Monitoring commercial property prices during the crisis

Vasiliki Vlachostergiou, Theodore Mitrakos, Calliope Akantziliotou
Bank of Greece

Prodexpo, 2015
1. Bank of Greece - Synopsis of activities

- Housing market data collection from credit institutions (on a monthly basis)
- Quarterly Residential Property Price Indices (Press Releases)
- Commercial property data collection from REICs and credit institutions (on a half-year basis)
- Semiannual Office and Retail, Price and Rent Indices
- Short-term Indicators for the Greek real estate market (revised every two weeks)
- Quarterly survey among the real estate agencies
- Transaction data from various sources
- Regular monitoring and reporting in the publications of the BoG
- Research
2. Residential Property Price Index

Cumulative adjustment of 40.5% in nominal terms since the onset current financial crisis (2008 Q3 - 2015 Q2)

Source: BoG, data collected from credit institutions
3. Commercial property indices

- Prime office prices cumulative adjustment (2010H1-2014H2): 30.4%
- Office rent cumulative adjustment (2010H1-2014H2): 29.3%
- Prime retail prices cumulative adjustment (2010H1-2014H2): 28.3%
- Retail rent cumulative adjustment (2010H1-2014H2): 33.9%

Source: BoG, data collected from REICs and credit institutions
4. Research scope and aims

- **Scope:**
  - Identify the factors affecting rental and market values of commercial property

- **Aims:**
  - Identify the potential factors affecting commercial property prices
  - Select the variables and the methodology of analysis
  - Construct models for the two periods of interest
  - Assess the differences before and after the onset of the crisis
  - Examine the overall usefulness of the econometric models to produce a commercial property index

- **Data from Bank of Greece rents and valuation database**
5. Limitations

- Qualitative variables (i.e. visibility, accessibility, commerciality, property class) not available for value datasets
- Substantial amount of missing data – variable values
- Smaller sample for the “before crisis” period
- Significant reporting errors that limited final sample size
- Difficulty in applying the model at the country level
  - Complexity of attributing accurate submarkets and main commercial axis for the entire country
  - Need for collaboration with local agencies and professionals
  - Need to introduce further variables for regional market differences
6. Dataset

Data sources:

✓ Credit Institutions
✓ Real Estate Investment Companies
✓ Real Estate agencies

Data sample:

<table>
<thead>
<tr>
<th></th>
<th># observations</th>
<th>Reference period</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFFICE</td>
<td></td>
<td></td>
<td>Attica</td>
</tr>
<tr>
<td>VALUES</td>
<td>2073</td>
<td>2006H1-2010H1</td>
<td></td>
</tr>
<tr>
<td>RENTS</td>
<td>2165</td>
<td>2010H1-2014H2</td>
<td></td>
</tr>
<tr>
<td>RETAIL</td>
<td></td>
<td></td>
<td>Municipality of Athens</td>
</tr>
<tr>
<td>VALUES</td>
<td>1020</td>
<td>2006H1-2010H1</td>
<td></td>
</tr>
<tr>
<td>RENTS</td>
<td>1904</td>
<td>2010H1-2014H2</td>
<td></td>
</tr>
</tbody>
</table>

✓ Filtering – selection of observations with no missing data on all alternative variables
✓ Analysis based on Mean Value per sq.m of main use area and Mean Monthly Rent per sq.m. of main use area
# 7. Description of model variables

<table>
<thead>
<tr>
<th>Retail model variables</th>
<th>Office model variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ln(y)</td>
<td>Ln(y)</td>
</tr>
<tr>
<td>MainArea</td>
<td>Valuation</td>
</tr>
<tr>
<td>Valuation</td>
<td>ReferencePeriod</td>
</tr>
<tr>
<td>ReferencePeriod</td>
<td>PropertyClass</td>
</tr>
<tr>
<td>Visibility</td>
<td>Age</td>
</tr>
<tr>
<td>Accessibility</td>
<td>AgeSQ</td>
</tr>
<tr>
<td>Commerciality</td>
<td>Visibility</td>
</tr>
<tr>
<td>ConstructionYear</td>
<td>Accessibility</td>
</tr>
<tr>
<td>RefurbishmentYear</td>
<td>Commerciality</td>
</tr>
<tr>
<td>PropertyClass</td>
<td>Construction and</td>
</tr>
<tr>
<td></td>
<td>refurbishment</td>
</tr>
<tr>
<td>Age</td>
<td>SMCBD</td>
</tr>
<tr>
<td>AgeSQ</td>
<td>Submarket- CBD</td>
</tr>
<tr>
<td>Ermou Str</td>
<td>SMNorth</td>
</tr>
<tr>
<td>Other high street</td>
<td>SMSouth</td>
</tr>
<tr>
<td>Main commercial</td>
<td>SMCentre</td>
</tr>
<tr>
<td>Main axis</td>
<td>SMOther</td>
</tr>
<tr>
<td>Patission Str</td>
<td>SMMesogeia</td>
</tr>
<tr>
<td>Thissio Plaka</td>
<td></td>
</tr>
</tbody>
</table>

