

What evaluation tells us about FP participation: A Policy Perspective

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The FP was intellectually the child of European countries' national industry policies

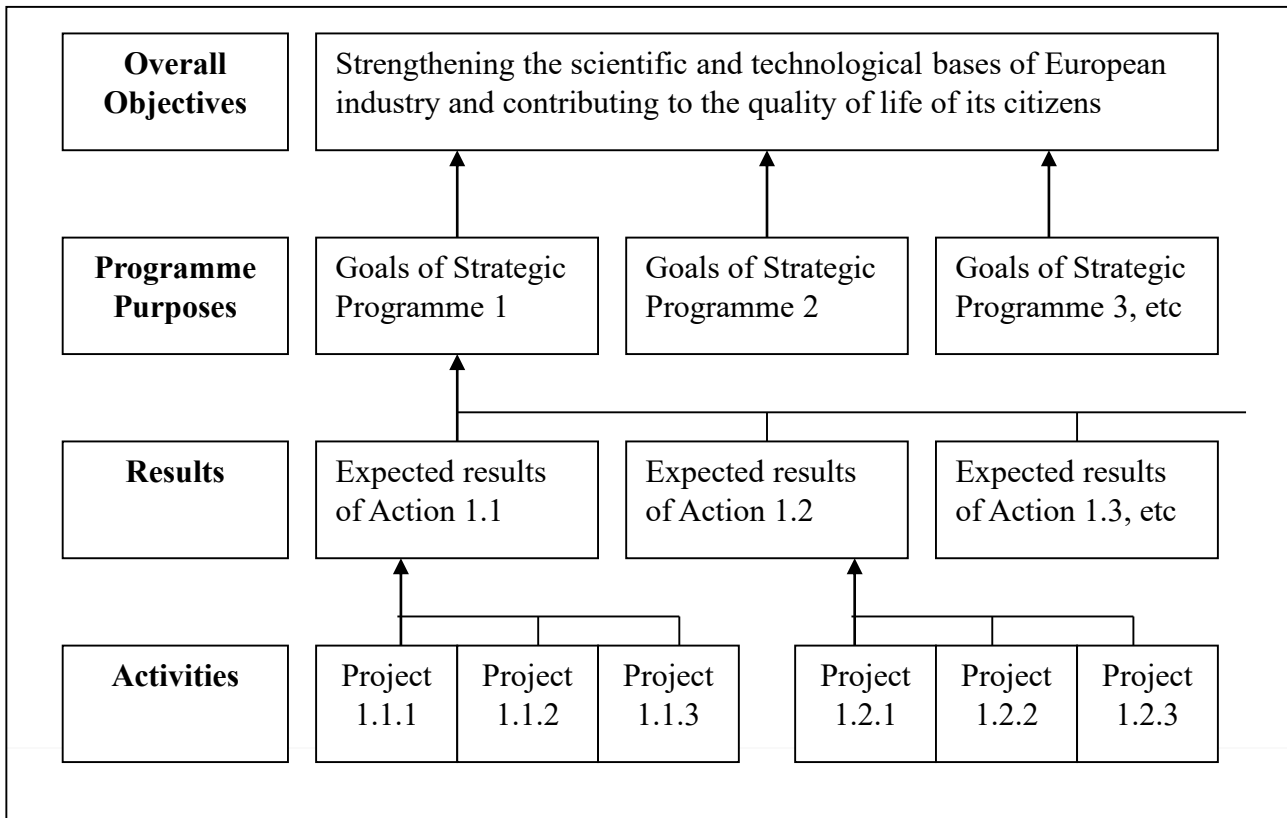
- 20th Century tradition of 'development pairs/blocks' (Dahmén)
- 1960s 'technology gap' idea prompted both
 - *Imports of machinery and 'American methods'*
 - *'Grands projets' to combat Le Défi Américain*
- Industry policy in Europe gained a bad name, through support of structurally uncompetitive 'rust belt' sectors
- 'National champions' and 'Grands Projets' were fostered – notably in computing, telecommunications and aerospace
- By FP1 (1984), European governments and ESPRIT were supporting national champions (ICL, Siemens, Bull)
 - *Trying to combat the global dominance of IBM (same turnover as Greece)*
 - *While the minicomputer revolution had already begun, making the whole battle for mainframe markets irrelevant*

