Evaluating Foresight and Lessons for its Future Impact

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Outline

- Status of foresight
- Framework for evaluation
- Evaluation experiences
- Emerging lessons

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Status of foresight

- Multiple activities and purposes sharing a name
  - Priority setting
  - Reorienting Science & Innovation system
  - Demonstrating vitality of S & I system
  - Bringing new actors into the strategic debate
  - Building new networks and linkages across fields, sectors & markets or around problems
  - All above may be at organisational, local, regional, national or supranational levels
  - Timescale ranges from immediate future to far horizon

Working definition

- The foresight process involves intense iterative periods of open reflection, networking, consultation and discussion, leading to the **joint refining of future visions** and the **common ownership of strategies**, with the aim of exploiting long term opportunities opened up through the impact of science, technology and innovation on society….It is **the discovery of a common space for open thinking on the future** and the **incubation of strategic approaches**…

J. Cassingena Harper MCST

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Why evaluate foresight?

- Policy instrument consuming time and resources. Therefore need to know:
- Accountability
  - Was the activity efficiently executed and a proper use of public funds?
- Justification
  - Do the effects of foresight justify its continuation/ extension?
- Learning
  - How can we do it better?

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What to evaluate?

- Must first establish scope and purpose of foresight activity
- Important to distinguish foresight from its context
  - Where does a foresight activity begin and where does it end? May be continuous.
  - Foresight is a process embedded in a broader strategic and policy context

When to evaluate?

- What is the timeframe for an evaluation?
  - Process versus outcome
  - Attribution problem increases over time

