Commercial property prices: What should be measured?

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* This presentation represents the authors’ personal opinions and does not necessarily reflect the views of the Deutsche Bundesbank or its staff.
Questions raised in this presentation

– Why should we care more for commercial property?

– How is commercial property defined?

– Which methods do exist?

– For what can the different aggregates be used?

– What does the situation look like in Germany?

– Where does the difference come from?

– What are our next steps?
Why should we care more for commercial property?

– Commercial property is highly relevant for:
  • the real economy,
  • the financial system,
  • financial stability, and
  • the monetary transmission process,
  • National and Financial accounts.

– Currently, no official statistics are available (at least in Germany).

– Data users push towards the swift dissemination of reliable figures.
Definition issues...

Definitions from various sources:

- **Property that is used solely for business purposes.**
  Definition is somehow tautological.

- **Property bought by a business.**
  Excludes e.g. private households that rent out a flat.

- **Property that generates revenues.**
  Definition excludes non-revenue generating properties within a business.

- **Property intended to generate profit.**
Two worlds of indicators…

- Constant quality property prices
  - Random sample (at the best)
  - Quality adjusted
  - Aimed to obtain the pure price changes

- Performance based measures
  - Portfolio based
  - Not necessarily quality adjusted
  - Aimed to obtain the investment performance
  - Consists of two components
    Total return (TR) =
    Capital Growth (CG) + Income Return (IR)
The price statistics view...

– Observed values are a mixture of three basic components:

\[ \text{Value} = \text{Price} \times \text{Quality} \times \text{Quantity} \]

– The choice of the measure should appropriately be guided by the purpose of the analysis.
For what can the different aggregates be used?

<table>
<thead>
<tr>
<th>Measurement aim</th>
<th>Aggregate type</th>
<th>Use for the concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Transaction-based</td>
<td>Nominal wealth traded on the market</td>
</tr>
<tr>
<td></td>
<td>Stock-based</td>
<td>Nominal wealth in the whole economy</td>
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<td></td>
<td>Transaction-based</td>
<td>Pure price movements</td>
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<td></td>
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<td>Deflation</td>
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<td></td>
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<td>Deflation</td>
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<tr>
<td>Volume</td>
<td>Transaction-based</td>
<td>Real wealth traded on the market</td>
</tr>
<tr>
<td></td>
<td>Stock-based</td>
<td>Real wealth in the whole economy</td>
</tr>
<tr>
<td>Quantity</td>
<td>Transaction-based</td>
<td>Number of transactions</td>
</tr>
<tr>
<td></td>
<td>Stock-based</td>
<td>Physical stock of the economy</td>
</tr>
<tr>
<td>Performance</td>
<td>Total Return</td>
<td>Benchmarking of return on investments</td>
</tr>
<tr>
<td></td>
<td>Cash Flow Return</td>
<td>Benchmarking of return on investments</td>
</tr>
</tbody>
</table>
What does the situation look like in Germany?

**Price and value indices for office property in Germany**

2003 = 100, annual data, log scale

- **vdp price index**, labelled capital value index
- **BulwienGesa price index**, labelled German Property Index
- **IPD value index**, labelled Capital Growth Index

Sources: BulwienGesa AG, IPD and vdp.
Deutsche Bundesbank
Where does the difference come from?

Calculation based on a highly stylised framework:

\[ TR_t = CG_t + IR_t = (1 + \pi_t) \cdot (1 + d_t) - 1 + r_t \]

\[ \approx \pi_t - d_t + r_t \]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Office</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\pi$</td>
<td>-0.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>$d$</td>
<td>1.7%</td>
<td>2.6%</td>
</tr>
<tr>
<td>$CG$</td>
<td>-2.2%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>$r$</td>
<td>4.9%</td>
<td>5.3%</td>
</tr>
<tr>
<td>$TR$</td>
<td>2.5%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

- The total return can overshoot or undershoot the true price development
- The calculation averages the depreciation of the land and the structure.
- Retail property has higher write-off.
What can we learn from this?

– The picture drawn from prices and performance indicators can be fundamentally different.

– A clear terminology according to statistical concepts, i.e. a taxonomy of price, unit value, value and volume, has to be adopted in order to inform users.

– Metadata and index concepts should be disclosed properly in order to describe available indicators and compare existing source internationally.

– Measures have to be chosen according to the type of analysis.

– All in all, the index concepts that are used matter highly and there is still a lot of hard work to do for statisticians in this field.