

University performance-based research funding in the research policy mix

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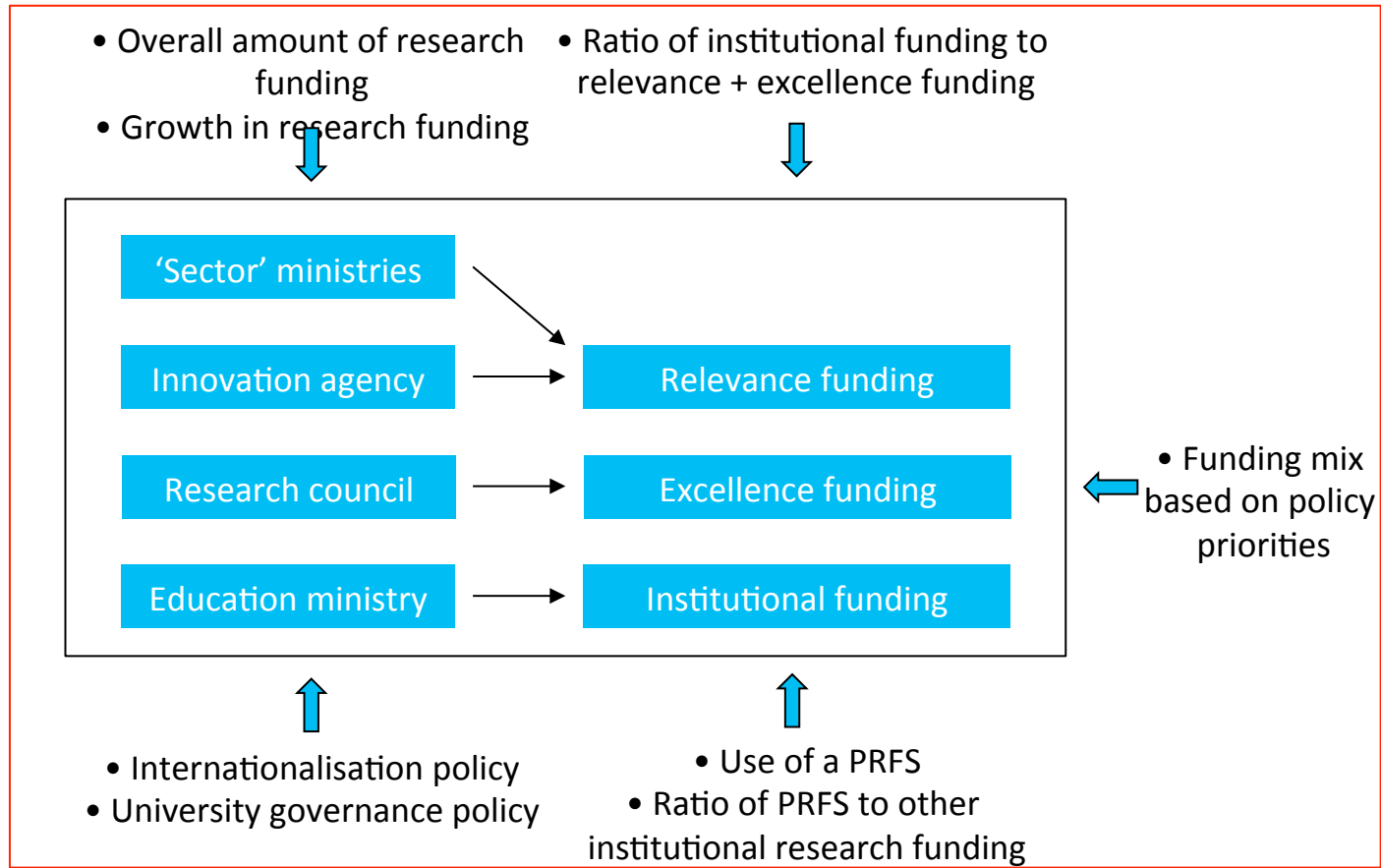
A 'how to' cook-book for PRFS

