



Review Report: Steps in building a Social Knowledge Economy – Ten Things the EU Can Do

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Steps in building a Social Knowledge Economy

– Ten Things the EU Can Do

In our first review report, produced in year two of the project, we pointed out that innovation policies, research policies and human resource policies all have a part to play in a new, more socially inclusive approach to S&T policy, or in widening inequalities. *Innovation policies* that encourage the introduction of new products and processes claim to contribute to economic growth for particular regions or countries through the monopoly rents the innovations command, a process that some see as favouring countries that are already affluent, and products and processes developed for, or accessible chiefly to, the world's rich. *Research policies*, which encourage the production of new knowledge, increasingly emphasize adjusting research agendas to the needs of innovating industries, and are thus more and more implicated over time in the inequalities that innovation produces. Yet, because research policies are set in the public sphere, they are also often the object of attempts by disadvantaged groups to increase knowledge about solutions to their own problems. Research policies are seen as a subset of innovation policies. *Human resource policies*, which attempt to assure an adequate supply of scientists and engineers for an innovating economy, are caught in the tension between egalitarian domestic objectives and the need to compete for top talent in a global market. Human resource policies cover a much broader terrain than innovation policies and research policies, but overlap and interact with the latter.

Cutting across these three primary strands of policy are *Regulatory or Accountability policies* and processes, framed directly to respond to the distribution of benefits and harms in developing new S&T priorities, or, in trying to shape the production and use of what already exists, may cut across any of them, and broad international and world regional *regimes shaping trade and intellectual property*. The first review report looked at our research to date, work package by work package, in terms of the potential synergies between these policy elements.

In this report we wish to cut the cake a different way, by grouping and reviewing our policy recommendations in terms of how Europe might hope to take up the challenge of developing and implementing them. In doing so we will be a little more speculative than in the other ResIST papers, as a form of policy provocation.

We focus on Europe, not only as the sponsors of this research, but because we wish to argue that our recommendations have a special significance for Europe. As one of the world's largest knowledge producers, with its strong traditions of social welfare and of the production of public goods, and as the world's largest source of development aid, the model of a **social knowledge economy** that emerges from this study might be taken up as a new European model, one which provides an important reference point for European identity, and a focus for the selection and integration of both internal and external policies in pursuit of the Lisbon objectives. Europe has already committed itself to be the leading knowledge economy with ambitious targets for the share of GDP spent on R&D, with a parallel commitment to social cohesion. The expenditure on research through the Framework Programme is already the second largest element in the Commission budget after farm support. It may now be seen to be the time to use S&T policy more directly, in conjunction with the structural funds rather than in contradistinction from them, to confront differences in economic and social capacities across Europe, as well as in overseas development. Approaching the

issues in this way may suggest parallels between the two contexts and the policies that can support development in and between them. Achievement of the policies set out below is of course not free, and is more likely if EU spending priorities between farmer support and R&D are reversed. This can be seen as a primary policy test as to whether the EU is in the front line of the starting grid in knowledge economy competitiveness.

Social Knowledge Economy Policies for Europe

(a) For the direct benefit of Europe

What then are the core requirements in trying to apply a social knowledge economy systematically, for more balanced growth across Europe?

1. Broaden the sources of research ideas and requirements in Europe

The first may be greater pluralism in the recognized routes to and sources of research ideas and requirements. At present the Framework programme research activities – and in these respects it differs little from national programmes – are generated by academics in competition for funds representing ideas – basic research through the ERC – or capacities, with anticipated payoffs in business, industry or addressing social problems. The process of priority definition for the larger non-ERC element of funding is a perfectly defensible and legitimate one in principle, but it nevertheless facilitates high continuity of interests from Framework Programme to Framework Programme, with strong influences from a Commission, Government and industrial elite. The way these research priorities are shaped, through extended negotiation, arguably serves further to reduce their ideational diversity and representation of social interests. Public consultation takes place, but it is unsystematic and haphazard, frequently being invoked in response to short-term crises of legitimation, and downstream, where the options are largely set; little consultation makes it to the status of deliberation, which in WP3 of this study we have said carries the strong implication that the decision-making process has binding powers. Science and society activities frequently become less public involvement in priority setting, and seem sometimes little more than seeking legitimation for priorities and approaches which have already been determined. Such systematic attempts as have been made to widen social access to knowledge, such as through the science shops movement, have not fundamentally challenged this picture. To adopt WP3's language, we need new ways to think about the definition of the 'user' or 'policymaker' in research, based on the recognition of a range of actors 'including technical staff, citizens, civic organizations, or social movements.' The research needs of social enterprises might be added to this list.