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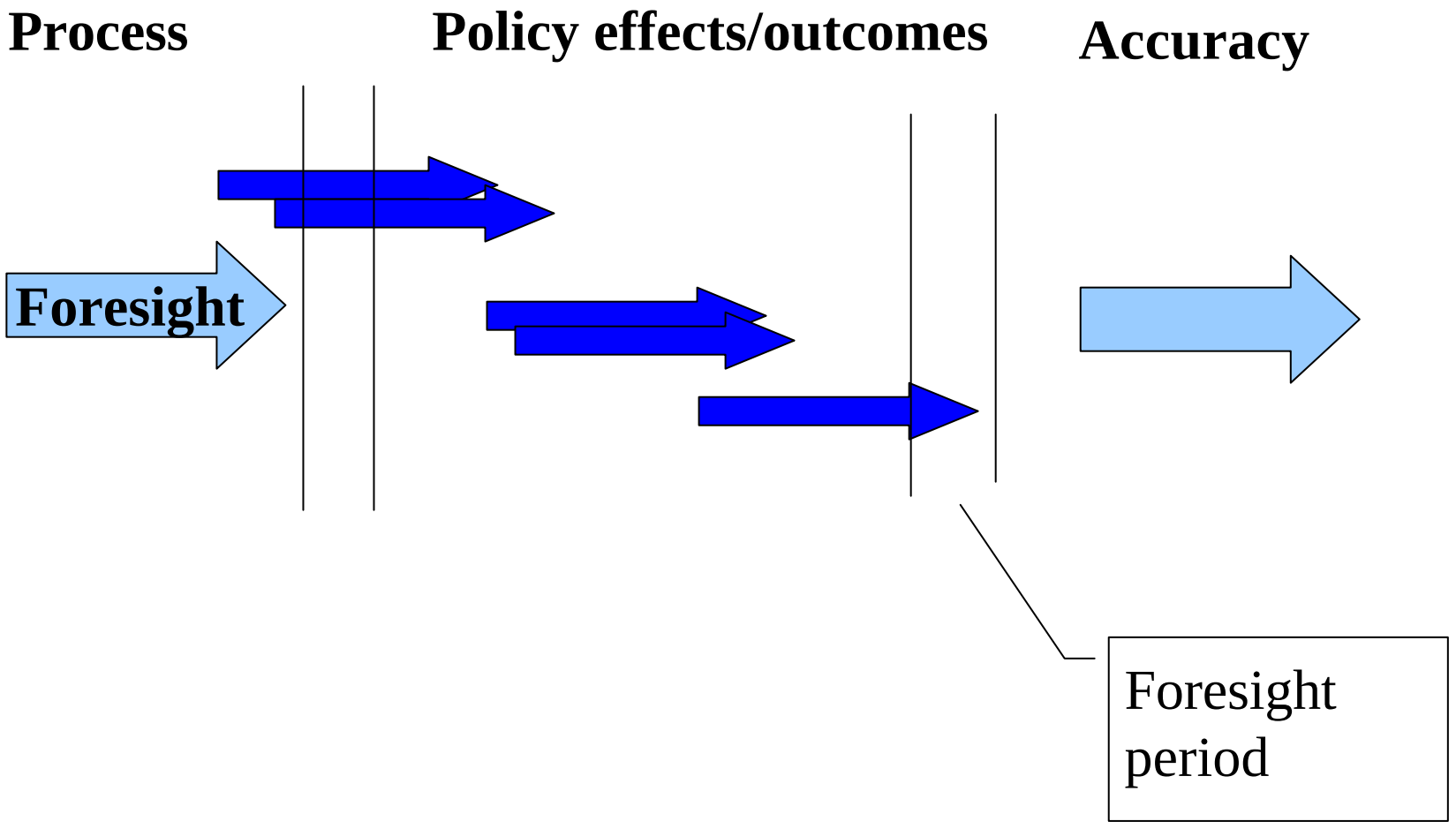
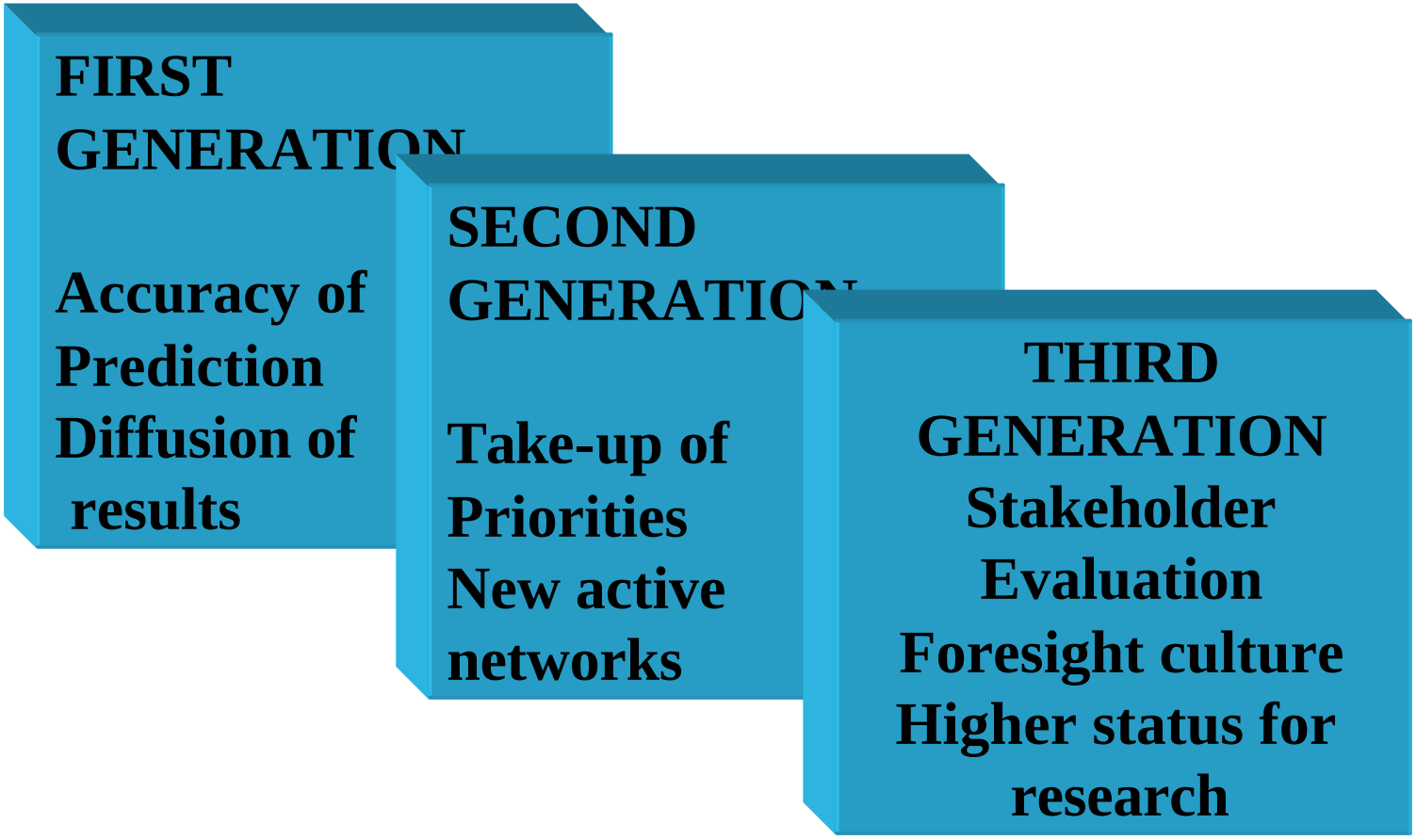
Shifting Evaluation Agenda – a linear view