We can see three periods in the life of the Framework Programme

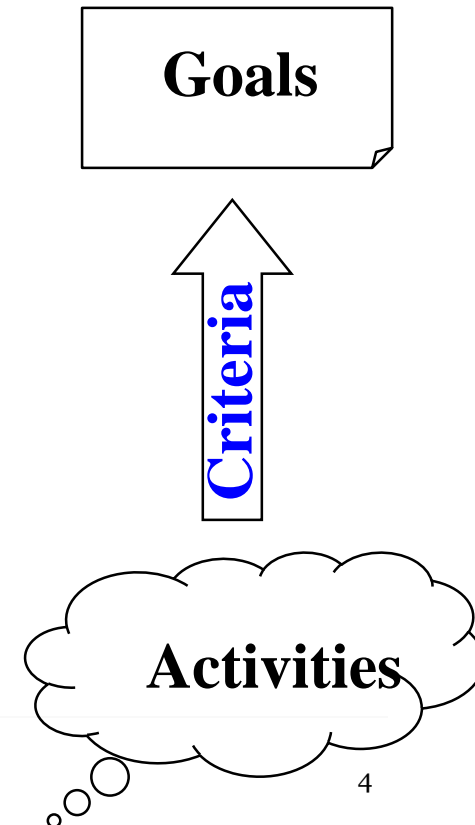
- Pre-2000 – networking national strengths
 - *1965-74 establishing COST*
 - *Various multilateral organisations (CERN, EMBL, etc)*
 - *FP1 1984*
 - *EUREKA was the last gasp of the multilateral tradition (1985)*
 - *Maastricht lets the CEC coordinate national R&D Policies*
- 2000 – the idea of a European Research Area
 - *Lisbon, Barcelona, ‘optimising at the European level’*
 - *FP6 as implementing mechanism*
- 2010 on – the relaunch and Horizon 2020
 - *New focus on self-organisation of stakeholders (PPPs, P2Ps)*
 - *Further policy integration with non-R&D domains*
 - *ERC*
 - *‘Societal challenges’*