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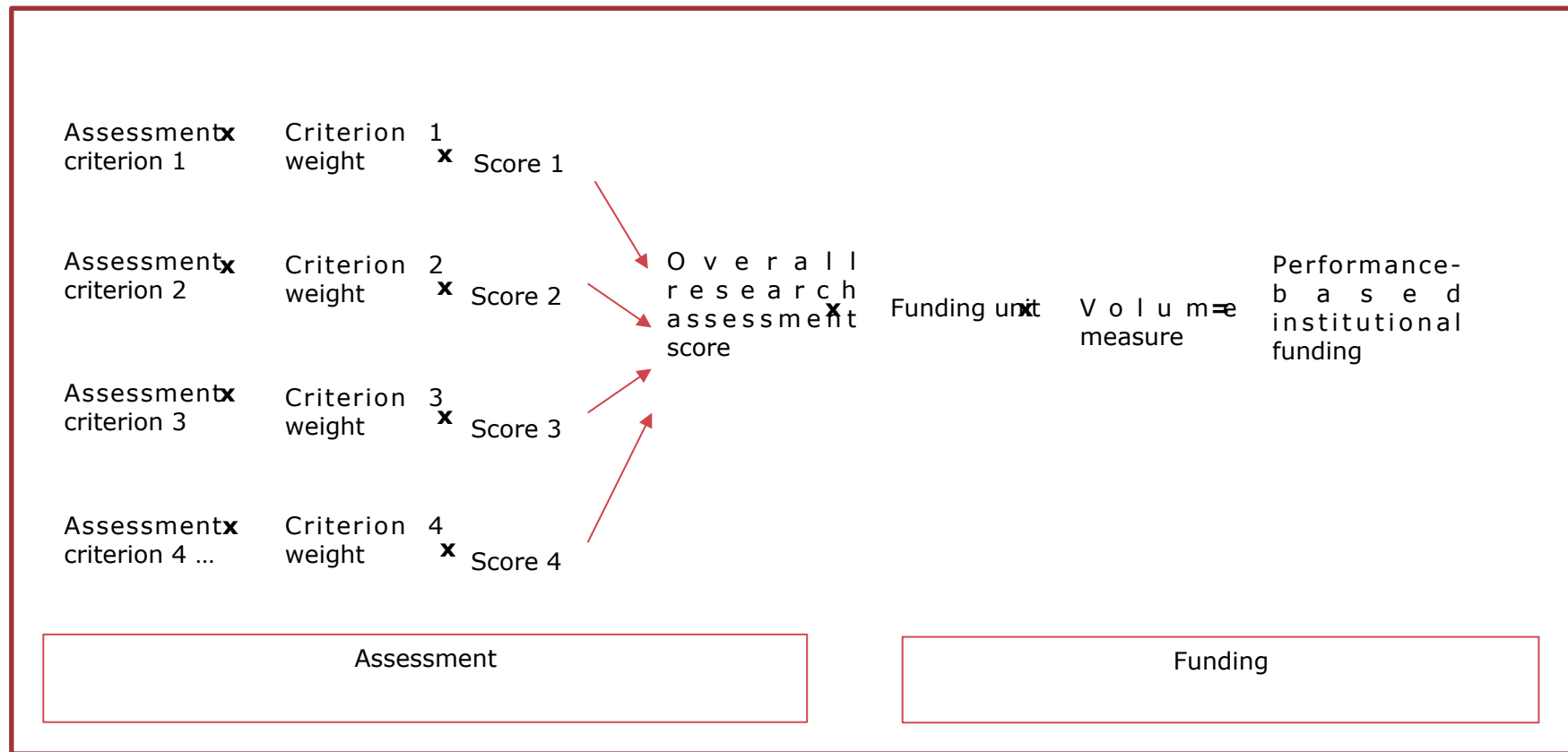
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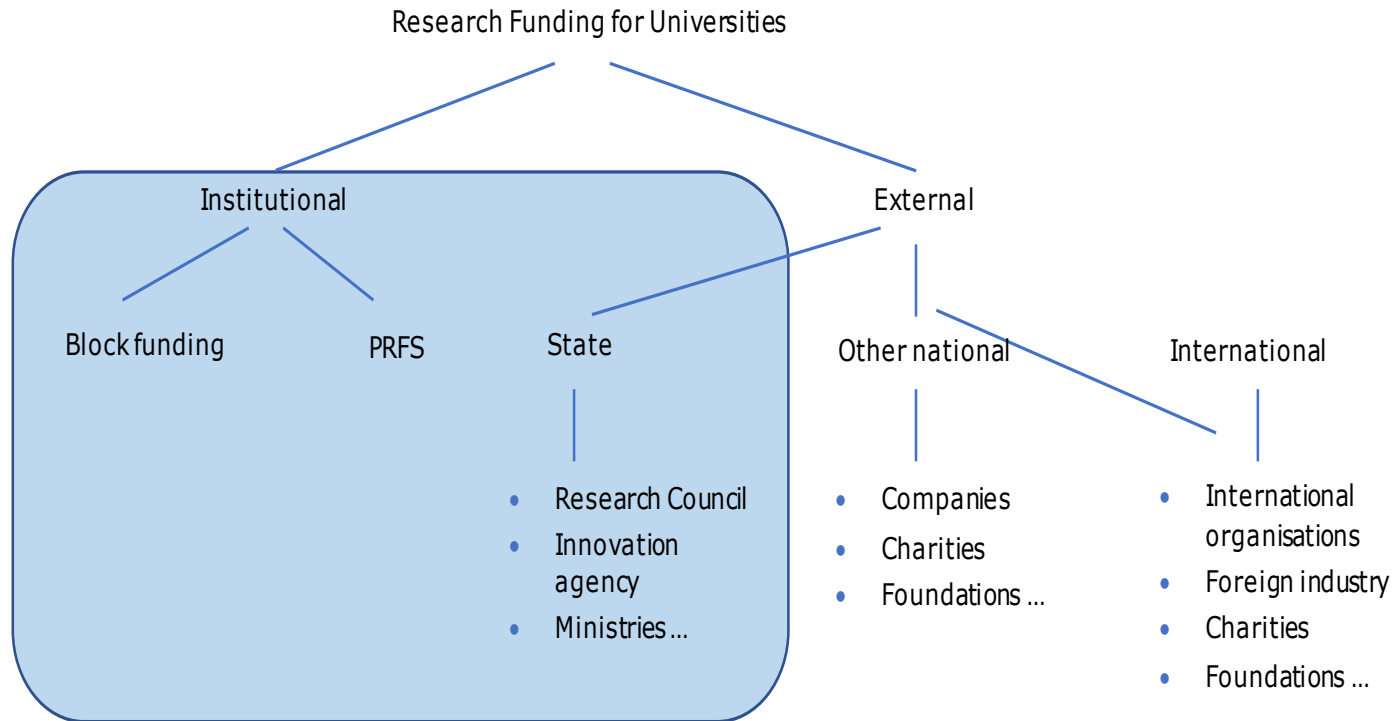
PRFS are one of many ways to encouraged improved research performance



