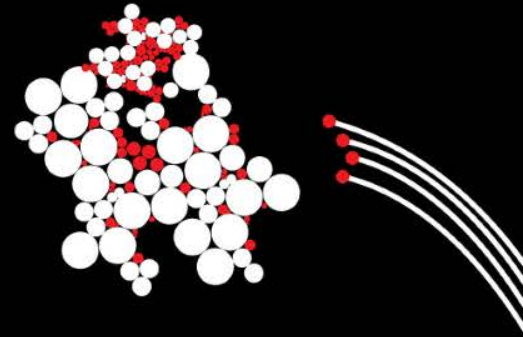


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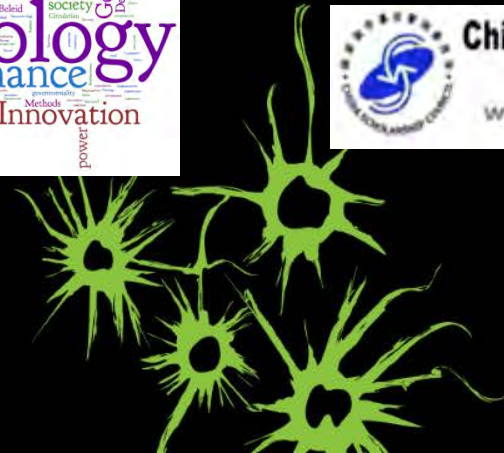
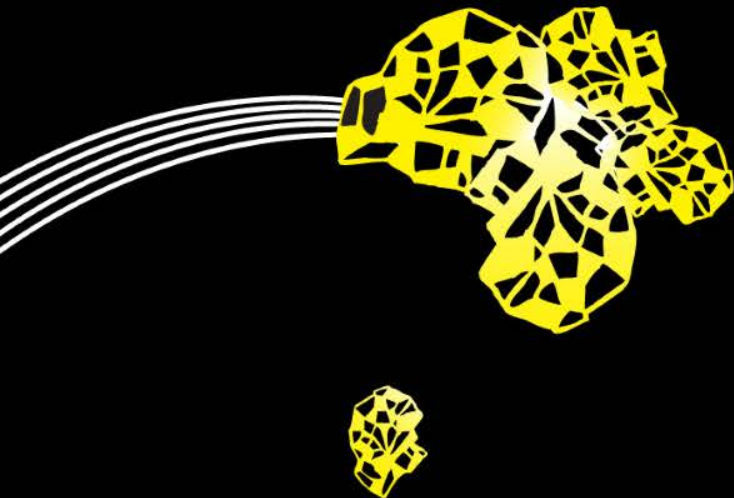


MANCHESTER SUMMER SCHOOL

JUNWEN LUO

SCIENCE AND TECHNOLOGY POLICY STUDIES, STEPS

10 JUNE 2014



Project Overview

Evaluation Mechanism of Publicly Funded Non-university Research Institutions



“Balancing” role of evaluation mechanism at three levels to mitigate potential conflicts from diverse stakeholders (government, scientific community, university, enterprises, public)

Research Framework

- Three organizations: the MPG, HGF, CAS
- Three levels of decision-making: L1,L2,L3
- Three types of conflicts: C1,C2,C3
- R: Role

Conflict 1:
Strategy

Conflict 2:
Funding

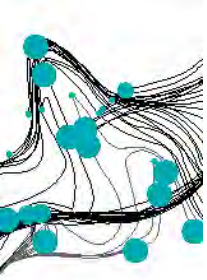
Conflict 3:
Operation and development

	C1	C2	C3
L1			
L2			
L3			

	MPG	HGF	CAS
L1			
L2			
L3			

	MPG	HGF	CAS
C1			
C2			
C3			

	MPG	HGF	CAS
R1			
R2			
R3			



Research question and relevance



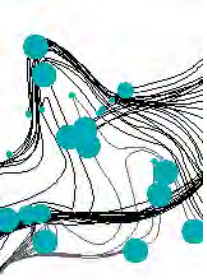
- Research question
 - A. Do evaluation mechanisms help to balance potential stakeholder conflicts, through which procedures and with what outcome?
 - B. Is there balancing governance between vigorous evaluation and scientific autonomy & freedom?
 - C. Does this function exist in different contexts politically, economically and culturally?

