigentumswohnung zu schließen.

Hinweise:

Die Marktrichtwerte können für Eigentumswohnungen mit einer Größe v. 30 qm bis 125 qm berechnet werden.

Als Bauzeitklasse können gewählt werden:

Baujahrsklasse 2: 1920 =< Baujahr < 1945
Baujahrsklasse 3: 1945 =< Baujahr < 1970
Baujahrsklasse 4: 1970 =< Baujahr < 1985
Baujahrsklasse 5: 1985 =< Baujahr < 1995
Baujahrsklasse 6: 1995 =< Baujahr

Für Gebäude, die vor 1920 errichtet wurden (Baujahrsklasse 1) ist keine Berechnung möglich.

New: Analysed and published in 2009 by Advisory Committee of Brunswik (with Master-Student), in continue Works in Düsseldorf of Advisory Committee:

Standard Market-Values of Condominiums/Appartments for the City of Brunswik

Standard Market-Values for Condominiums/Appartments in Brunswik

Our actual aim:

One Report
- for all Countries of Germany
- for Plots and Buildings
- with indices
- with Comparables Factors
- with Standard Ground Values
Results in Germany today

- **Summary:** With our concept to analyse Collections of contracts of sale Germany is going a good and successful way to make transparency on Real Estate Markets in Germany.
- Today we offer the Immobilie-Price-Calculator for Standard-Objects in Lower Saxony
- NRW and AdV Arbeitsgemeinschaft der Vermessungsverwaltungen der Länder) work out VBORIS for Standard Ground Values in Internet and BORISplus for immovable properties
- In whole Germany we write one Report for all types of German Immobles, written by 16 Committees of Valuations of the 16 countries

A last view to Lower-Saxony:

Informations of Valuation Committees via Internet – here Standard Ground Values - that is a very successful way!
Please visit us:
www.gutachtachterausschuesse-ni.de

Providing Transparency in Valuation of Markets of Real Estate – we are going a successful way

Hand over „GIS Best Practice Award 2008“ for Advisory Committees in Lower Saxony to „IPC – Lower Saxony“
- on INTERGEO 2008 in Bremen by this Union of Authorities of Valuation of Real Estate and GIS