NIS in Poland
current situation and recommendations for
the future

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Ph.D.-School on National Systems of Innovation and Economic Development

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Outline

- Introduction
- Financial and structural barriers
- Changes in innovation policy
- Priorities and recommendations
- Research proposal
Introduction

Science in Central Planning Economy

- Bureaucratic system
- Little incentive for innovation
- Technology transfer based on:
  a. copying of western products
  b. purchase of foreign technologies
  c. simplification of products

No rational development
Structure of the National Innovation Policy System in Poland

- Policy making governmental bodies that create main national strategies, together with recommendations for the science policy and creating budget
- Governmental and non-governmental institutions which play important role in the executive level of implementation of these strategies
- Organisations, enterprises and societies that take advantage of the innovation systems
Financial Obstacles

Spendings on R&D

Budgetary Expenditures on R&D activity

<table>
<thead>
<tr>
<th>Years</th>
<th>Euro</th>
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<tbody>
<tr>
<td>1994</td>
<td>0</td>
</tr>
<tr>
<td>1996</td>
<td>500</td>
</tr>
<tr>
<td>1998</td>
<td>1000</td>
</tr>
<tr>
<td>2000</td>
<td>1500</td>
</tr>
<tr>
<td>2002</td>
<td>2000</td>
</tr>
<tr>
<td>2004</td>
<td>2500</td>
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</table>
Structure of innovation investments

- Research and development activity
- Acquisition of disembodied technology and know-how
- Acquisition of instruments and equipment
- Marketing for technologically new or improved products
- Innovation training for Staff
- Acquisition of buildings and premises
- Others
Structural Barriers

- Obsolete structure of R&D sector in Poland
- Little incentives for investment in R&D activities in enterprises
- Lack of stability of legal regulations
- Companies suffering from lack of financial resources also have difficulty in finding information on possibilities of financial aid from the structural funds of the European Union
Changes in innovation policy

1. Transfer of knowledge conducted via university graduates (increase of the number of students)
2. Passive approach of business community to innovations
3. Relative decrease of expenditure on R&D
4. Changes in the R&D sector have not been influenced enough by the market forces
5. Changes in the R&D sector have not been influenced enough by the market forces
6. Changes of the employment structure
7. Improvement of protection of intellectual properties in Poland
8. Positive tendencies in Polish foreign trade of high-tech
Number of Students in Poland
Number of Ph.D. Students in Poland
Structure of Gross Domestic Expenditures on R&D by Source of Funds
Lisbon Strategy and its influence on Innovation Policy in Poland

- Foundations for science, technology and innovation state policies up to 2020
- Thematic priorities:
  - Info
  - Techno
  - Bio
  - Basics
## Strengths and weaknesses of Polish innovation systems

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weakenesess</th>
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<tr>
<td><strong>Absorptive capacity:</strong></td>
<td><strong>Diffusion of technology</strong></td>
</tr>
<tr>
<td>• new science and engineering graduates</td>
<td>• cooperation between entrepreneurs</td>
</tr>
<tr>
<td>• high percentage of population with high education degree</td>
<td>• science and industry relations</td>
</tr>
<tr>
<td>• employment in high-tech manufacturing</td>
<td>• horizontal interaction and cooperation in policy</td>
</tr>
<tr>
<td>• innovation expenditures in manufacturing</td>
<td></td>
</tr>
<tr>
<td><strong>R&amp;D capacity</strong></td>
<td><strong>R&amp;D capacity</strong></td>
</tr>
<tr>
<td>• public R&amp;D</td>
<td>• business R&amp;D expenditures, trend</td>
</tr>
<tr>
<td>• SME share in business R&amp;D expenditures</td>
<td></td>
</tr>
</tbody>
</table>
Priorities and recommendations

- Strengthen technology transfer between public sector institutions and private sector
- Promote research in the private sector
- Restructure the fragmented public scientific and technological infrastructure
Priorities and Recommendations

- Stimulate the creation of new economic activities
- Derive strong coordination mechanism between national and regional innovation policies
- Improve governance of national innovation policy toward horizontal policy
Research Proposal

- Measuring barriers of technology transfer (university-industry relations)
- Literature research
- Research survey and interviews - Polish industrial sector
- Quantitative vs. qualitative analysis
- Suggestions??
Thank you for attention

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