- Relevance
 - 1. National innovation system assessment
 - 2. Innovation policy development within institutional contexts



Case Study

	MPG	CAS	HGF
L1 (14) central supervisory body	The Head Offices (HQ) The Senate; The Board	Evaluation Research Center (ERC) The Bureau of Planning Finance	Head Offices (HQ) Senate Commission; The Committee of Financing Partners
L2 (21) research institutes or centers	History of Science in Berlin (MPIWG)	Policy Management in Beijing (IPM)	
	Institute for Astronomy in Heidelberg		
		Beijing Institute of Nanoenergy and Nanosystems (BINN)	Helmholtz-Zentrum Berlin für Materialien und Energie (HZB):
		South China Botanical Garden (SCIB)	Helmholtz Zentrum München - for Environmental Health (HUMG)
	CAS-MPG Partner Institute for Computational Biology in Shanghai (PICB)		
	The Helmholtz Beijing Office		
L3 (22) Individuals	professors, associate professors, post-docs, and PhD students		

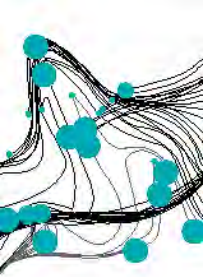


Institute examples about emerging technologies



- Beijing Institute of Nanoenergy and Nanosystems (BINN)
A newly developing institute about Nano
- Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)
At a turnpoint of energy transfer in Germany
- Helmholtz Zentrum München - for Environmental Health (HUMG)
Bio-medicinal technologies





Research funding and governance

- Max Planck Society (MPG)

Free, creative curiosity-driven fundamental research

Stable person-centered funding to expand knowledge boundaries



- Helmholtz Association (HGF)

National strategic problem-solution-driven research in 6 fields based on large scale infrastructures

Five-year Programme-oriented Funding (PoF)



- Chinese Academy of Sciences (CAS)

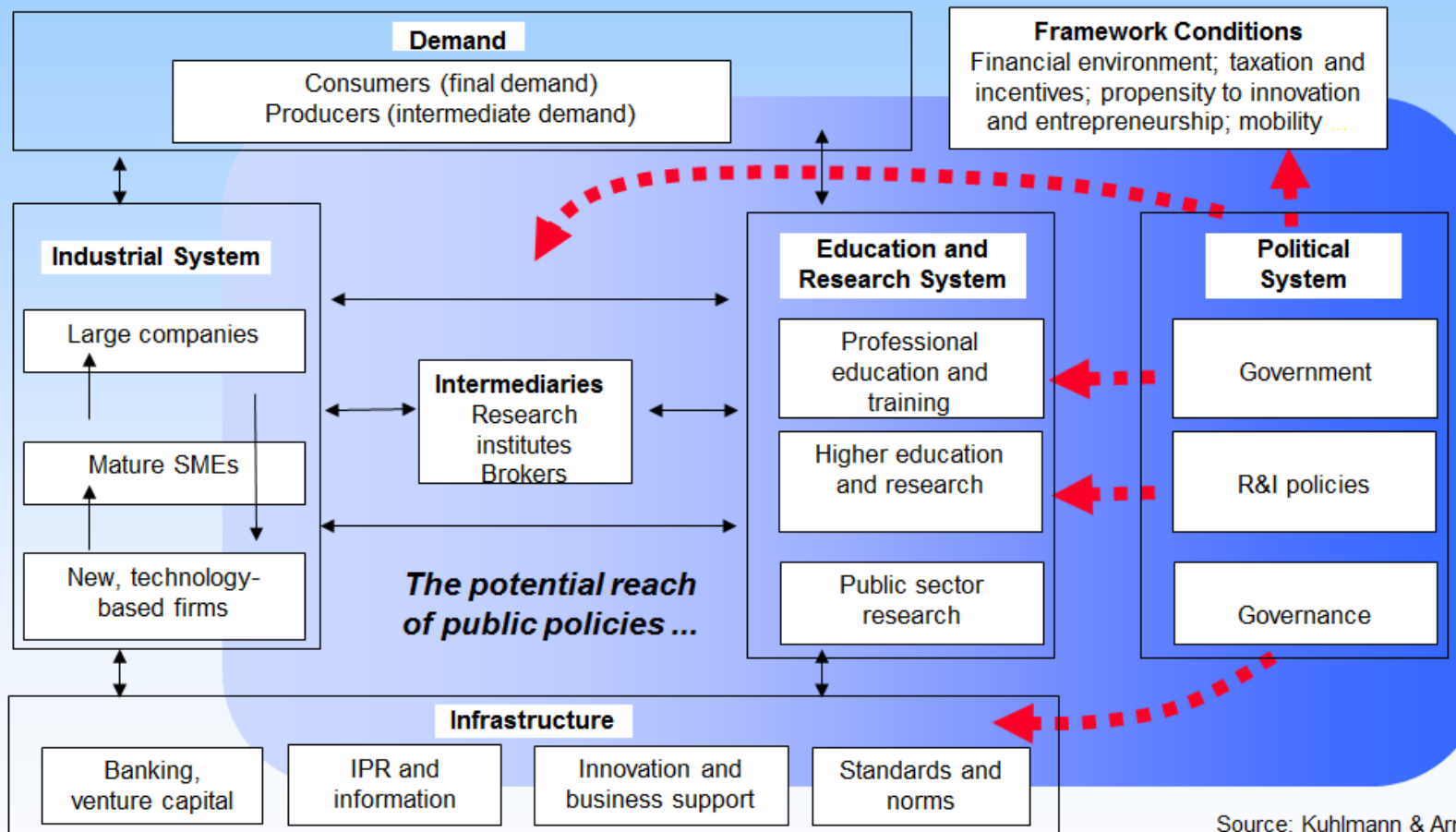
Complex research orientations (fundamental and applicable) and missions