- **Ln(y)**: Dependent variable – price/rent per sq.m. of main use
- **MainArea**: main use area in sq.m.
- **Valuation**: in € - valuation date: end of reference Half
- **ReferencePeriod**: Reference half (YYYYHH)
- **Visibility**: quality rating (1-poor to 5-excellent)
- **Accessibility**: quality rating (1-poor to 5-excellent)
- **Commerciality**: quality rating (1-poor to 5-excellent)
- **ConstructionYear**: year of construction (YYYY)
- **RefurbishmentYear**: year of last refurbishment (YYYY)
- **PropertyClass**: quality rating (1-poor to 5-excellent)
- **Age**: age in years
- **AgeSQ**: age sq
- **Ermou Str**: face in Ermou Str
- **Other high street**: face in high street
- **Main commercial**: face on main commercial axis
- **Main axis**: face on other main axis
- **Patission Str**: face in Patission Str
- **Thissio Plaka**: within the historical Athens center - main commercial axis
- **SMCBD**: Submarket- CBD
- **SMNorth**: Submarket- northern Athens
- **SMSouth**: Submarket- southern Athens
- **SMCentre**: Submarket- Athens city center other than CBD
- **SMOther**: Rest of Athens
- **SMMesogeia**: Submarket- Mesogeia area
8.1 Hedonic models summary results - Prime and secondary office

Submarket impact on office values

- **SMSouth**: 35% after 2010, 36% before 2010
- **SMNorth**: 70% after 2010, 79% before 2010
- **SMCentre**: 42% after 2010, 62% before 2010
- **SMCBD**: 78% after 2010, 91% before 2010

Syntagma Square, CBD

Kifissias Ave, Submarket North
8.2 Hedonic models summary results – Office rents

Panepistimou Ave, CBD

Alexandras Ave, Submarket Centre

Submarket impact on office rents

- SMMesog: 9% (after 2010), 0% (before 2010)
- SMSouth: 19% (after 2010), 28% (before 2010)
- SMCentre: 19% (after 2010), 28% (before 2010)
- SMNorth: 58% (after 2010), 64% (before 2010)
- SMCBD: 48% (after 2010), 52% (before 2010)

Property Class impact on office rents

- After 2010: 20%
- Before 2010: 5%
8.3 Hedonic models summary results – Prime retail

Location impact on Athens retail values

- **Main axis**
  - After 2010: 02%
  - Before 2010: 06%

- **Main commercial**
  - After 2010: 69%
  - Before 2010: 59%

- **Other high street**
  - After 2010: 115%
  - Before 2010: 99%

- **Ermou Str**
  - After 2010: 99%
  - Before 2010: 121%
## 8.4 Hedonic models summary results – Retail rents

### Location impact on Athens retail rents

<table>
<thead>
<tr>
<th>Location</th>
<th>Before 2010</th>
<th>After 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thissio Plaka</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>Patission Ave</td>
<td>25%</td>
<td>17%</td>
</tr>
<tr>
<td>Main commercial</td>
<td>71%</td>
<td>45%</td>
</tr>
<tr>
<td>Other high street</td>
<td>139%</td>
<td>129%</td>
</tr>
<tr>
<td>Ermou Str</td>
<td>161%</td>
<td>102%</td>
</tr>
</tbody>
</table>

### Property Class impact on retail rents

<table>
<thead>
<tr>
<th>Time</th>
<th>Rents</th>
</tr>
</thead>
<tbody>
<tr>
<td>After 2010</td>
<td>10%</td>
</tr>
<tr>
<td>Before 2010</td>
<td>6%</td>
</tr>
</tbody>
</table>

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Patission Ave, Athens

P. Ioakeim (Kolonaki), Athens
8.5 Conclusions

- Submarket impact on commercial property prices is highly significant and in certain cases explain value differences exceeding 100%.
- The impact and thus the relative differences between values (both market and rental) due to location become milder after the onset of the crisis.
- Office market
  - Prime locations (primary axes) were less affected than secondary markets – axes.
  - Difference in values of prime / secondary locations compared to the rest of the market in Athens decreased.
  - Property class impact on rents exceeds 20% for every extra point of rating.
- Retail market
  - Ermou Str was most heavily affected among prime locations.
  - Other high street retail values appear more resistant as they ‘absorb’ part of the significant cumulative drop (-49%).
Thank you!

For any further information please do not hesitate to contact us:

Economic Research Department
Real Estate Market Analysis Section
Tel: + 30 210 320 3837, 2372
Fax: + 30 210 320 2660
Email: sec.realestate@bankofgreece.gr
URL address: