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AGENDA FOR THE 21st CENTURY: NATURAL RESOURCES AND THE ENVIRONMENT. EUROPE

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INTRODUCTION

The question of to what extent there may be a specific research agenda on natural resources and the environment for the 21st Century in Europe may result in different answers. On the one hand, in an increasingly more global world, one could think that there are little differences between Europe and say Australia, the USA, and other world regions. On the other hand, Europe has some specific features that contribute to differentiate its agenda. For instance, the European Union started with six countries, the current number is 15, and it is likely that it will reach 25 or more in the next few years. The integration policy for countries with such different traditions and wealth, for instance, shapes the European research agenda and the way it is designed. Also, most of Europe, unlike other world regions, has recently undergone a food safety crisis. This also shapes the research agenda related to agricultural policy in a distinct way.

Overall, some distinct European characteristics of the European research agenda on the environment can be traced. This paper deals with such characteristics on three areas related to research. First, the environment in the large EU public research programs. Second, the Common Agricultural Policy (CAP) reform. And third, the research on environmental valuation.

FRAMEWORK PROGRAMMES

Since long ago, at EU level the research through networks involving different countries has since long ago been prioritized over national projects. The main

coordinated research instrument at EU level is the framework program, which makes funds available to large integrated research projects. The fifth framework program (FP5) started in 1998 and ended in 2002. The next one in the series is the sixth (FP6), from 2002 till 2006. The environment was a priority already in the FP5. Also, FP5 emphasized the usefulness of the project for end-users and the presence of social sciences in the integrated projects. Thus, natural science or technological projects would largely increase their chance to get financed if social implications were taken into account –for instance, through an economic evaluation of the expected results. This has been a way in which economic valuation and environmental and resource economics has gained presence in the European research.

In the forthcoming FP6, the environment is still among the priorities, as will be seen. The FP6 is more ambitious than its predecessor, especially in trying to consolidate the European Research Area (ERA). The stated goal of the programme is “to enable the EU to become the world’s most competitive and dynamic knowledge economy.” For that, a total budget of 17.5 billion Euros is proposed. This means an increase of 17% over the FP5, and represents about 4% of the EU budget, as in 2001.

The three main blocks of the FP6 are (1) “integrating research”, with 13 billion Euros, (2) “structuring the European Research Area”, with 2.8 billion Euros, and (3) “strengthening the foundations of the ERA”, with about 0.4 billion Euros. Within block 1, the main topic of research is “information society and technology” (3.6 billion Euros), followed by “genomics and biotechnology for health” (2.2 billion Euros), “sustainable development” (1.9 billion Euros), “nanotechnologies, intelligent materials, and new production processes” (1.3 billion Euros), “aeronautics and space” (1 billion Euros), “food safety and health risks” (0.6 billion Euros), and “Citizens and governance in the European knowledge-based society” (0.2 billion Euros), followed by other miscellaneous topics.

In practically all topics, natural resource and environmental economics have an opportunity to be present. The most obvious, though, are “food safety and health risks” and ‘sustainable development”, which is split into three main areas: “sustainable energy systems” (0.63 billion Euros), “sustainable surface transport” (0.60 billion Euros), and “global change and ecosystems” (0.62 billion Euros).

Probably, the instruments introduced in FP6 that have attracted most attention among European researchers are the “networks of excellence” and the “integrated projects”.

The aim of a network of excellence is to put together the fragmented research on a topic in a way that Europe becomes competitive on the research of such a topic. For that, a program of long term jointly executed research will have to be laid out. Also, the program ought to contain the elements of coordination and training needed to consolidate and expand the network and its activities.

Although new research is not the primary goal of this instrument, new knowledge will be expected as well. Since networks ought to be ambitious, large networks could integrate hundreds of researchers, and since integration is not a short-term matter, programs could last five years or more. The financing of the programs is expected to take the form of grants, with high flexibility to be distributed within the network. The order of magnitude of the grants are thought to be of one million Euros per year for a network of 50 researchers, two million for 100 researchers, four million for 250 researchers, and five million for a network of more than 500 individuals.

The integrated projects are thought for ambitious research goals. There will be a minimum requirement of 3 participating countries. While the average participating countries are 9 in RTD projects of the FP5, integrated projects are expected to involve more countries, on average. Also, a critical mass measured in quality terms is required, and there is no pre-set financial limit. The typical duration will be from three to five years per project. It is expected that each integrated project will have a budget in the many tens of millions of Euros. It is also foreseen that in the peer review process, the applicants can be called to answer questions not covered in the proposal itself. Among the expected selection criteria there are the excellence and relevance of the proposal and the ambition of its objectives.