How to evaluate Foresight? Cf previous NISTEP conference presentation



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Processes

- Process evaluation covers things like:
  - Organisation and Management, e.g. Were the ‘right’ people involved? Did expert panels receive adequate support? Was the exercise adequately linked to decision-making centres? Etc.
  - Appropriateness and efficiency of methods used, e.g. Should a Delphi have been used? Were scenario workshops properly facilitated? Etc.
- Should be conducted in real-time or immediately after an activity is complete

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Outputs and Outcomes

- Outputs measure only activity and not its significance
  - Eg numbers participating, reports disseminated, meetings held, website hits
- Effects may be disguised by numbers
  - eg “new networks” may vary in their novelty, size, significance, durability etc

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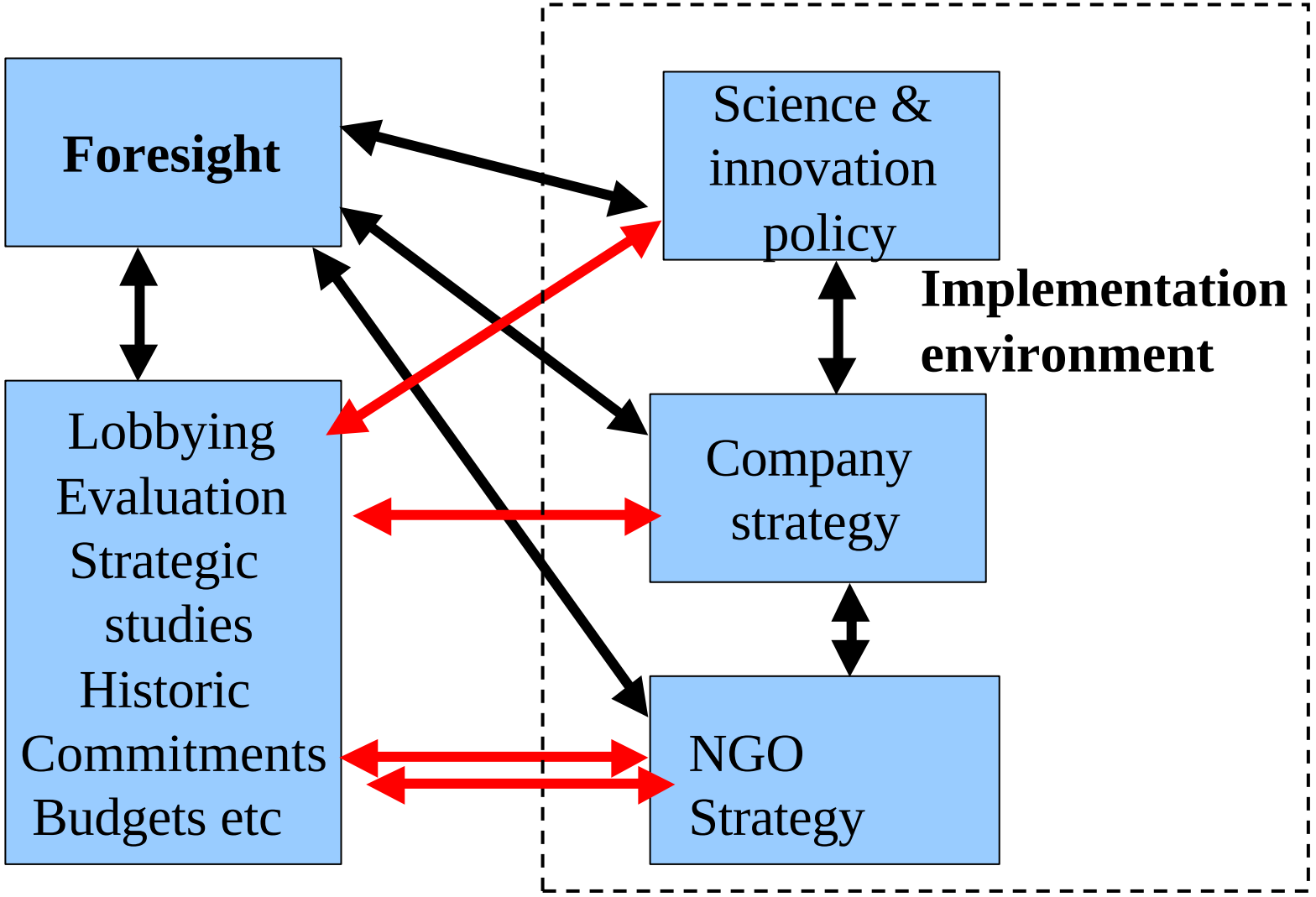
Attribution - a non-linear view



