DERIVATION OF
STANDARD GROUND
VALUES FROM
BUSINESS RENTS

Dipl.-Ing. Dieter Kertscher, GLL Braunschweig
Commission 9

Analysis of Rents in Central Area of
Göttingen with the aim to calculate
„Standard Ground Values”

Determination in 2003/2004 by
2 joung graduated engineers, Hartmut
Kompart and Frank Stoffers,
after passing their first State Examination

The famous „Gänse-Liesel”
(Goose-Liesel)
from market-place in Göttingen
Content

Prolog .......................... Göttingen
1 .............................. Introduction
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Göttingen

953
„Gutingi“ first mention in a document from Otto I.
Um 1200
Obtaining authority of town
1351 – 1572
Member of Hansatic League
1737
Opening of Georg-August-University

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Göttingen

Carl Friedrich Gauß (1777 – 1855) –
the „greatest son“ of the town

- Studies in Göttingen (1795 – 1798)
- 1807-1855 Professor of Astronomy
  and Director of University-Observatory
Inhabitants today

130,000

Belonging to it

25,000 Students

A very young town!!

No demographic problems!!

Many modernizations, a very active redevelopment area!

Introduction

Order: From Board of Expert Valuers in Göttingen 2003

Aim: To verify the existing division into zones and values in Standard Ground Value Maps of Göttingen ...

in Central Business District (CBD) of Göttingen

Last determination in Göttingen was done in 1997 6 years before
Introduction

A wellknown problem ...

*The Evaluation of Standard Ground Values in Central Business Districts*

- There we found any purchase prices or only few
- mostly undeveloped sites
- there are no normal course of business
- We must go other ways, with other correlations to value
- Valuation by capitalization of rental income, e.g. rents of business accommodation
The idea:
Location value method with rents

- Better quality of location
- Higher rents
- Higher ground values

Exclusive locations of business are influenced significantly from:
- Level of rents in ground floor
- Level of ground values

You see:
Analysis in the 1970s... years in Osnabrück and in Offenbach:
- Rents of business area and Ground Values - there is a very high correlation!!

Round: 26-times !!!!
Introduction

Proceedings are not new! Evaluations e.g. from:
- Goal analysis with addresses to the target group („Zielbaum-Methode“) – Going like on a tree with branches
- Revaluation, roll forward, with index series
- Rental Column valuation method (Kleiber) („Mietsäulen-Verfahren“)
- „Mietlage-Verfahren“ from Schmalgemeier, a locational analysis with rents of all properties
- Residual valuation method
- „Pedestrian flow“ or „intersubjectiv appraisal“

Ways of solution:
Relation between ground level and rents of business areas and other successful ways

We use:
- Goal analysis with addresses to the target group („Zielbaum-Methode“) – Going like on a tree with branches
- Revaluation, roll forward, with index series
- Rental Column valuation method (Kleiber) („Mietsäulen-Verfahren“)
- „Mietlage-Verfahren“ from Schmalgemeier, a locational analysis with rents of all properties
- Residual valuation method
- „Pedestrian flow“ or „intersubjectiv appraisal“
**Now: Data investigations**

7 Steps in analysis the rents in the city of Göttingen (I):

- 1. Opinion, Survey (Questionnaire, asking for the tenants)
- 2. Enter the datas into the computer „AKS“ (Automatic collection of purchase prices)
  (Rent/m² , Total Area , Date)
- 3. Inspection of all objects and addition the dates, written by tenants
  (Furnishing, Photographs)
- 4. Classification shops in classes of furnishing

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**Data investigations**

Part of analysis of rents in the city of Göttingen (II):

- 5. Classification in different locations of retail trade, using an existing report from Larsen & Frels
- 6. Classification in „blocks“
- 7. Derivation of Standard ground values

**But first of all: Briefing the press-agencies**
**Data investigation**

We inform, we brief

Press-agencies

**Was ist Göttingens Innenstadt wert?**

Geschäftsvorsteher wurden von der Stadtverwaltung geahmt.