The framework programs have related programs devoted to cooperation between the EU and other countries. One of them is INCO, whose name will change to INCO2 under FP6. This enables sponsored research between the EU and an ample set of countries of the world, including Australia and the USA. Australia has a special agreement with the EU that gives funding opportunities of joint research with EU partners.

COMMON AGRICULTURAL POLICY REFORM

Another area of interest for many natural resource and environmental economists is the agricultural policy, which again has some distinct features in Europe when it comes to the research it involves. Two relevant papers the reader might want to check are Rabinowicz (1999) and Barnes and Barnes (2001).

One of the main topics in this area is the distortion of prices due to public intervention. Europe has a long tradition of agricultural policy (the CAP). Although its relative importance in the Commission's budget has been decreasing, its weight is still very considerable, as its consequences on competition are. This constitutes one of the main points of discussion in the WTO. The debate is further complicated when three additional topics are taken into account. One is the environmental policy. From 1992, many subsidies have been tried to be diverted towards green attitudes from farmers through the so called agri-environmental programs. The success of the initiative, though, can be considered

very limited, as Barnes and Barnes (2001) underline, and the perspectives after the drawback from the initial *Agenda 2000* are not optimistic.

A second aspect to be considered is the rural development. Subsidies to agriculture are sometimes justified under this topic, although it has been argued that what they actually do is to distort competition.

The third issue is food safety. Again, many EU governments have been sponsoring farmers in order to compensate them for the losses of the several diseases that have affected livestock.

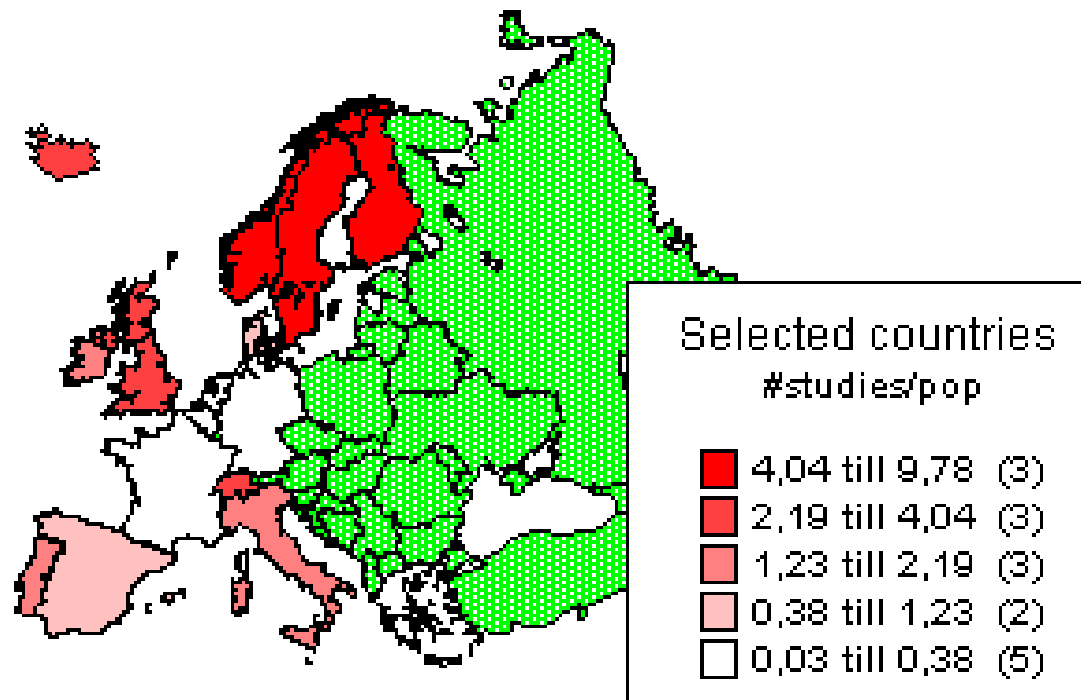
All those issues are shaping a good deal of the research being undertaken in Europe in relation to agricultural economics. How to assign property rights, or fiscal policy design, or the studies of agricultural policy practices in the future EU members, are current topics of research that are likely to continue in the years to come. Many authors seem to be quite pessimistic for the near future but more positively regard the long run. This also might shape the research agenda for more ambitious analysis and policy recommendations.