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Foresight outputs in the implementation environment

- Once a foresight output enters the implementation environment how is it different from other policy information?
  - Possibly longer timescale, creativity or commitment but all of these elements can also come from other sources
- Implication that evaluation of foresight must include understanding of interaction of foresight outputs with the strategic behaviour of policy and economic actors

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Distinguishing signal from noise

- Foresight not always tuned to needs of recipients
- Information needs to be presented in a way that policy/strategy mechanisms can receive and absorb it
  - Timing needs to synchronise with policy cycles cf Keenan UK study
  - Level of recommendations needs to match available funding or capacity for reform
- BUT occasionally it is the policy/strategy structure that needs to change in the light of foresight information

Additionality of foresight

- Degree to which public support for foresight makes a difference
  - Would foresight have happened without the policy intervention?
  - Is foresight done differently/better because of the policy intervention
  - Are the resulting actions better because of foresight
  - Have persistent changes been achieved (eg foresight culture)?
- Behavioural additionality

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Commitment and Stakeholding

- Traditionally foresight is seen as a process of building commitment among stakeholders – cf Martin's 5Cs
- From evaluation perspective also creates risks
  - Self-fulfilling prophecy when foresight "owners" also control the distribution of resources at the implementation phase
  - Stakeholding and consensus may be trade-off with creativity and insight

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Some Evaluation Experiences

- **Austria –** internal assessment of impacts by Science Ministry
- **Netherlands** (OCV) **–** self-evaluation, PhD study, Masters thesis, evaluation by Advisory Council for Science & Technology (AWT)
- **Sweden –** process (and not the impacts) evaluated continuously by an Evaluation Committee
- **Japan –** assessment of realisation of results some 15-20 years after identification in STA forecasts
- **Germany –** Delphi 98 evaluation questionnaire; FUTUR being evaluated during 2002
- **UK –** grand plans that degenerated into piecemeal efforts; some limited external (and independent) scrutiny, e.g. by Parliament, a PhD study, etc.