2. Establish a firm basis for the assessment of the outcomes of different forms of public participation in setting and delivering research priorities, either in their own right, or in contributing to the delivery of public goods or services; recognizing the diversity in needs and settings

This is a direct corollary of 1. Under its WP3, ResIST has produced some interesting case studies of public involvement in current issues of public and environmental health, as well as in priority selection, but we need more detailed, carefully framed

assessment of whether and under what conditions such participatory processes produce new knowledge, and whether the forms of knowledge production aid its distribution, and take-up. This needs to be followed up by some focused and rigorous evaluative research, including a qualitative stage to sensitively tease out all the issues involved, before working to try and model and measure them.

3. Assess the composition of research portfolios, and the ways in which the research they comprise will distribute social and economic opportunities and costs

The second requirement may be to be more self-aware about the composition of research portfolios we fund, and the ways in which they will potentially distribute opportunities and costs. The WP4 group in ResIST, who introduced the idea of distributional technology assessment, suggested its application largely to the impact of emerging exogenous technologies on developing economies. Much work needs to be done to develop the approach for consistent use in that context. But since it is now considered legitimate to ask all applicants for grants in the UK research council system how far their work would have an economic payoff – by which is meant how far the products of the research would concentrate economic benefits – it might be equally reasonable to ask applicants, in a similar manner, to describe how broadly economic and social benefits from research might be distributed and what would aid the breadth of that process. Further, it would be possible to look at features of the proposal which would directly affect distributive outcomes: the scope of the consortium, the approach to IPR or other forms of knowledge transfer that would be involved, any wider training or capacity-building that would result, possible spillovers, and the distribution of costs and benefits involved in the production and delivery of any resulting goods or services, including the costs associated with re-use and re-cycling as the product passes through its lifecycle. This assessment method might be primarily used to characterize research portfolios rather than assess individual proposals, although there would be no harm in giving priority to a proposal that was able to demonstrate that it would deliver the same technical outcome as a rival but deliver it more widely.

4. Confront the national and regional disparities in research capacities across Europe, and launch a fund to address these; the additional research to be determined in part through carefully assessed experiments in broader participation in research priority setting, and in designing related accountability arrangements

It is understandable that the inequitable distribution of research and research capacity across European countries and regions is something that DG Research is ambivalent towards. The rationale of its work has always been excellence, in support of European Competitiveness and basic research, and the *juste retour* principle has never applied to its expenditures. Nevertheless, the work on Central and Eastern Europe under WP0 of ResIST demonstrates acute research capacity issues across this European region and the consequential difficulties in fostering a consistent innovation policy posed for a small new Member State, Latvia. This paper proposes that these be addressed directly by creating a strategic policy and fund for assisting catch-up of all member states to at least current average EU levels in S&T capacity and funding. Such a policy and fund would (a) develop existing areas of expertise in basic and applied S&T whilst (b) adopting experimental and carefully monitored work to broaden the range of participation in setting S&T related objectives, and in designing appropriate accountability measures for them.

5. Whilst not compromising the rights of the individual researcher to move freely across Europe to train and work, monitor more carefully the effects of internal migration on the distribution of highly skilled expertise across Europe, and the effects of this on the ability to deliver more evenly distributed European scientific capacity as proposed in 4 above

Whilst the achievement of objective 4 should help to provide S&T jobs in some of the areas of Europe currently relatively poor in them, and thus provide a better balance of scientific migration across the EU, it is important to monitor this closely and be prepared to think about whether such measures as giving the ‘knowledge diaspora’ incentives to return home or to send home knowledge as well as financial remittances might at some time be required between European member states.

