

GLOBAL REPORT ON THE EVALUATION OF THE RESEARCH UNITS ON ECONOMICS AND MANAGEMENT

1. Introduction

This report covers the research units in the fields of Economics and Management in Portuguese Universities that were evaluated by the panel in the 2003 evaluation cycle. The thirty-one research units that we evaluated are identified in the Appendix and include all the research units in economics and management that are registered with the Fundação para a Ciência e a Tecnologia (FCT) as of 2003. The research carried out by isolated members in Portuguese universities, or by very small groups, was not part of this evaluation exercise. This report is based on the information obtained from the reports of the research units for their activities in the period 1999-2001, on their plans for 2002-2004, and on the site visits or the interviews with the thirty-one research units that were done from June 30 to July 5, 2003.

Three of the five members of the evaluation panel were also part of the evaluation panel for the previous evaluation cycle (1999). Therefore, this report repeats some of the text presented in the equivalent report for the 1999 evaluation cycle that still applies to this evaluation cycle.

The main criterion used in evaluating the overall quality of a research unit was the extent to which the unit had contributed to the advancement of knowledge in the field of economics and management, and its potential for future contributions. The panel used an absolute, not a relative criterion, on the basis of which any research unit in the world would be evaluated. The panel also tried to assess the research conditions in each unit. This allowed a better celebration of the extent to which the level of research productivity was due to factors outside the control of the research units themselves.

A brief summary of our findings: Overall, the panel found that the research output in economics and management in the research units being evaluated has had some

impact in adding to scholarly and professional knowledge, and this impact has been growing significantly in recent years, most likely because of the efforts of the FCT in giving incentives for greater research productivity. Individually, some units showed good productivity, but still at lower levels than what should be possible. Even though there has been a steep increase in productivity in the last few years, the panel believes that output could be improved with better-targeted incentives and clearer scientific direction for active researchers. Some research units have already implemented, to some extent, these incentives and scientific direction for research. The panel also identified several constraints for research productivity that are outside the control of the research units and that may limit the ability of researchers in Portugal to be highly productive in frontier research.

The report is organized as follows. The next section contains a discussion of what is involved in high-quality research productivity. In Section 3, we discuss external constraints that appear to hinder the ability of researchers in Portuguese universities to produce a substantial quantity of high-quality research. Section 4 is concerned with the issue of inbreeding. Section 5 covers the issue of incentives and section 6 the issue of collaboration between the different research units. In Section 7, we assess the level of research productivity. Section 8 contains our general recommendations, and section 9 concludes the report.

2. Research Perspective

The first issue in an evaluation of R&D activities in a given field is to define clearly what these activities are. The criterion used by the panel, as recommended by the Fundação para a Ciência e a Tecnologia (FCT), is the advancement of knowledge, that is, research that adds to the stock of knowledge, is well-published, and can be verified and reproduced by the best researchers in the world in that field. In the fields of economics and management this translates almost entirely into publications in a well-defined and well-established hierarchy of international journals. Publications in these journals provide an assurance that the result is a true advance of knowledge because it is evaluated by well-reputed referees. This is the chief way to publish the research output in these fields so that it becomes part of the body of knowledge upon which other researchers can build. All this is independent of the schools of thought or the sub-field being considered. This also applies to both theoretical and applied research, or to research that focuses on specific regions or countries.

This also means, for the most part, that scholars in the fields of economics and management do not measure excellence in research in terms of publications of books, of chapters in refereed books, or of presentations at conferences. There may be notable exceptions to this basic rule, but they are minor and clearly identifiable. This is not to say that research published in leading international journals cannot also be reported in adapted forms in conference proceedings, book chapters, and books. In the same vein, consulting activities (sometimes this perceived as applied research) do not constitute evidence of research excellence unless they result in an advancement of knowledge that is published in one of the top international journals.

This clarification of what R&D entails is not only important in understanding this evaluation exercise, but its application in the research units can also help direct their activities towards greater excellence in research. The clear advocacy of this definition of research by FCT is already a fundamental step in focussing efforts toward the production of world-class research output by Portuguese research units.