VALUATION

A third area of the research agenda where some distinctions can be traced for Europe in comparison to other countries, is the environmental valuation of non-market goods. According to a recent –still unpublished– recompilation of valuation references by Professor Richard Carson (I thank him for advancing this information), there are about 5500 references from over 100 countries. The USA is the country that dominates in literature production. Maybe around 1 in 5 references come from Europe, although it is difficult to count. Over the recent years, the growth rate has been higher in Europe than in the USA, but the highest relative growth has taken place in developing countries.

Within Europe, all the countries have valuation studies, except for Luxemburg. However, the amount of studies varies a great deal from country to country. According to Professor Bengt Kriström, in his plenary address to the 2001 EAERES conference, the UK and the Scandinavian countries tend to be the most active, while the least relative number of studies tend to be located in the central part of Europe, especially Germany and Belgium (Figure 1). Probably with the exception of these last two countries, the acceptance of environmental valuation is very high and generalized. Many institutions accept and commission valuation studies. The European Commission is among those that undertake evaluations that include non-market valuation.

Figure 1. Valuation studies in Europe



Source: Professor Bengt Kriström

In Europe as elsewhere, the contingent valuation method (CVM) –and other stated preference methods– is the most used valuation procedure, followed at distance by the travel cost method and hedonic pricing. The most valued environmental good is the recreational use of natural amenities. There are surprisingly few exercises valuing pollution, although it is one of the issues of concern in environmental quality in Europe.

It is not easy to guess about the likely agenda for European valuation researchers in comparison to the agenda of valuation researchers elsewhere. Judging from some of the features that are probably more present in Europe, one could think that equity is going to play a larger role. It is not that Europeans care more about income distributional issues than other people, but there is probably a strong tradition of State driven equity policies, and this has not been reflected yet in the valuation agenda to its full extent.

Also, considering the trends from FP5 and FP6 described above, it can be seen that cooperation between social sciences and other fields has been fostered from the European Commission. Therefore, valuation of natural science or engineering outputs might also be likely to take place in a larger scale.

A feature that might be common to Europe and elsewhere is the increasing proportion of academic papers dealing with other than econometric refinements – econometrics has somehow been dominating the literature production over the last ten years or so. On these lines, the use of open-ended formats and non-parametric estimations might very well gain popularity among practitioners.

One of the fields in economics where it will be likely to see a sharp increase of interest in valuation is in National Accounting, as “green accounting” becomes a more pressing issue for the administration. Social choice and experimental economics might very well be other fields of expansion for valuation.

With the likely increase in valuation exercises, as more non-market values become available, the awareness of their usefulness for policy and decision makers will probably increase. Currently, there are a few instances of valuation having been used for real decision-making in different countries. Also, the European Commission evaluates its own policy using values elicited from valuation exercises. However, each exercise tends to be expensive, and time-consuming. Other economics fields, like transportation, with a long tradition of incorporating non-market values in their evaluation of investments, solve this problem through a transfer of “standard” values to particular cases. This practice, known as benefit transfer, has not yet become widely accepted in environmental economics. However, as its usefulness for positive and normative purposes becomes more apparent, there might be an increase research activity around this topic.

If this happens, the growing interest for stated preference methods, like contingent choice, ranking, or rating, is also likely to increase, because those methods estimate the marginal values of attributes within a good or goods within a bundle. It seems that for benefit transfer purposes, this kind of valuation might be a more suitable way of transferring values.

Finally, it is likely to see an increase of valuation exercises commissioned by private firms, either for planning purposes, as a requirement from the administration, or otherwise.

CONCLUSIONS

Although at first sight there might seem to be no fundamental differences between the European and the rest of the world research agenda on environmental and natural resource economics, a few can be found at a closer look. The several distinctive features of the European construction shape the agenda in several ways. Three have been examined in a very brief way: the EU research framework programs, the CAP reform, and the valuation of environmental goods.

The forthcoming FP6 still has the environment as a priority, and stresses international research cooperation, especially that of high quality research. The amount of resources that are planned to be available are considerable, and there is an opportunity as well for cooperation between EU countries and most of the rest of the world, including Australia.

The CAP reform has not advanced as desired into agri-environmental programs, and it still poses a great deal of international competition problems, as well as internal inefficiencies. The research agenda in this area will probably tend to focus on long term policies rather than short term solutions.

Finally, the agenda for valuing environmental non-market goods seems likely to increase. Further cooperation with non-social sciences seems quite probable, and newer issues like equity, national accounting, social choice, and others, could also gain popularity in the research agenda.

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