

Between Political Rocks and Economic Hard Places: Developments in EU Research Policy

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1. The policy gap in European research

In 2002, the European Council meeting in Barcelona entreated member states to fundamentally change how, how much and where money is spent on research and development (R&D) in the European Union (EU). The so-called 'Barcelona objectives' firstly required a collective effort by member states to increase total EU spending on R&D to 3% of combined GDP up from the then-current 1.9%. Secondly, member states were to coordinate their national research programmes to create an integrated European Research Area (ERA) in order to reduce problems of duplication and fragmentation of R&D effort across the area. Thirdly, member states were invited to concentrate efforts in specific and strategic areas, such as biotechnology and renewable energy, which were more likely to promote and sustain economic growth. The timetable for the objectives was identical to that for the Lisbon agenda: 2010. Indeed, the Barcelona goals sought to broaden the Lisbon agenda of creating 'the most dynamic and competitive knowledge-based economy in the world' to include not only the demand and use of knowledge (through investment in ICT training, etc.) but also its supply. In this specific area, the EU was seen to lag behind its two most obvious comparators, the USA and Japan: not only were investment levels in R&D higher in both countries (2.7% and 3.1% of GDP respectively (source: OECD)), these resources are deployed within a comparatively well organised national innovation system that comprises government, industry and university actors. The absence of a European innovation system is ultimately the policy gap the ERA seeks to fill: increased spending (the first objective) needs to be deployed in a coordinated system (objective two) and needs to concentrate on strategic areas (objective three).

2. Developments in governance

This ambitious agenda was not accompanied by any new legislation. The Commission launched an action plan relying, for the most part, on the open method of coordination (OMC), i.e. best practice, peer review and policy learning, to achieve these objectives. The OMC is a flexible instrument that comprises a set of practices that effect change through what can best be called 'persuasion', i.e. policy goals are co-opted and then implemented by member states because it is in their best interest to do so, not because the EU has issued new regulations. This reliance on non-directive or open-ended means to

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achieve specific goals is seen as the instrument's main strength: compliance is flexible and tailored to local conditions. Thus, OMC respects the letter and the spirit of the subsidiarity principle in a policy domain where nation states retain almost exclusive competence. However, in some instances, member states simply trade statistics and the Commission produces league tables of compliant and not-so-compliant states. Not only does this leave existing institutional structures intact, it provides for no sanctions in the event of inaction other than the dubious punishment of being 'shamed' by the Commission. The conditions for stasis, argue OMC detractors, are therefore satisfied.

Notwithstanding these observations, the Commission has established a platform for policy learning and programme coordination in the guises of ERAWATCH and ERA-NET. The former project collates information on member states' research systems and produces comparative reports while the latter funds activities aimed at opening up national research programmes.

3. Results so far

Six years into the plan, and two years before its delivery date, it is possible to evaluate trends in European research policy. Several Commission reports and independent studies have already shed some light on the 'oppositeness' and efficiency of the action plan and its methods.

3.1 The 3% target

Of the three Barcelona goals (level of investment, coordination of research effort and strategic prioritisation), 'stasis' would seem to be the general observation. Taking the 3% target first, since 2002, investment levels, both government and business-sourced, have remained unchanged. If anything, the overall trend has been falling since 2002, with the most up-to-date figure for EU27 spending (2006) standing at 1.85% of GDP (down from 1.9% in 2002 (Eurostat)).

Indeed, if current trends continue, the EU27 will only reach the target in 2040. Eurostat figures put the annual average percentage increase in expenditure in R&D (2001-2005 for the EU27) at 1.5%. As the current level (2005) of expenditure stands at 1.8% of GDP, it would take another thirty-five years to reach

Further reading

This policy brief is based on research carried out within the NEWGOV project no. 2 on "The Open Method of Co-ordination". The aim of this project is to undertake theoretically informed, empirically rich comparative analysis of the open method of co-ordination. The comparative component has two dimensions - policy domains and member/candidate states. The objectives of the project are to (a) map the use of the open-method of coordination in different policy domains; (b) analyse the form and function of OMC in different policy domains; (c) explore the manner in which different EU institutions are engaged in or excluded from OMC processes; (d) analyse the interaction between the national and EU levels of governance through OMC; and (e) assess the effectiveness of OMC as a problem solving approach.