It's not a **programme** – it's a **framework**

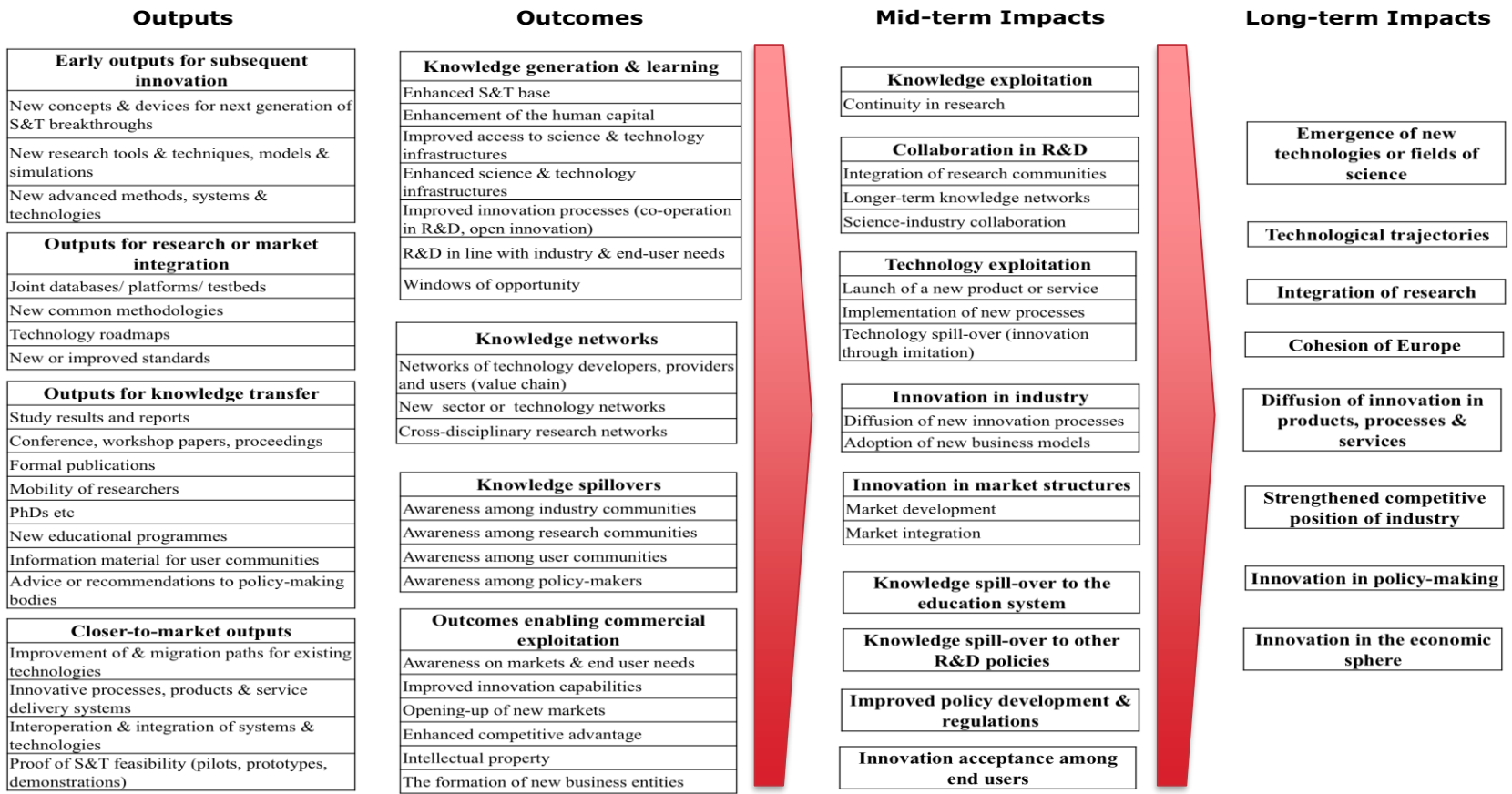
What the planners say ...