PRFS – a two-part machine



We considered only the state funding system



The overall funding context varies considerably

	Austria 2016	Czech 2016	Estonia 2016	Italy 2016	UK 2016	Finland 2015	Norway 2016	Sweden 2015
State external research funding	9%	11%	40%	1%	37%	26%	13%	20%
Undifferentiated block funding	85%	0%	0%	78%	0%	0%	60%	0%
Teaching block funding	0%	47%	44%	0%	36%	0%	0%	49%
Teaching, performance-based	5%	12%	10%	3%	0%	51%	20%	0%
Research block funding	0%	18%	0%	0%	0%	0%	0%	28%
Research, performance-based	1%	12%	6%	17%	27%	23%	7%	3%
Total funding	100%	100%	100%	100%	100%	100%	100%	100%
Of which, total institutional funding	91%	89%	60%	99%	63%	74%	87%	80%
Sum of state external research funding plus PRFS as a % of total research funding	10%	22%	46%	19%	64%	49%	20%	23%

Policy purposes and aims are stretching beyond scholarly performance

	AM	AT	HR	CZ	EE	IT	MD	NO	PT	SI	SP	SE	TR
Problems and policy purposes													
Quality	X			X		X	X	X	X		X	X	
Productivity								X					X
Overall competitiveness	X	X					X						X
Efficiency	X			X					X				
Transparency & Accountability		X	X	X		X							
Systemic changes	X				X					X			
Aims													
Improved research performance	X	X	X	X		X	X	X	X		X	X	
Behavioural change in research (commercialisation, internationalisation)	X					X			X				
Reform within the institutions					X	X		X	X				
Reform of the research system	X			X		X			X	X			X
Improved institutional funding allocation		X	X	X		X		X		X			X