German FUTUR (2002)

- Largely a process evaluation, focusing upon:
  - The objectives of FUTUR, which are assumed to summarise the central assumptions upon which the exercise is based
  - The different instruments and methods with regard to their effectiveness, efficiency and interplay
  - The process in general
  - The results, through a comparison of the topics developed in the lead visions with the large research programmes already being executed by the BMBF

German FUTUR (2002)

- **Evaluation approach:**
  - Involves formulating the underlying assumptions and hypotheses that underpin the ideals and conduct of Futur
  - These hypotheses are then ‘tested’ through their operationalisation into questions that can be detailed in surveys and interview protocols
- **Methods:**
  - Online questionnaire survey
  - Interviews
  - Minutes, reports, participant observation
  - International Panel of Foresight Evaluation Experts holding hearing and interviews before producing evaluation report
- **Limitations:**
  - Little time and few resources available
  - Too early to pick up outcomes

UK Evaluation Experiences

- OST/PREST conducted survey of panellists (1995)
- **OST drafted more comprehensive evaluation proposals (1995)**
- PhD CASE studentship at PREST (1995-99)
- Panels asked to draft performance indicators (1996)
- RCs and OGDs asked to account for implementation (1996-98)
- RAEng did some case study and questionnaire work (1997)
- **POST produced a review of Foresight and its impacts (1997)**
- Academic work at York and Brunel universities (1997- 2000)
- SQW contracted to develop impact indicators (1998)
- PREST/Wise Guys/SUPRA contracted to develop an **evaluation framework for 2nd Foresight cycle** (2000)
- Chief Scientist's Review

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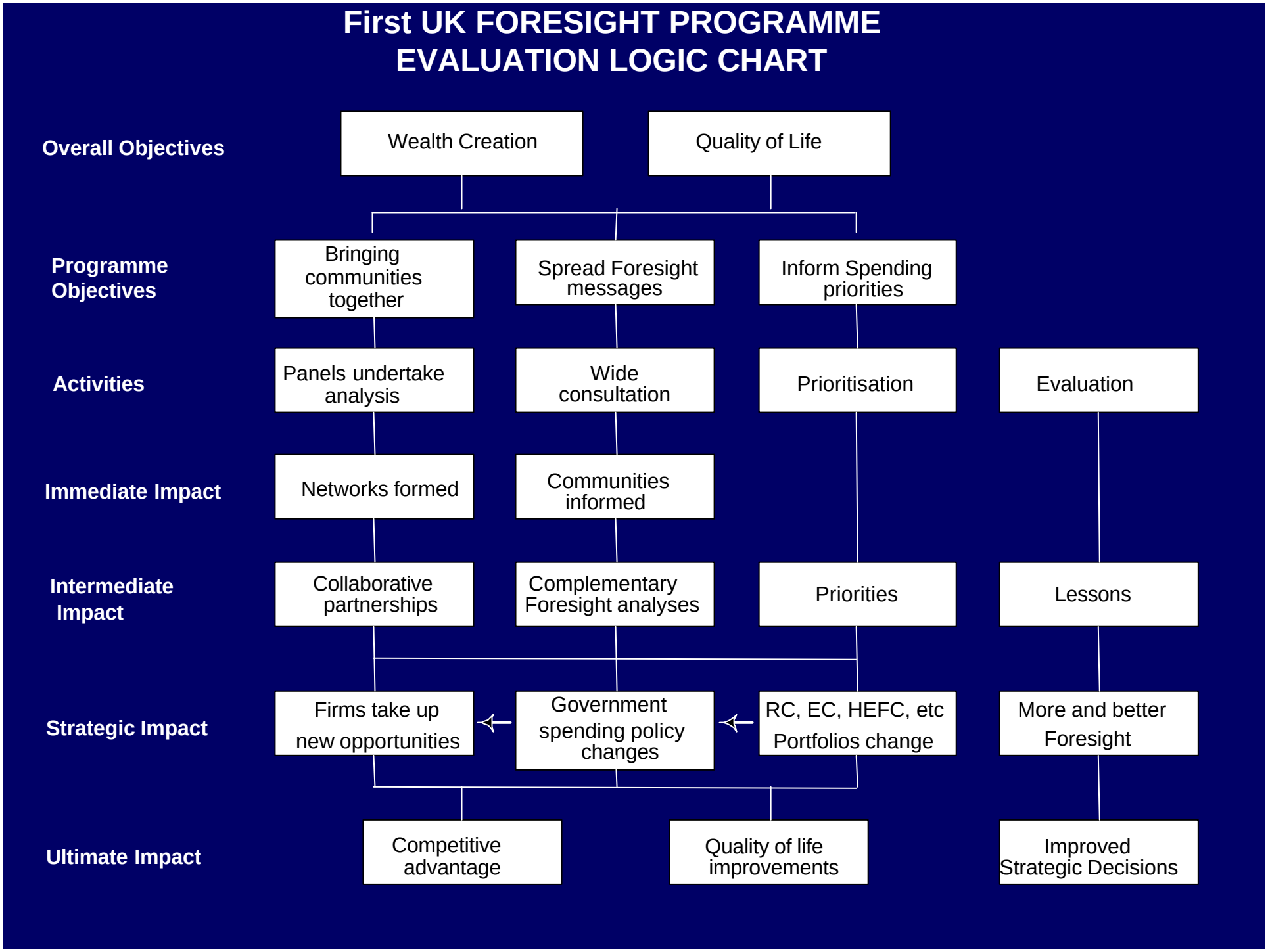
First UK FORESIGHT PROGRAMME EVALUATION LOGIC CHART