**Markt für Geschäftsmieten im Blick**

Kernpunkte einer verstärkten Einkaufsvorteilswirtschaft: Abgabe

Der Markt für Geschäftsmieten in der Innenstadt ist aktuell sehr aktiv. Die Nachfrage nach Gewerbe- und Geschäftsräumen ist hoch, was zu steigenden Mietpreisen führt. Die Stadtverwaltung hat Maßnahmen ergriffen, um die Mietpreise zu begrenzen und die Nachfrage zu moderieren. Die Abgabe von Mietoptionen ist eine Möglichkeit, um die Nachfrage zu kontrollieren und den Mietpreisen ein Ende zu setzen.

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**Questionnaires to the tenants, the first step**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Erdgeschoss 4/0</td>
<td>80</td>
<td>Reisebüro</td>
<td>800,-</td>
<td>04.04.04</td>
<td>20.04.04</td>
<td>Nach einem Jahr</td>
</tr>
<tr>
<td>1. Obergeschoss</td>
<td>100</td>
<td>Friseur-Betrieb</td>
<td>1.400,-</td>
<td>04.04.04</td>
<td>20.04.04</td>
<td>Nach einem Jahr</td>
</tr>
<tr>
<td>2. Obergeschoss</td>
<td>44</td>
<td>Heilpraktiker</td>
<td>260,-</td>
<td>04.04.04</td>
<td>20.04.04</td>
<td>Nach einem Jahr</td>
</tr>
<tr>
<td>1. Obergeschoss</td>
<td>70</td>
<td>Massagepraxis</td>
<td>799,-</td>
<td>04.04.04</td>
<td>20.04.04</td>
<td>Nach einem Jahr</td>
</tr>
</tbody>
</table>
Data recording

Data recording

Rewind of questionnaires

- 642 questionnaires
- 385 rewinds
- 192 complet usable
- adress from federation of retail trade
- Dates in addition from one federation of real estate

Classification of furnishings

Dividing into 5 classes

The „typical Göttinger shop“ (medium class)

- with medium window area (50-70%)
- Daylight
- Entrance: at-grade up to one stair
- shop area 80 sqm and 110 sqm
- medium ceiling hight (2,30 – 2,80 m)
- and medium – class technical equipment
Data recording

Classification of furnishings (like in school)

Class 1: presented all their characteristics from class 3 and in a better way

Class 2: presented all their characteristics in a good way

Class 3: The „typical“ Göttinger shop

Class 4: The quality of class 3 is hardly developed

Class 5: the quality of class 3 is not developed
Furnishings of shops in Göttingen

Data recording

Very helpful: Frequenz-Report
Transfering the Frequenz-Report into the Standard ground value map

Data Recording

Next step: Forming of blocks

- 45 blocks
- partially no rents
- serve for table of location classes
- small structured classification
**Data Recording**

Transfer the blocks into streets

**Input of datos and facts into the data collection, named „Automatic Purchase Prize Collection“**

- **AKS – Automatic Purchase Prize Collection**
- **Input of following Datos:**
  - Number of Object
  - rent(Net-rent/sqm)
  - size (area in sqm)
  - Date of selling
  - last rent review
  - Type of use

- **Additional Datos**
  - Classification of furnishing
  - Number of „Blocks“
  - Retail location

... This was the biggest part of works !!!!!!
**Evaluation, Analysis**

<table>
<thead>
<tr>
<th>Strategy of Evaluation</th>
</tr>
</thead>
</table>

1. **Determination of average rents of business accommodation on base of asked rents**
   - for a typical shop
   - in average location of business

   → Regression → Standarized rent

2. **Determination of raw income for especially location**

3. **Determination of the theoretical market-value by multiplication the raw-income with a wellknown „gross income multiplier“, determined from the office of Committee of Real Estate.**

<table>
<thead>
<tr>
<th>Strategy of Evaluation</th>
</tr>
</thead>
</table>

4. **Determination of income values of the buildings about gross income of buildings**

5. **Determination of theroretical ground value by subtraction income value of the building from market-value**

6. **Correction of ground values**
Evaluation, Analysis

- **Regression analysis**
  variable: usable floor area, retail location, classification
  Goal: rent
  Elimination of "Runaways", e.g. 3 extremely great
  floor area
  Influencing factors:

<table>
<thead>
<tr>
<th></th>
<th>min.</th>
<th>max.</th>
<th>medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor area</td>
<td>14 m²</td>
<td>405 m²</td>
<td>108 m²</td>
</tr>
<tr>
<td>Location of retail</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Classification</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Evaluation, Analysis