As a final point on research evaluation, we would like to point out that even within the research published in the very top journals one can still distinguish among the published work in terms of degree of importance of the various contributions. Given the limited research output of the research units investigated, this finer level of analysis is not warranted at this time.

3. External Constraints for Research in Portugal

In order to understand research productivity in a certain environment one also has to keep in mind the external constraints and conditions under which the researchers in each unit operate. Overall, the panel found that the environmental constraints on researchers constitute a significant obstacle to research productivity. The most significant constraints identified by the panel are: heavy teaching and exam loads, high numbers of administrative responsibilities, lack of flexibility in compensation, inadequate academic promotion policies, and inbreeding.

Obviously, time spent away from research lowers research productivity. In this sense, the teaching loads in almost all units, as reported to the panel, are difficult to reconcile with the objective of greater research productivity. In addition, in several units, the researchers had graduate teaching loads that added to the prescribed load of undergraduate teaching. However, some institutions are able to find creative ways to lower the teaching load of their

researchers, which seems to indicate that there exist ways to contain the teaching loads per researcher. One research center suggested to the panel that by using monitors or post-doctoral fellows an institution could lower the-researchers' teaching loads. If viable, this seems a promising way to proceed.

Another important form in which researchers spend time away from research seems to be with the administration of the examinations of the courses they teach. The panel was told that there could be up to four final exams for each course. This can take substantial time away from research, especially in comparison with the Standard at top international research universities of one final exam per course.

Additionally, several researchers in almost all research units have serious administrative responsibilities outside the unit that take substantial time away from research.

The panel understands that compensation for the researchers is limited and quite homogenous across the country. If researchers earn small compensation packages. they will have a greater temptation to take time away from research in the form of more teaching, consulting. or other professional activities outside the research unit.

Homogeneity of compensation packages also limits substantially the incentives available to reward greater research productivity. Moreover. it may limit activity in the internal job market among research units in Portugal.

Because all of the thirty-one research units are part of universities, it is necessary to look at the criteria for academic promotion as part of the incentives for research. The panel understands that researchers can only be promoted when there are openings at the senior level, and this can be a substantial constraint for research incentives. Similarly, most of the hiring from outside is not done at the more senior level, although there have been a few notable exceptions in this evaluation period. The panel was delighted to notice that research productivity seems to be playing a more prominent role in promotion decisions.

Finally, the panel was told that in some research units it is a "legal" requirement that, upon completing their doctorate, Ph.D. students must be offered a faculty position at the university where they were teaching assistants. Most students end up being teaching assistants in the schools in which they undertake their Ph.D. Consequently. this results in a substantial amount of inbreeding, an issue we address in greater detail in the next section. The panel was also told that several research units were able to avoid this problem.

The panel understands that alleviating some of these constraints requires an increasing amount of resources, which may or may not be socially efficient to use for these purposes. However, several of the constraints presented above can be substantially relaxed without using any more resources. This has been done already in several of the research units. This is the case concerning the constraints on the flexibility of teaching loads, of compensations, of promotion policies, and of placement of Ph.D. students.

Some heterogeneity exists in terms of external constraints on researchers among the various research units visited. A clear correlation was apparent between having fewer constraints and having greater research productivity. It is not clear which is the direction of causality. However, it seems to make sense, from a policy perspective, to allow research units with greater potential to have fewer constraints. It was not clear to the panel whether such a policy exists. If it does, however, this policy should be made transparent. It also seems that some research units are more efficient than others at using existing resources to give greater available time for research to their members.

4. Inbreeding

Top research institutions in economics and management throughout the world are careful about controlling inbreeding - an institution hiring its own Ph.D. students upon graduation. By hiring its own students, an institution imports less of what is being investigated at other research institutions, and hires faculty members that are heavily dependent on their senior colleagues and therefore, less independent. Furthermore, when hiring its own Ph.D. students is allowed in a research institution, there is a clear bias towards doing so since the institution's leadership tends to believe that its own students are the best, even if this is not the case. A common practice of top research institutions in economics and management is then to have a policy stating that they never hire their own Ph.D. students immediately following the completion of the degree.