Assessment criteria used in PRFS

	AT	HV	CZ	EE	IT	UK	FI	NO	SE
Academic output & quality		X	X	X	X	X	X	X	X
Any external funding		X		X	X		X	X	
National grant funding	X							X	X
International funding	X						X	X	
Business/charity funding		X							
Innovation outputs/impact			X*	X		X			
PhDs	X			X	X				
Personnel					X				
Popularisation of science		X							
Topics of national importance				X					
Environment						X			

Design parameters available

Design parameters	Variations
Model used for the assessment of research quality	Peer review-based Informed peer review Mix of peer review & bibliometrics Metrics-based
Scope of research activity included	Research Innovation Societal relevance
Type of indicators	Output indicators External funding indicators Systemic indicators Outcome/impact indicators
Assessment criteria	Quality of outputs Relevance of research activities Institutional environment Esteem measures
Granularity	Units of analysis (grouping of scientific disciplines) Inclusion of individual staff (inclusive/exclusive)
Periodicity	Annual Longer time frames

PRFS in the policy toolkit

- Consider both adopting a PRFS and alternatives if the national university system's research performance needs improvement
- The scope and design of the PRFS should be consistent with other policy measures and the national context
- The proportion of institutional funding governed by the PRFS should be decided based on policy needs and the interplay between the PRFS and other instruments
- Both the assessment criteria and the funding formula used in the PRFS should encourage behavioural and institutional changes that reflect the policy goals
- Ensure the PRFS does not obstruct other policy goals, eg education, 3rd mission
- Dampen any abrupt changes in funding

PRFS design

- It may be hard to make big changes once the PRFS is launched
- Use expertise, especially scientometrics, where needed
- Anticipate intended and unintended effects of the PRFS on behaviour
- Keep the assessment process and funding formula separate
- Simulate the effects of the PRFS before implementing
- PRFS should be simple to understand and easy to communicate to universities and researchers alike
- Avoid using large numbers of criteria and indicators that create conflicting incentives
- Consult the DORA declaration and the Leiden Manifesto

PRFS model

- Choose a peer review or metrics-based system based on needs
- A combination of the two approaches can be useful
- Where a PRFS reviews a sub-set of research output, understand the biases created
- Understand the biases inherent in metrics
- Self-assessment is a useful tool in research assessment, especially where a formative element is desired
- A national CRIS should be considered as a way to maintain a high quality of input data to the PRFS, especially in smaller countries that work in 'small' languages§

Bibliometrics and peer review

Bibliometrics

- Use professional bibliometricians (independent of the commercial database vendors)
- Advanced bibliometric expertise requires scale – not everyone needs to invest in that

Peer review

- Take care in defining peer review panel membership not to predetermine outcomes
- Where criteria other than scientific quality are to be considered, panels should be ‘extended’ beyond academic peers
- Prevent conflicts of interest. Use foreign peers in small countries
- A PRFS cannot be run by a single panel. Judgements have to be calibrated and made consistent across different panels and reviewers

Using the results of the assessment

- Funding formulae should reflect the policy priorities of the PRFS
- In systems where the PRFS steers a high proportion of institutional funding, it is especially important that funding formulae take account of the need to align with influences on the institutional cost of doing research
- Assessment results can provide useful strategic intelligence for policymaking, such as offering a picture of national research performance in different fields. It is not necessarily difficult to combine and recombine assessment results at different levels to provide such strategic intelligence

Intended and unintended effects

- Evaluating the PRFS periodically. Consider net as well as grow effects, and behavioural additionality
- Conduct specific studies in order to search for stronger evidence about potential negative consequences
- Understand those potential risks and consider them when deciding on the mix of university funding instruments deployed and in the design and architecture of their PRFS.
- Internationally comparative studies and evaluations are also needed in order to start to disentangle the operation of PRFS from national contexts