Evaluation Framework for Second UK Foresight Process

PANEL PROCESS

Suggested evidence:

Panel statistics, panel member satisfaction levels, stakeholder satisfaction levels

DIRECT DISSEMINATION

Suggested evidence: ***Programme and panel statistics, panel member satisfaction levels, takeholder satisfaction levels***

DISSEMINATION VIA INTERMEDIARIES

Suggested evidence: ***Intermediary organisation statistics and documents, intermediary organisation satisfaction levels, stakeholder satisfaction levels***

Target sectors for Foresight impacts

SCIENCE BASE

Suggested evidence:

Alignment between Foresight and RC and other funding body objectives

Analysis of high quality proposals to RCs in priority areas

Increased funding for research in priority areas

Formation and persistence of new research networks in priority areas (e.g. via RC statistics, bibliometric analysis, intermediary organisation statistics etc.)

INDUSTRY & COMMERCE

Suggested evidence:

Use of Foresight outputs in business planning or technology strategy of case study firms

Evidence of use of Foresight outputs in business planning or technology strategy from Annual Reports, intermediary organisation documents, etc.

Use of Foresight methods in business planning or technology strategy of case study firms

Evidence of use of Foresight methods in business planning or technology strategy from Annual Reports, intermediary organisation documents, etc.

Formation and persistence of new networks within industry, and between industry, Government, the Science Base and other organisations (e.g. via intermediary organisation statistics,)

VOLUNTARY SECTOR

Suggested evidence:

Use of Foresight outputs in planning or technology strategy of case study organisations

Evidence of use of Foresight outputs in planning or technology strategy from Annual Reports, intermediary organisation documents, etc.

Use of Foresight methods in planning or technology strategy of case study organisations

Evidence of use of Foresight methods in business planning or technology strategy from Annual Reports, intermediary organisation documents, etc.

Formation and persistence of new networks within voluntary organisations, and between the sector, industry, Government and the Science Base (e.g. via intermediary organisation statistics,)

EDUCATION, TRAINING AND PUS

Suggested evidence:

Inclusion of Foresight approaches in business schools and professional training

Development and take-up of new scientific, professional or vocational training courses in line with Foresight recommendations

Use of Foresight by educational and training establishments

Increased numbers attending scientific, technical, engineering, design courses

GOVERNMENT

Suggested evidence:

Use of Foresight outputs in planning or technology strategy of OGDs and agencies (via case studies, Annual Reports, Whitehall Foresight Audit, etc)

Importance of Foresight in co-ordination of policy (via OGD case studies and Whitehall Foresight Audit)

Effects on spend on S&T by Government departments (e.g. via OGD case studies, Forward Look, WFA) and on structure (eg WFG)

Formation and persistence of new networks with industry, Government, the Science Base and other organisations

