The role of public funding in R&D&I

The case of Finland

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Economic “miracle” of Finland
GDP per capita

GDP in Finland has grown faster than the OECD average both before and after the recession.

USD in current prices and PPPs

Figures for Finland according to new calculations from Statistics Finland.

Sources: For Finland: ETLA 2006; for OECD: OECD
Volume index of industrial production

1995=100

Industrial production has grown faster in Finland than in other developed nations.

Sources: Eurostat, Statistics Finland, 12 month moving average
World Economic Forum (WEF): Finland is number one!
From capital intensive production to R&D&I intensive production
Growth without investments?

**Investments in Industry**

Fixed Investments and R&D Expenditure

1975 - 2006*

% of value added

Sources: Statistics Finland, Confederation of Finnish Industries, Ministry of Finance

16.8.2007/VM/KO/UL

18307.xls
Total R&D funding in 2004

Percentage of GDP

Source: Eurostat
Industrial R&D according to technology intensity

Technology groups according to the OECD definition.

Source: EU Key Figures 2005 on Science, Technology and Innovation 08-2005 Copyright © Tekes
Public sector’s share of total R&D funding in 2003

Source: Eurostat
R&D in Finland

Billion euros

- Enterprises
- Universities
- Other public research

Source: Statistics Finland
Funding of R&D expenditure

Billion euros

- **Public funding**
- **Enterprises**
- **Other funding (*)**

*) Funding from abroad, foundations, other sources

Source: Statistics Finland

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Is public R&D&I funding crowding-out or crowding-in private funding?
Allocation of the R&D funding in the state budget in 2007 (%)
Tekes’ funding depends on the project’s degree of challenge, novelty and time to market.

- **Degree of challenge and novelty increases**
  - International top level
  - Demanding international level
  - National top level
  - Demanding national level

- **Time to market increases**
  - R&D loan
  - Loan-weighted combined funding
  - R&D grant or combined funding
  - R&D grant

- **Product development**
  - Research
Funding criteria for R&D projects of large companies

In addition to Tekes’ basic funding criteria, the projects of large companies have to fulfil at least one of the following criteria:

- Cooperation with SMEs
- Cooperation with a research institute or university
- Participation in a technology programme
- International cooperation
- Project comprises predominantly industrial research or results can also be widely utilised
### TEKES funding for private companies

#### Share of rejected applications

<table>
<thead>
<tr>
<th>Year</th>
<th>Euros (%)</th>
<th>Number of applications (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>57</td>
<td>30</td>
</tr>
<tr>
<td>2002</td>
<td>54</td>
<td>35</td>
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<td>2003</td>
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<td>2004</td>
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<td>2006</td>
<td>42</td>
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<tr>
<td>Oct 2007</td>
<td>39</td>
<td>24</td>
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</table>
Preliminary conclusions

- Public R&D&I funding cannot be a substitute for private funding, but it may be a complement.
- It does matter how public funding is managed.
- Marginal returns of R&D&I investments are diminishing. Finnish R&D&I activity is already over funded?
- Tax incentives for the R&D&I are sexy, but the Finnish experience shows these are not must.