Further information can be found on the NEWGOV Website in the [special section](#) of project no. 2.

three percent. The reasons for this situation may be that member states have ignored the Commission's pleas for increased spending, and patterns of investment are following a 'business as usual' approach. It may also be that the magnitude of the task is beyond the resources deployed to meet the goal. To put matters in context, the shortfall in R&D expenditure is equivalent to the total GDP of eight of the Union's poorer members, or eighteen million people. The projected 3% target is itself equal to the combined GDP of the eleven poorest members, or a total of fifty-five million persons.¹ It may thus be that the policy goals are in themselves unattainable, i.e. member states are aware of the goals and even support them (c.f. the national reports submitted in response to the Commission's survey, ERAWATCH), but are unable or reluctant to insti-

¹ Three percent of EU27 GDP is €330,052 million, or the combined GDP of Malta, Estonia, Latvia, Cyprus, Lithuania, Bulgaria, Slovenia, Luxembourg, Slovakia, Romania and Hungary. The shortfall of 130,000 million is equal to the first eight these member states (source: own calculations based of Eurostat data for 2005).

tute the radical reforms of national spending priorities required to meet them.

A further reason for this 'non-compliance' may be that this goal is not only infeasible but also undesirable. Setting an eight-year timetable meant that countries spending less than the three percent would have had to inject vast resources into public and private bodies not prepared for that level of activity. The 'absorption capacity' of states to use resources effectively takes many years to build up, as recent experience with the Cohesion funds have shown. An identical phenomenon is highlighted by economists when the return on investment of R&D spending is calculated. The conditions for 'multiplying one research euro into 4 to 7 euro', recently cited by Manuela Soares, Environment Director for DG Research, are restrictive and dependent, at the very least, on an pre-existing advanced level of technological development. Countries with a poor technological base would not see such spectacular returns on investment and may indeed be better off investing in other growth-inducing areas such as tourism, health or primary education.

3.2. Opening up national research programmes

On the wider issue of institutional change, progress is, quite naturally, more difficult to evaluate. A 2005 CREST report (Examining the Design of National Research Programmes) has highlighted the many barriers to achieving an integrated European Research Area. According to the report, the most obvious and important barrier to EU coordination in research is the prevalence of national funding priorities aimed at national capacity-building,

i.e. national resources being specifically targeted at, and remaining within, uniquely domestic institutions (either universities or business). This factor is arguably a consequence of the historic role of science in national industrial policies: although the very notion of a national policy for industry (with its implications of national champions, state aid etc.) now appears anti-EU, research systems still largely respond to national priorities and thereby prohibit transnational cooperation. This may be reflected in the legal constitution of grants that prevent the transfer of funds to non-residents or, more indirectly, the inability or reluctance of financial administration systems to manage transnational projects.

Other findings of the report, which is based on expert interviews and analysis of ERA member states' research policies and programmes, are that: a) the instances of transnational activities are marginal, with only 15% of reported research programmes spending more than 5% of total funds abroad and only 4% spending more than 25% of total funds, and b) there is a clear difference in practices between larger (France, Germany and the UK) and the smaller economies, with only 3% of the larger states' programmes activity encouraging transnational funding. This figure rises to 31% for small (<100 billion GDP) economies, suggesting that larger countries might have the capacity to collaborate but not always the will, while smaller ones may have the will but not the capacity.

The ERA-NET scheme, launched in 2002, was subject to its own review in 2006. The scheme provides funding for the additional cost of partner-networking but does not directly fund any 'science' *per se*. Over 1000 participants from 38 countries were selected from an initial 2000-plus candidates. Although the review noted the general satisfaction of participants, on the crucial question of transnational funding or use of 'common pots' i.e. centralised financial administration, the review found that 'the establishment of common pots was rare', as it was considered a 'step too far' by participating bodies. It also warned that the "preponderance of ERA-NET projects and the involvement of significant numbers of staff has only recently been perceived by some senior policymakers, leading in some instances to criticism that there are

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now too many ERA-NETs, with little focus on items of true strategic importance to individual nations (p.16).” Collaboration as an end in and of itself may chime with academic communities: policymakers are more likely to seek the ‘added-value’ of such activities.

