Evolution of private weather services in different countries: EU framework and economic results

Dr. K.G. Gutbrod 1 2) / L. Boll 2) PRIMET 1), meteoblue AG 2)

Session “Enabling the Weather Enterprise in Europe for the 21st century
EMS, 2020-09-09 15:00-15:30
Overview

1. Methodology
2. Private services development
3. National services profiling
4. Country differences and influencing factors
5. Conclusions and recommendations
### 1. Methodology – Key Performance Indicators (KPI)

**KPI used for selection:**

1. **Countries:**
   - EU, data available on private services 2010-2019

2. **National Weather Services:**
   - Employees, budget, commercial (Sales)

3. **Private Weather Services:** Companies, Employees, Sales, Target industries, Export

**Sources:**

- Various
- WMO
- Publications, Interviews, corporate communication, Market research

**Not included:** Equipment suppliers, corporate departments (Insurances), niche players

**Focus on services:** value chain steps 2+3 (1= instruments)
2. Structure of national markets: value chain model

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tailored services</strong></td>
<td>Business data integration (energy, insurance, air traffic, climate…)</td>
<td></td>
</tr>
<tr>
<td><strong>Presentation</strong></td>
<td>Official warnings</td>
<td>Investment (Mill. €)</td>
</tr>
<tr>
<td>(Data transfer, presentation)</td>
<td>Websites and Apps</td>
<td>1-100</td>
</tr>
<tr>
<td><strong>Data processing</strong></td>
<td>Numerical Weather Prediction, Measurement Data QC and storage</td>
<td>1-100</td>
</tr>
<tr>
<td><strong>Networks operation</strong></td>
<td>Measurements through Stations, Bouys, Radio-Soundings</td>
<td>10-100</td>
</tr>
<tr>
<td>Measure-ments &amp; Observations</td>
<td>Observations through Radar, Satellite, Investment, Maintenance and Upgrade</td>
<td>10-1000</td>
</tr>
<tr>
<td><strong>Instrument Supply</strong></td>
<td>Sensors, Networks, Transmitters, Computers</td>
<td>1-100</td>
</tr>
</tbody>
</table>

**Evolution of private weather services:**
Different EU country economic results

- (1) Measurements through Stations, Bouys, Radio-Soundings
- (2) Numerical weather prediction
- (3) Generate forecasts
- (4) Issue official warnings
- (5) Tailored services
- (6) Business data integration

**Investment (Mill. €):**
- (0) n.a.
- 1-100
- 1-100
- 10-100
- 10-1000
- 1-1000

Overview

1. Methodology
2. Private services development
3. National services profiling
4. Country differences and influencing factors
5. Conclusions and recommendations
2.1 Private services provider (PSP): revenue development

2010-2019 developments:
- Strong PSP growth: >2x
- Country growth not uniform
  - DE large
  - FR, IT much smaller
  - Small countries can perform (NL)
- Size and populations may differ, as well as purchasing power

Strong growth; need to normalise countries by GDP, pop…
2.1 Private weather services: revenue per capita

Some effects:
- Highest per capita revenue and growth in NL
- Medium in DE, CH
- Lower in FR, IT
- Special case: AT
- Country size and Climate differences do not explain the differences

Significant differences in private service development
2.1 Private weather services: export revenue

Key findings
- Strong export growth (3x): sign of globalisation
- 3 export intensity groups:
  - Strong: NL, DE
  - Medium: AT, FR
  - Weaker: CH, IT
  - But CH growing
- Highest export profits: NL, DE
- Export activity in FR, IT, AT, CH is “secondary”.

Internationally competitive private services in few countries
2.1 Private weather services: job creation

10-year development:
- Job number grew 1.5x
- Strongest growth: DE, NL;
- CH IT with less growth and more restructuring
- AT changes driven by over-investments
- Most job growth in new segments (media, energy)
- Not all business shown

Private weather service create higher value jobs
2.1 Private weather services: value creation

Variable environment, need focus on employment and profits

Three 10-year development:
- Profitable growth: DE, NL, IT;
- Steady profits: IT, CH
- Unstable: AT
- Most job growth in new segments (energy, B2B)
- Profits not driven by technology alone
2.1 Private weather services: revenue by sector

Three 10-year development:

- Strongest growth:
  - Media 25% p.a.
  - Energy 24% p.a.
  - Mix 23% p.a.