Stable institutional funding vs. competitive project funding

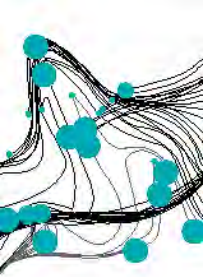


National Innovation System Assessment

Context: Research & innovation systems -- a heuristic



Source: Kuhlmann & Arnold 2001



National Innovation System Assessment



Roles of publicly funded non-university research institutions

1. Roles of organization as a whole

Organizational mission and strategy

Multi-level dialogue with funding bodies & policy-makers

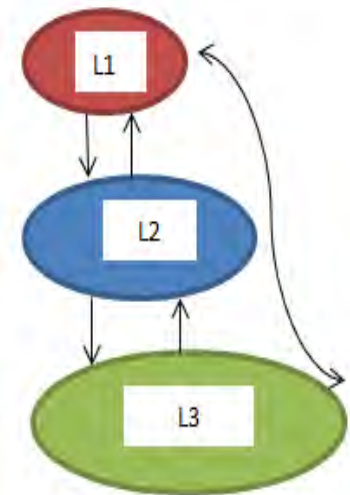
2. Roles of research institutes for organizations

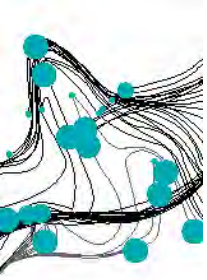
Research excellence guarantee:

Following organizational guidelines or

Empowered to do it themselves?

3. Assessment criteria



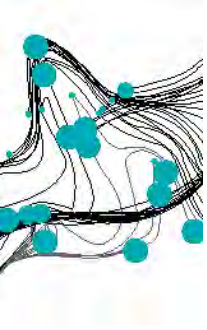


Innovation Policy Development

- Funding policy
 - Public funding: interaction with funding bodies: Ministries
 - Third-party funding: collaboration with universities and industries

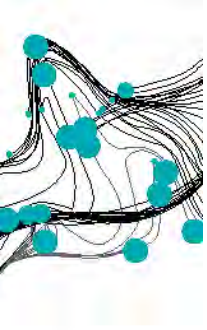
- Governance policy
 - Documents:
 - SAB Rules in the MPG
 - Strategic Guidelines and Position Paper in the HGF
 - “One-Three-Five” evaluation framework in the CAS