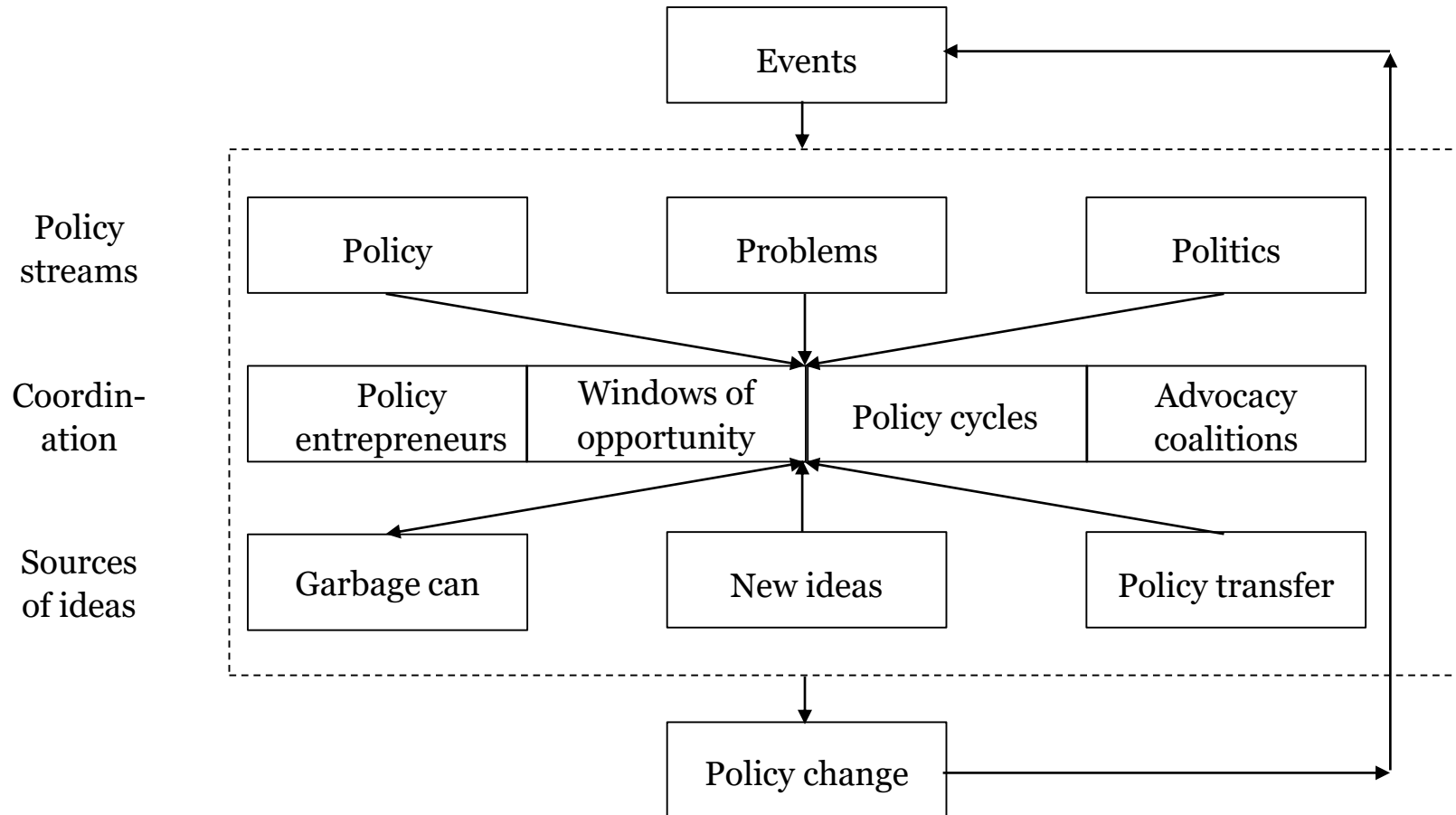
What the law says ...



It is possible to construct a long term FP intervention logic (for people with good eyesight) but the FP doesn't work top-down



How do you make a Framework Programme?



Evolution of instruments and governance

- Old-style Cooperation (collaborative, networked ...), also reappearing in H2020 Societal Challenges
- Open Method of Coordination
- New quasi-institutions with governance detached from the MS, eg ERC, EIT, EIC
- PPPs with governance devolved to the beneficiaries, eg ETP, JTI
- P2Ps such as Article 169/185, CoFund, ERA-NETs, ESFRI
- Financial instruments leveraging the banking system rather than the MS

What do we know about the FP from years of evaluation?

- The FP funds high-quality R&D: appraisal is tough; competition is fierce; participants perform better than non-participants in bibliometric terms; they include the scientific elite
- Growth in high-quality international co-publication within Europe has accompanied the growth of the FP
- Just as the FP attracts the more excellent researchers in their fields, so it engages the more research-intensive companies within their respective branches
- It is – by design – a pre-competitive, collaborative programme, primarily producing ‘intermediate knowledge outputs’ as well as technical and market network relationships that are re-used in other R&D and business processes
- Participants who enter projects with a deliberate product or process innovation objective are more likely to obtain short-term results than others

More of what we know ...

- With few exceptions, the FP is a place to exploit existing strength. Especially in established areas, it is too competitive to allow capacity building – that has to be done with national resources
- Most participants have only a fleeting relationship with the FP. However, new participants appear to learn the value of networked R&D and increasingly to participate in ‘open innovation’
- There is a strong core of established players and networks whose composition slowly shifts over time. Just as with global ‘scientific colleges’, you have to ‘earn your spurs’ in order to join these networks and to carry on delivering value to your partners if you want to survive
- However, we know very little of the details of how networks work, how networking relates to strategy or how network shape relates to success

Actually, we seem to know quite a lot ...