COMPETITIVENESS

QUALITY OF LIFE

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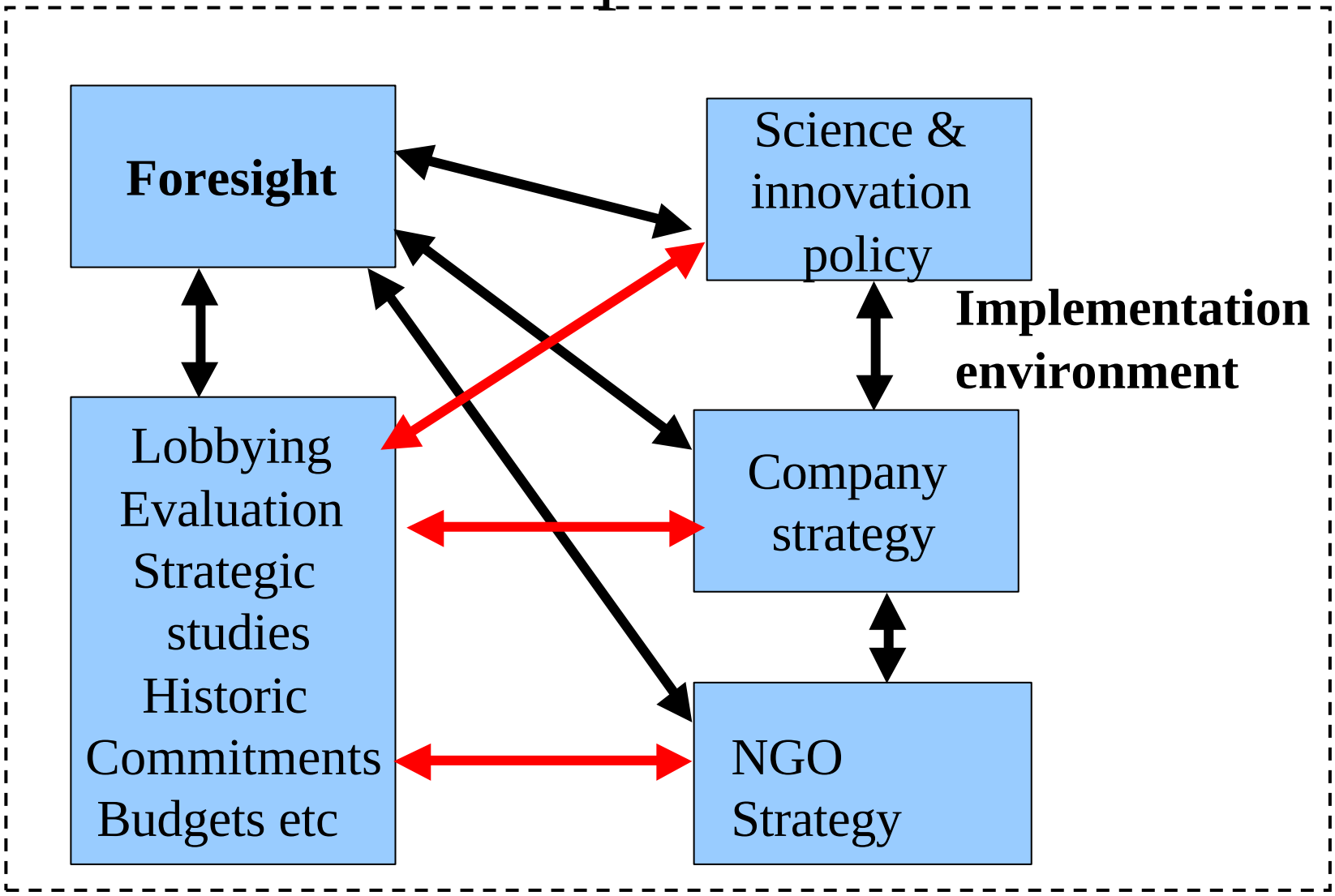
Emerging lessons

- Common space and joint ownership elements of foresight definition imply that foresight should not be in a linear relationship with implementation but rather that foresight should move into the implementation space

Foresight inside the implementation space



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Foresight as an innovation policy instrument

- Need to understand foresight in context of range of tools for innovation policy and how it can interact with, strengthen and be strengthened by combinations with other policies