Findings





Summary



- S

- Challenges



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THANK YOU FOR YOUR ATTENTION

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TENTATIVE ANALYSIS

➤ The MPG:

	C1 Stragety	C2 Funding	C3 Operation
L1	Organizational strategy chosen: free creative curiosity-driven fundamental research	Budgetary framework; financial allocation and recommendation to institutes in Ex-post evaluation	Appointment of Directors in Ex-ante evaluation; Operational recommendation in Ex-post evaluation
L2		Few conflict but rules about stable funding since established and third-party funding through collaborations	Few conflict but rules about research quality control; collaborations with universities; talents management and training
L3			

TENTATIVE ANALYSIS

➤ The HGF:

	C1 Strategy	C2 Funding	C3 Operation
L1	Organizational strategy chosen: national strategic problem-solution-driven research in six fields	Five-year Programme-oriented Funding (PoF); financial allocation and recommendation to programmes	Large scale infrastructures and facilities management
L2	PoF evaluation for strategic programmes; Centers' mid-term evaluation for autonomous governance as legally independent entity	PoF application through joint programmes with other centers; resources allocation to sub-topics and projects	Programmes strategy alignment; Collaborations with universities and industries; Talents management and training
L3	Specific research topics		

TENTATIVE ANALYSIS

➤ The CAS:

	C1 Stragety	C2 Funding	C3 Operation
L1	Complex research orientations (fundamental and applicable) and abstract missions	The Ministry of Finance allocates institutional funding according to official employee posts	Appointment of the Academicians and Directors
L2	Institutes' scattered directions by various short-term projects	Stable institutional funding vs. competitive project funding, less than 1:2 ratio	Poor investment in the management and technician work
L3		Undesirable restricted salary proportion	Exhausting fighting for various projects