- **Results:** Standardized rents for each "contract
  of sale" about measurement (108 sqm), class 3,
  location middle 2a

- **Calculation of a standardized rent for each
  street**
  Average value of standardized rents of one street
  > 84 streets are to be found
Evaluation, Analysis

Standardized rents in the city centre of Göttingen

Total: 192 rents

Analysis of rents in centre of city in Göttingen
**Evaluation, Analysis**

- Determination of Market-Faktors for the analysis of the income-objects

Above comparable properties. Here are the Market-factors (Raw-income-factor) from our AKS and over the last 10 years:

<table>
<thead>
<tr>
<th>Lage</th>
<th>Gerd.-Fläche</th>
<th>Restnutzung</th>
<th>Liegenschaftszin</th>
<th>Rohertragsfaktor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a, 1b</td>
<td>ca. 300 m²</td>
<td>50 Jahre</td>
<td>6,5 %</td>
<td>13</td>
</tr>
<tr>
<td>2a</td>
<td>ca. 400 m²</td>
<td>45 Jahre</td>
<td>7 %</td>
<td>12</td>
</tr>
<tr>
<td>2b</td>
<td>ca. 250 m²</td>
<td>40 Jahre</td>
<td>7,5 %</td>
<td>11</td>
</tr>
</tbody>
</table>
Evaluation, Analysis

- Evaluation of typical use
  from external inspections and common knowledge for each street:

<table>
<thead>
<tr>
<th>Floor</th>
<th>Use</th>
<th>Percentage</th>
<th>Rent (EUR/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground floor</td>
<td>Business</td>
<td>100%</td>
<td>Business rent</td>
</tr>
<tr>
<td>1st floor</td>
<td>Business</td>
<td>50%</td>
<td>Business rent</td>
</tr>
<tr>
<td>or Office</td>
<td>10,- EUR/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or Reside</td>
<td>5,- EUR/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd floor</td>
<td>Office</td>
<td>10,- EUR/m²</td>
<td></td>
</tr>
<tr>
<td>or Reside</td>
<td>5,- EUR/m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd floor</td>
<td>Reside</td>
<td>5,- EUR/m²</td>
<td></td>
</tr>
<tr>
<td>4th floor</td>
<td>mostly Reside</td>
<td>5,- EUR/m²</td>
<td></td>
</tr>
</tbody>
</table>

Evaluation, Analysis

- Determination of raw-income (RE)

Example: (300 m² GFl, 1a-Location)

Ertragswertermittlung (§§ 15 -19 WertV)

<table>
<thead>
<tr>
<th>Miete (nachhaltig erzielbar)</th>
<th>Anzahl der Nutzungsarten und Eingabeart der Mieten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anzahl d.Einheiten</td>
<td>Nutzungsart</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>3. OG Wohnen</td>
<td>135</td>
</tr>
<tr>
<td>2. OG Wohnen</td>
<td>135</td>
</tr>
<tr>
<td>1. OG Büro</td>
<td>135</td>
</tr>
<tr>
<td>EG Geschäft</td>
<td>135</td>
</tr>
<tr>
<td>0</td>
<td>540</td>
</tr>
<tr>
<td>jährlicher Rohertrag</td>
<td>€ 144.636</td>
</tr>
<tr>
<td>davon gewerblicher Anteil</td>
<td>in % 50,0</td>
</tr>
</tbody>
</table>
### Evaluation, Analysis

#### Determination of the Capitalized Income-Value of a building (GE)

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration costs *)</td>
<td>€/m² a</td>
<td>4.860</td>
</tr>
<tr>
<td>Maintenance costs *</td>
<td>€/m² a</td>
<td>4.860</td>
</tr>
<tr>
<td>Operating costs *)</td>
<td>€/m² a</td>
<td>325</td>
</tr>
<tr>
<td>Rental risk in %</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Sum of administrative costs (BWK)</td>
<td>12.613</td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