- Despite the trend to larger instruments in recent Framework Programmes, bigger networks do not seem to be more productive than smaller ones – in fact, what evidence there is suggests the opposite
- The FP is often associated with pre-normalisation R&D and the development of technical standards
- Most participants believe that FP participation increases their competitiveness but the indirect nature of the FP's effects (through 'intermediate knowledge outputs') makes them very hard to track
- Parts of the FP that focus on smaller firms and more direct results have been evaluated using a cash benefit-cost approach, which suggests high benefit-cost ratios. Smaller firms benefit less than larger ones (and are generally less satisfied with FP participation)

We start to see long-term impacts at the case study level – dominated by the cooperation instruments (FP4-6)

Long-term impacts	QIPC	Brain Research	O ₃	Solar PV	Auto-motive	Manu-future
Emergence of new technologies or fields of science	X	X		X		
Technological trajectories	X			X	X	
Integration of research	X	X	X	X	X	X
Cohesion of Europe			X	X		X
Diffusion of innovation in products, processes or services				X		
Strengthened competitive position of industry				X	X	
Innovation in policy-making			X			X
Innovation in the economic sphere				X	X	X

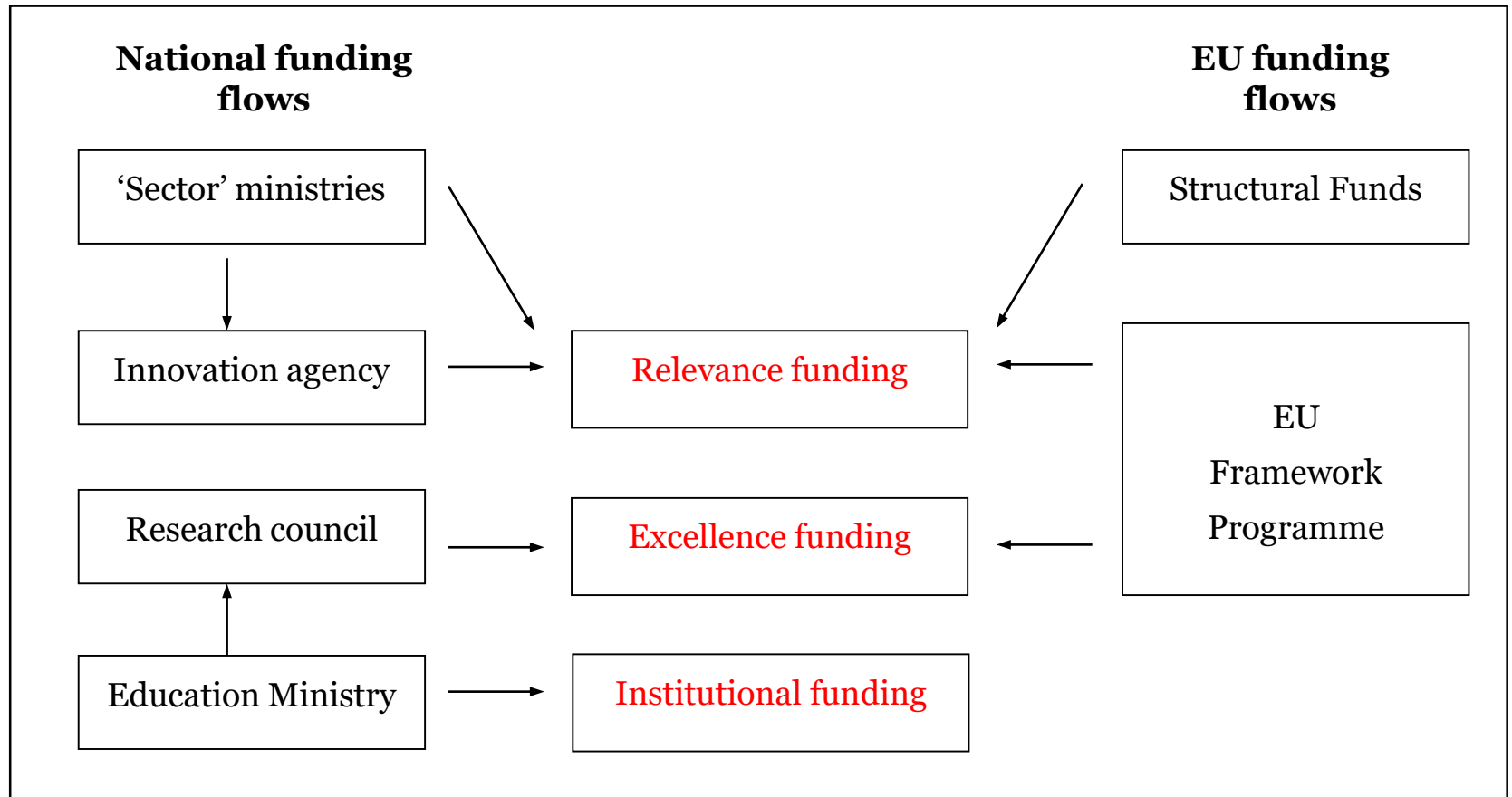
Some long-term impact mechanisms are less visible in a short term perspective