3.3. The trends in research strategies

The third aspect of the ERA plan is the thematic balance of national policies. The type of science that is pursued by the member states ultimately determines the conditions for coordination. If each member state were to concentrate on an exclusive area of research, the possibilities for cooperation would be zero. Naturally, states share an overlapping patchwork of domains, the question being, has there been any noticeable convergence in priorities over time? Figures on government spending on socio-economic objectives are reported annually, and robust data for longer-standing member states is presented in figure 1.

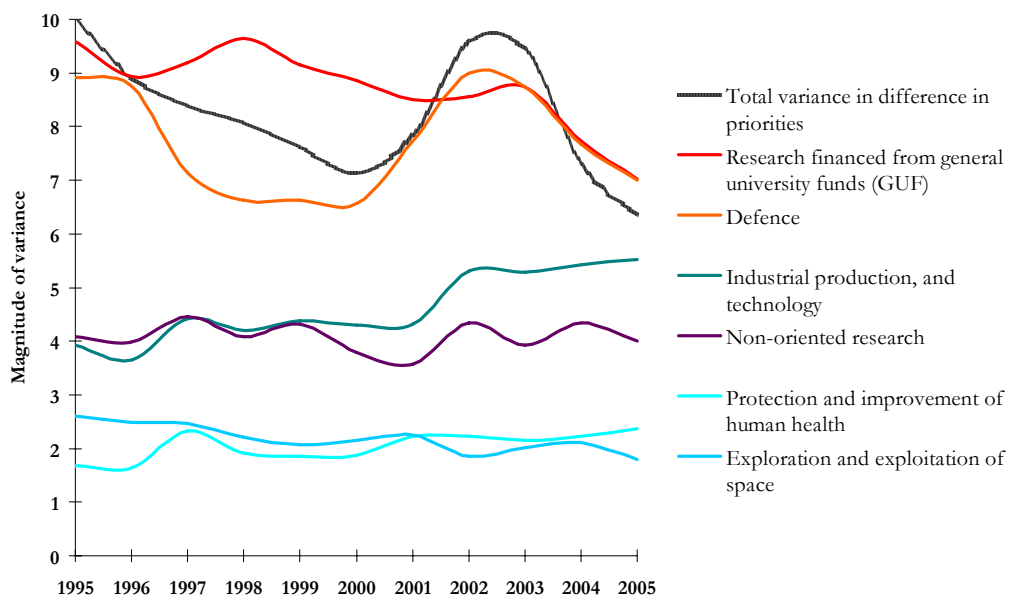
Overall, variance in objectives for the period reported appears to have fallen and this fall is in large part due to a convergence in priorities in the amount of spending on defence (which has been reduced from 16% to 13.5% of EU15 research spending) and research fi-

nanced from general university funds (which has risen from 30% to 32% over the period). This trend suggests the emergence of more favourable conditions for policy coordination.

4. Conclusion

An inescapable conclusion to be drawn from the recent developments in EU R&D policy is that, although the research agenda has gained in profile over the past years, due in part to the OMC process, it carries the burden of its initial hubris. The three percent target is a disputed and, we have argued, disputable goal. Consequently, compliance has been lacklustre and will continue to defy Commission appeals. The ERA is a more intangible objective and so progress towards it is harder to find. Evidence from available sources seems to show that research priorities are converging across member states. This may conceivably mean that duplication is on the increase: as states focus on a smaller range or research areas, the dangers of duplication inevitably rise. Cooperation in research efforts is the obvious solution to the problem of duplication. This is the ultimate goal of a fully-fledged ERA: an integrated area where funding and findings flow across national boundaries.

Figure 1: Variance in research priorities



Source: Eurostat Nomenclature for the Analysis and comparison of Scientific programmes and Budgets (NABS). Figures for the EU15 and six of the most significant one-digit NABS headings.