#### Evaluation, Analysis

- **Determination of Land-Value (new) BW:**

<table>
<thead>
<tr>
<th>Property Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rohertragsfaktor RoF</td>
<td>13</td>
</tr>
<tr>
<td>Bodenrichtwert BRW</td>
<td>1.600 EUR/m²</td>
</tr>
<tr>
<td>Grundstücksfläche GFl</td>
<td>300 m²</td>
</tr>
<tr>
<td>Rohertrag RE</td>
<td>144.636 EUR</td>
</tr>
<tr>
<td>Verkehrswert Vw</td>
<td>1.880.268 EUR</td>
</tr>
<tr>
<td>Gebäudeertragswert GE</td>
<td>1.484.120 EUR</td>
</tr>
<tr>
<td>Bodenwert (Miete) gesamt</td>
<td>396.148 EUR</td>
</tr>
<tr>
<td>Bodenwert (Miete) BW(Miete)</td>
<td>1.320 EUR/m²</td>
</tr>
<tr>
<td>Abschlag</td>
<td>-140 EUR/m²</td>
</tr>
<tr>
<td>Bodenrichtwert (neu) BW(neu)</td>
<td>1.460 EUR/m²</td>
</tr>
</tbody>
</table>
**Evaluation, Analysis**

- **Determination of ground value (with rents) BW:**
  
  $$BW(\text{rent}) = \frac{(\text{Income} \times \text{Factor}) - \text{Income - Value of a building}}{\text{floor space}}$$

- **Determination of corrected land value BRW (new)**
  
  $$BRW(\text{new}) = \left( \frac{BRW(\text{old}) + BW(\text{rent})}{2} \right)$$

  = approximate value !!!!!!
Changes in Values of land in the city of Göttingen

Evaluation, Analysis

Changes in Values of land in the city of Göttingen

-30% ... -15%  -15% ... -5%  -5% ...  5%  5% ... 15%  15% ... 25%

<table>
<thead>
<tr>
<th>Anzahl der veränderten Bodenwerte</th>
</tr>
</thead>
<tbody>
<tr>
<td>-30% ... -15%</td>
</tr>
<tr>
<td>-15% ... -5%</td>
</tr>
<tr>
<td>-5% ...  5%</td>
</tr>
<tr>
<td>5% ... 15%</td>
</tr>
<tr>
<td>15% ... 25%</td>
</tr>
</tbody>
</table>

Veränderung in %
Evaluation, Analysis

- Determination of new Standard Ground Values:
  - Criticism of old Standard Ground Values and their zones
  - Correction of Standard Ground Values: Half weight lend to updated old Standard ground value and half weight lend to determination with rents
  - Correction of zones, if necessary by following the general trend in Göttingen and in southern Lower Saxony
  - There is not a same trend in values over all in the city of Göttingen: Best locations grow up and bad locations fall down. You must analize it bloc by bloc!

Results

1. Standard Ground Values in Göttingen

Standard Ground Values – decided for 1.1.2004
## Results

**2. Level of rents standardized**

... on the base of the opinion poll, done by the Committee of Valuation in Göttingen – referring to shop with medium furnishing and medium size (100 sqm) in ground floor

<table>
<thead>
<tr>
<th>Location</th>
<th>Average rent in ground floor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td>1 A</td>
<td>31,- €/m²</td>
</tr>
<tr>
<td></td>
<td>10,- €/m²</td>
</tr>
</tbody>
</table>

**Results**

**Level of rents Mietniveau in fact**

... are higher, extremely higher in top-locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Average rent in ground floor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td>1 A</td>
<td>21,- €/m²</td>
</tr>
<tr>
<td></td>
<td>4,- €/m²</td>
</tr>
</tbody>
</table>
The Results: Change
Year 1997 – to year 2004 – in Rents and in Values (%)

Press release:

Information for all participants on property market
Thanks to all owners, leaseholders and Institutions = our Assistants, our 2 engineers and the newspaper on the way to reach these two aims:
- Maps of rents and
- of ground-values

Press release:
Newspaper in Göttingen

Information for all participants on property market
Thanks to all owners, leaseholders and Institutions = our Assistants, our 2 engineers and the newspaper on the way to reach these two aims:
- Maps of rents and
- of ground-values
Operating profit:

You see: It’s an *iterativ* procedure

We are going to write the next chapter next year – the third:


Gänse-Liesel - the most expensive point of Göttingen: 1600.- EUR/sqm

München Marienplatz  47.000.- EUR/sqm

But first: Please say your opinion to these works, done in Göttingen in 2003/2004

STANDARD GROUND VALUES, derivated by BUSINESS RENTS in Göttingen

Thank you very much for listening

TS 7D Land Valuation Case Studies I - Dieter Kertscher, GLL Braunschweig