Long-term impacts	QIPC	Brain Research	O ₃	Solar PV	Auto-motive	Manu-future
Discovery	X	X	X	X		
Creating new knowledge outputs, more generally, especially moving towards applications	X	X	X	X	X	
Discipline development	X					
Focusing device in relation to innovation				X	X	X
Agenda-setting	X	X	X	X	X	X
Promoting self-organisation of stakeholder communities	X	X	X	X	X	X
Influencing regulations or standards	X		X	X	X	
Coordinating or influencing policy		X	X	X	X	X
Strengthening networks, Knowledge Value Collectives; defragmenting the research community	X		X	X	X	X

In the long term we see different impact mechanisms (2)

Long-term impacts	QIPC	Brain Research	O ₃	Solar PV	Auto-motive	Manu-future
Changing research network shapes: putting Europe in the centre	X	X	X	X	N.A.	N.A.
Levering funding for R&D	X	X	X			X
Mobility and development of human capital	X	X	X	X	X	
Research infrastructure (Grids, test-beds, etc)						
Behavioural additionality: learning a 'new' innovation model		X			X	X
Speeding up industry' entry into new technologies	X					
Tackling problems too big for an individual Member State	X	X	X			X
Addressing areas of major socio-economic importance for the EU	X	X	X	X	X	X

EU funding involves interplay with national funding policy. National strategy has to take account of both



Effectiveness of EU funding depends a lot on governance

- Two kinds of effects on national R&I priorities
 - *Weak systems tend to copy FP priorities – implicit coercion by EC or lack of domestic policymaking capability*
 - *Strong systems use FP to reinforce existing priorities*
 - *Mismatch between FP and national priorities creates a centrifugal force – increasing diversity in the national research system*
- Traditional instruments have a big structuring effect
- Open Method of Coordination – little effect below national level
- Joint programming instruments have limited influence because they are voluntaristic
 - *Depressingly similar to many Nordic R&I initiatives*

Examples from recent evaluations ...

- Article 185
 - *Like any thought-through intervention, these tend to have some benefits in terms of outputs and outcomes*
 - *Having three governance layers cause bureaucracy and expense*
 - *Random fit between themes pursued and overall FP strategy*
 - *Do not help with cohesion: matching funds mean the rich get most of the money*
- JPIs
 - *Little financial commitment by most countries, so these are smaller than intended*
 - *As with mainstream FP, the strong reinforce existing priorities, the weak don't play*
 - *Overall, little effect on policy at the national level*

Some tentative and deliberately provocative conclusions

- Over time, the FP has radically transformed the structure and integration of EU R&I
- Continuation will provide lubricant and some coherence to the EU system, and is better than spending the money at the national level
- Its 'excellence'/winner-takes-all focus is now starting to work against the principle of cohesion: that the strong lift up the weak
- It is an inadequate response to the societal challenges because it lacks the powerful, multi-level governance mechanisms needed
 - *Can it devise more effective governance without always distributing money?*
- With no roots in a forward-looking industrial strategy, it mostly locks into established interests and research themes
 - *Hence the frantic experimentation with instruments in recent years*
 - *And over-indulgence in Mazzucato-worship → Grands Projets?*