- Classic consulting and services (B2B) slower

- “Mix” provide specialised services - more difficult to track

- Trends likely to continue

Media, energy and special services drive growth
Overview

1. Methodology
2. Private services development
3. National services profiling
4. Country differences and influencing factors
5. Conclusions and recommendations
3.3. National services vs. private: yearly revenue

Some effects:

- Private weather services only significant in few (CH, NL, DE; AT)
- AT private services not typical (negative profit)
- Always strong NHMS basis
- Split NHMS/PSP varies more than expense per GDP

Expenses per capita widely different: driven by policy
3.2 National services profiling: revenue/pop. (2016)

Some effects:

- Population size is not a major driver
- Other distinctions appear, e.g. 2 levels for high population density (CH, NL) = High wage effect (?)
- Low population density (AU, US): similar levels, but different split NHMS/PSP
- Mix of effects…

Expenses per population not strongly linked to population and size
Overview

1. Methodology
2. Private services development
3. National services profiling
4. Country differences and influencing factors
5. Conclusions and recommendations
### 3.3. National and private player segments

<table>
<thead>
<tr>
<th></th>
<th>IT</th>
<th>AT</th>
<th>FR</th>
<th>DE</th>
<th>NL</th>
<th>CH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of players</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Independent 2010-2019</td>
<td>6 (+0)</td>
<td>6 (+0)</td>
<td>7 (+2)</td>
<td>9 (-4)</td>
<td>2 (-3)</td>
<td>6 (+0)</td>
</tr>
<tr>
<td>- New players</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>- Profit Growth 2010-2019</td>
<td>33%</td>
<td>&lt;0%</td>
<td>29%</td>
<td>32%</td>
<td>33%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Expense (€/capita 1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Private Services</td>
<td>0.3</td>
<td>1.70</td>
<td>0.9</td>
<td>0.9</td>
<td>2.2</td>
<td>0.9</td>
</tr>
<tr>
<td>- NHMS</td>
<td>5.49</td>
<td>3.50</td>
<td>12.4</td>
<td>4.5</td>
<td>3.2</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Market conditions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Export ratio</td>
<td>6%</td>
<td>17%</td>
<td>22%</td>
<td>15%</td>
<td>30%</td>
<td>22%</td>
</tr>
<tr>
<td>- NHMS external funds 2)</td>
<td>2%</td>
<td>40%</td>
<td>35%</td>
<td>0%?</td>
<td>30%?</td>
<td>45%?</td>
</tr>
<tr>
<td>- Open data (2018)</td>
<td>-</td>
<td>-</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>-</td>
</tr>
<tr>
<td>- Commercial services 3)</td>
<td>*</td>
<td>****</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

1) Revenue/Population
2) Source: WMO
3) Own assessment

Open data and low NHMS commercial activity drive growth
Overview

1. Methodology
2. Private services development
3. National services profiling
4. Country differences and influencing factors
5. Conclusions and recommendations
5. Conclusions and recommendations

Conclusions

• Strong PSP growth (23% p.a.) 2010-2019, with some country differences
• Need to normalise sales and employment country data by GDP, pop…
• Very competitive PSP in few countries
• Growth in media, energy, specialities (mix)
• Growth not always equal to profit
• Best development in countries with open data and less commercial NHMS

Recommendations

➢ Engage PSP more in creating meteorological value
➢ More country comparisons for finding best practice
➢ Opportunity to strengthen service delivery
➢ Focus on employment, profits, downstream value (media, energy, special services)
➢ Strengthen strategies towards open markets and level playing field

Continued PSP growth likely, can be enhanced by policies