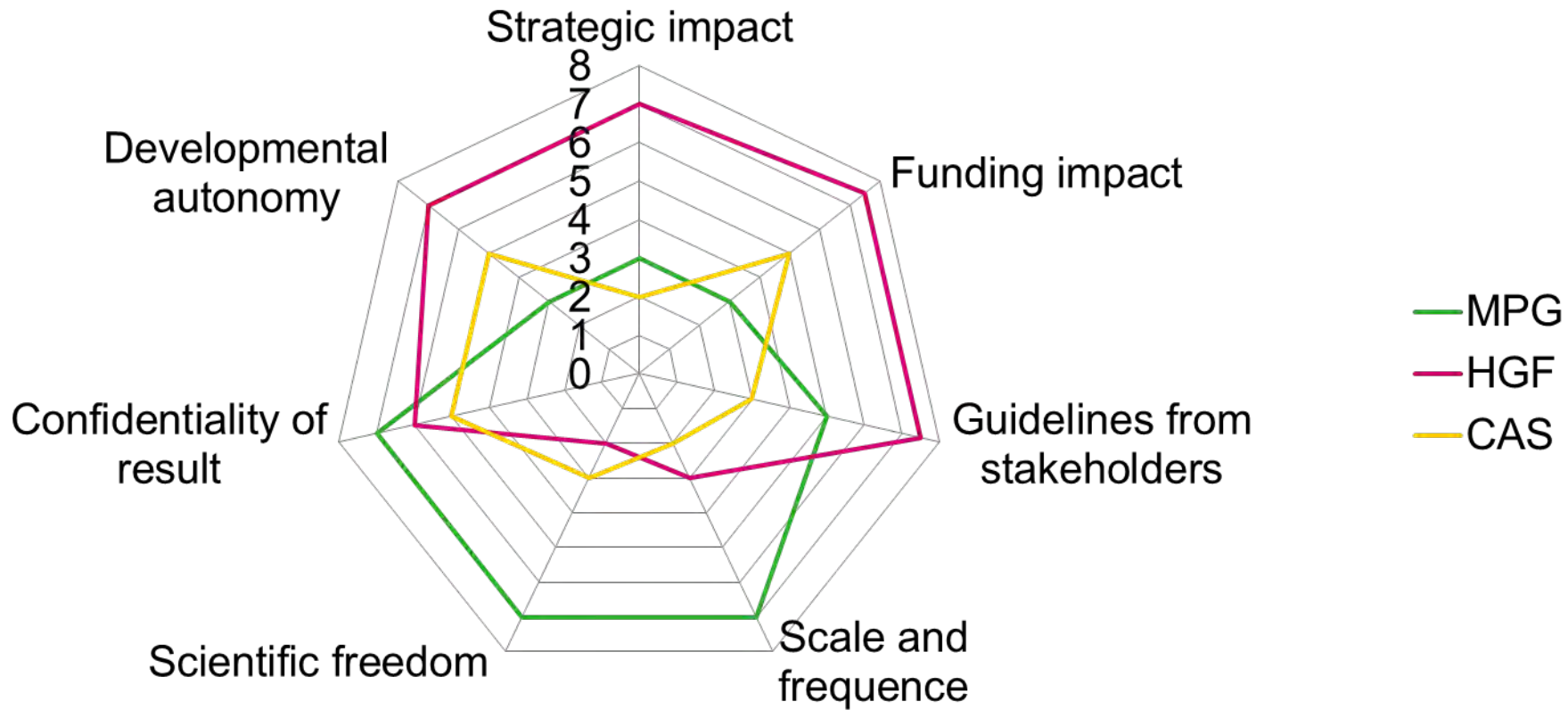
TENTATIVE ANALYSIS

- Comparative analysis:

Governance related conflicts	MPG	HGF	CAS
L1: Organizational strategy and funding	Free creative curiosity-driven fundamental research; Stable funding towards research leaders	National strategic problem-solution-driven research in six fields based on large scale infrastructures; Stable funding towards programmes	Complex research orientations and abstract missions; Stable funding towards official employee posts
L2: Autonomous development	Not legally independent entities but MPIs' person-centered governance	Centers' own development as legally independent entities	Institutes' own development as legally independent entities
L3: Individual contribution and impact	A lot; Scientific Advisory Board	A few; Mainly by long-term programmes	Very little; Mainly by various short-term projects

Stakeholders involvement	MPG	HGF	CAS
C1: Strategy	Main discussion at L1 little discussion at L2 and L3	Main discussion between L1 and BMBF (German Ministry of Education and Research); L2 responsible for centers' own development	Main discussion between L1 and Chinese State Council; L2 responsible for institutes' own development
C2: Funding	Stable funding towards research leaders since appointed, then flexible allocation; Appointment decision made by Person-centered governance	Five-year Programme-oriented Funding (PoF) restricted by Strategic Outlines of funding bodies and Position Paper of Headquarter	The Ministry of Finance allocates institutional funding according to official employee posts; Appointment decision made by Academicians
C3: Operation	L1 do interaction with funding bodies and external stakeholders; Free communication of L2 and L3 with scientific community, universities	Strategic discussion between L1 and funding bodies; L2 responsible for centers' own operation; L3 following programmes strictly	L1 do interaction with funding bodies and external stakeholders; L2 and L3 communicate with various projects funders

RADAR CHART



TENTATIVE ANALYSIS

Balancing role	MPG	HGF	CAS
Role 1	External legitimacy & justification of public funding VS. Internal governance	Organizational strategy alignment VS. institutional autonomous development	funding priorities between current excellent topics and strategically potential ones;
Role 2 Synegetic effects of fields and institutes	Scientific freedom VS. administrative restriction;	Collaboration VS. competition of programmes and involving centers	Financial proportions between institutional stable funding and short-term competitive project funding
Role 3	Vigorous evaluation Scientific independence, freedom and trust		Higher propotion of personnel demand

TENTATIVE FINDING

- The institutionalized evaluation procedures including stakeholders' communication and interaction all experience long-term learning processes.
- The IEMs consider and reflect governance conflicts in their procedural designs given their particular organizational missions and research orientations.
- the IEMs considering institutes' autonomy and scientists' trust contribute to tailored governance arrangements for various research fields and institutes, which guarantee balanced organizational effectiveness between vigorous evaluation and scientific freedom