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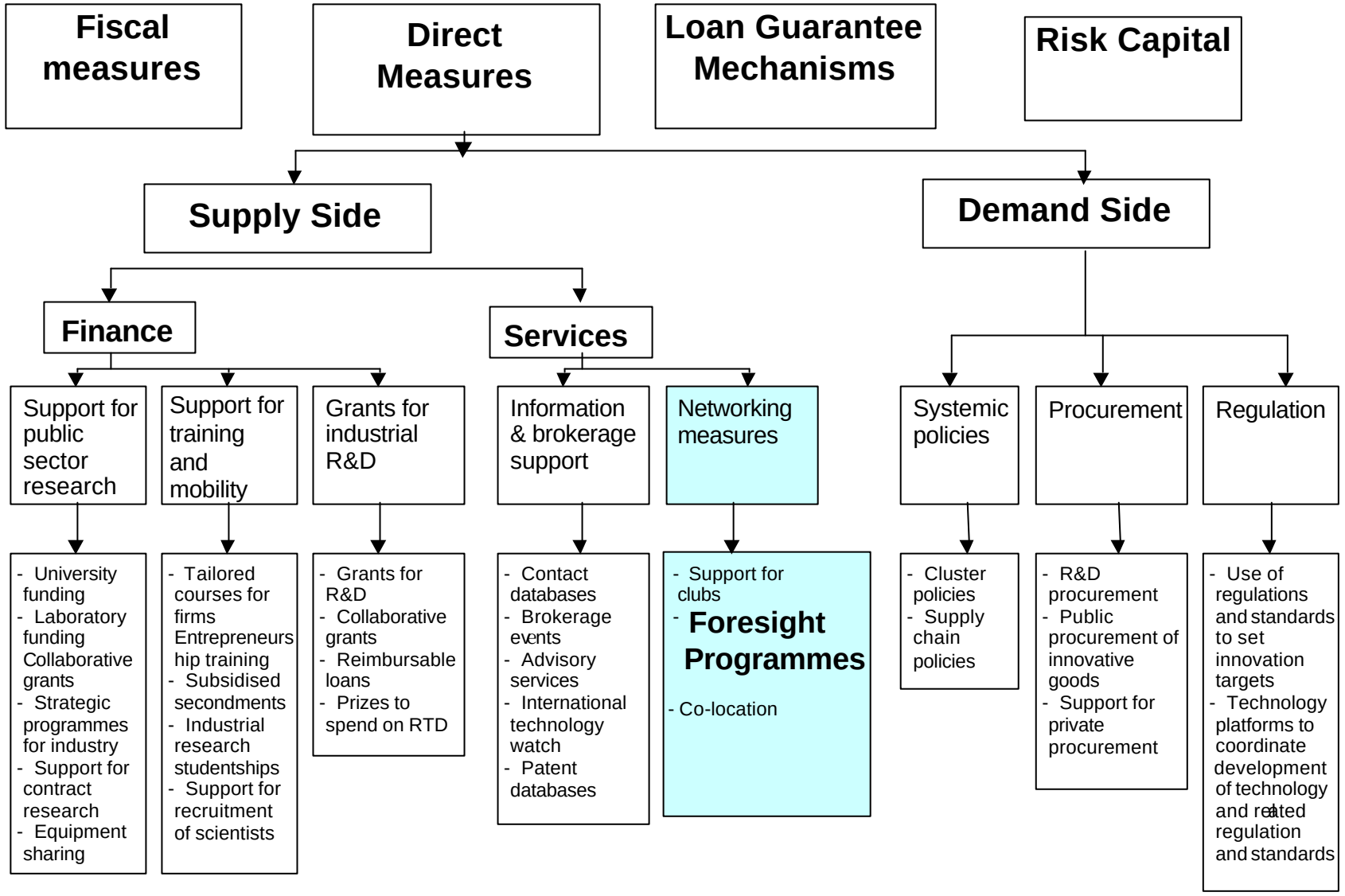

Source: Georghiou et al Direct Measures 2003

Conclusions

- An integrated role for foresight is essential if it is not to marginalised
- Process and implementation of foresight must both be constructed in the light of the government and company strategic processes it seeks to influence
- For foresight to improve it must be subject to rigorous evaluation and the evaluation must feed back into new design
- Scope for international cooperation in evaluation
  - Sharing results
  - Carrying out comparative evaluation

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