(b) For the benefit of Europe’s partners in trade and aid, particularly in the developing countries

6. Critically examine how mundane technologies used in the EU, such as the textiles and electronic equipment studied under ResIST, distribute costs and benefits across different jurisdictions during their lifetime of production, use, re-use and recycling, and consider how the different times and places where these processes occur can be stitched together in an accountability system that better protects the most disadvantaged from exploitation, contamination, and other risks

ResIST’s work under WP3 documented well that everyday technologies are constantly distributing and re-distributing goods and harms as they pass through different stages of their lifetimes, often in different countries. This paper recommends that the EU considers itself as having, at the very least, a duty to understand these long chains of causation so as to avoid being a party to unintended harms in third countries as a result of ignorance. Such knowledge will be the first step in being able to take measures to design accountability systems that can help protect the poorest and weakest involved at some stage in the handling of a good or commodity from which the EU benefits as manufacturer or user.

7. Ensure that ‘brain circulation’ works to the benefit of all parties in exchanges between Europe and the rest of the world, by adopting a policy of balanced highly skilled personnel exchange applying to all developing countries

A policy of this kind is much more likely to result in the EU getting access to the best talent from the developing world by countering any tendencies to skilled labour protectionism; it would also provide a framework under which highly skilled Europeans could contribute to development. Given ResIST’s findings of the minimum conditions of home country opportunity and support which are required to attract the highly skilled home, the policy will have to be paralleled by higher levels of European investment in developing countries S&T systems, to counter the de-institutionalisation in African countries which our WP3 colleagues have documented. Anastassios Pouris’ work on South African Science underlies the argument for S&T investment to be concentrated, building on existing strengths.¹ This may imply regional rather than

¹ Anastassios Pouris (2006). ‘The international performance of the South African academic institutions: a citation assessment’ *Higher Education*, published online 14 September 2006. Available at <http://www.be.up.co.za/images/documents/BEatUP-news-APouris-HighEducation.pdf>, accessed on 9 June 2009.

national concentration of scientific capacities in Africa.² Pouris queries why South Africa's top six academic institutions don't show strengths in some of the priority areas of the South African Department of S&T, and if the country can afford to distribute its expertise in clinical medicine and plant sciences across all six.

WP4's work has also pointed up the importance of creating and maintaining pockets of highly skilled workers in giving developing countries access to new technologies; and the importance of basic infrastructure and more general educational levels to diffuse and absorb these new technologies.

8. Support knowledge remittances through the fostering of knowledge, business and investment networks between the knowledge diasporas in Europe and their originating countries in the developing world

Provided that there are strong research institutions to build on in the sending countries, WP3's work under ResIST has shown that policies to promote return and encourage 'knowledge remittances' home can be effective. Although much of the onus to create the environment for successful policies falls to the originating countries, the EU can support such efforts by appropriate 'scientific diplomacy' with the main sources of scientific supply to Europe, following up specific suggestions for help, particularly in the contexts of INCO collaborations.

9. Press for fairer intellectual property rules

The work of both WP1 and WP4 have illustrated that the intellectual property system needs serious attention if social cohesion and economic development goals are to be reconciled. This applies particularly, but not exclusively, to the global south. Specific recommendations are to provide stronger protection for diffusion of innovations that meet basic needs; provide mechanisms that protect collective or public goods; and incorporate flexibility to adapt systems to different levels of national economic development.

10. Reflect all these changes in a major effort to develop a broader set of indicators of the relationships between science, technology and innovation policies and social cohesion, applicable to states at different levels of development

We need to characterise and track the science, technology and innovation system on a basis which reflects this wider set of social objectives which we propose it serves. WP1 proposals for the development and maintenance of a new set of indicators suggest that it should include instruments that identify/assess institutional diversity; public engagement in S&T and the effects of processes aimed at inclusivity; and wider social indicators of health, education, environment, inequality and happiness.

² Author's comment, not that of Professor Pouris.