The panel was told that offering a faculty position to existing teaching assistants upon completion of their Ph.D. is a "legal" requirement. Given that most students end up being teaching assistants in the schools in which they undertake a Ph.D. program, this automatically results in a substantial amount of inbreeding. The panel found the degree of inbreeding in the research units being evaluated to be substantial, with resulting negative effects.

This is particularly relevant as several research units are currently involved in running Ph.D. programs and are likely to grow through hiring their own students. This is a very serious problem and the research units may want to re-think their strategies regarding involvement in the running of doctoral programs unless they are able to create, even if informally, some arrangement whereby they do not hire their own students immediately following completion of the Ph.D. Several research units indicated to us that they had been able to make arrangements such that their doctoral graduates were not hired by their home institution.

In relation to this point, and even though some doctoral programs seem to be well organized, it is not clear that the researchers being trained end up being of world-class quality given that they are not being trained by researchers who have proved world-class research standards. This gives further credence to the idea that the research units may want to re-think their strategies regarding their doctoral programs and the hiring of their own students.

5. Incentives for Research

Because of the inability to observe how academics use their research time, the existence of good incentives for research is crucial to obtaining a good research output. The panel found that the incentives being offered show some variability across research units in terms of both intentions and implementation. It should also be noted that this variability in the incentives offered seems to be due, in part to constraints that are outside the research units' control. Nonetheless, the units that have been more creative in terms of the incentive structure also have better research productivity. The panel noted that, in general, there has been an improvement in the research units on this dimension.

As stated above, the lack of flexibility in compensation severely limits the ability to compensate the most productive researchers. This gives little incentive for the researchers to focus their effort in research projects as opposed to, for example, consulting. Several units stated the intention to use funds from endowments to give steep incentives to the most productive researchers. Other units may want to follow a similar approach in trying to find creative ways to provide compensation incentives.

Teaching loads were rather homogenous within each research unit, with little variation related to research output. Given the existence of constraints to differentiate researchers' compensation on the basis of research productivity, it seems a good idea to try to induce

the associated university departments to use teaching loads to provide these incentives. We found some variability in teaching loads across research units, with the most productive units having, for the most part, lower teaching loads. This could ultimately serve as a system-wide incentive scheme. However, this system-wide effect would be seriously dampened by the apparent lack of mobility of researchers across units.

The criteria being used for academic promotions are another important aspect of research incentives. Given our observations, research output in major international journals may not play a sufficiently important role in promotion decisions in most institutions, with some notable exceptions. An insufficient premium seems to be put on publishing in the most competitive international journals so that junior faculty members are unwilling to take risks and aim at high quality of publication and instead settle for a large quantity of lower quality publications. Administrative and institutional activities seem to play a crucial role in the promotion of junior faculty at the expense of their spending more time in their research endeavors at an early stage of their careers. However, the panel noted that there has been an improvement, and that increasingly more weight is put on research in promotion decisions in the last few years.

Given the composition of the research units and the recent productivity record of the more senior researchers, the panel has concerns about the actual criteria being used in future promotions, despite good intentions. Adjusting criteria for promotion will be a slow and painful process, but a necessary one if international research standards are to be achieved. The panel felt that this process is going forward at several of the research units that were evaluated.

The system of up-or-out, which gives great incentives to the young researchers and creates a commitment on the part of universities to only keep the most productive researchers, does not seem to be in full-scale use in any university connected with the research units we visited. Some research units stated that the system is being implemented in their universities with not fully consistent results to date. and only in few cases has junior faculty actually moved to another institution.

Finally, several of the units being evaluated seem to include a relatively large number of senior researchers who do not have much recent research productivity and who, in practice, are important decision-makers in terms of the allocation of resources. Streamlined organizations with knowledgeable and productive decision-makers are quite important for the purpose of imparting correct incentives in any research institution.

6. Collaboration among research units

In the research units visited, the panel found some, but not much, research collaboration among units in close geographic proximity. Some seminars are given in some research units by researchers from other units. However, the panel found relatively little co-authorship work, although there seems to be some improvement in the last few years. More openness and less rivalry among the different units in Portugal should lead to fruitful research opportunities and a more active research environment. It should also lead to a greater mobility of faculty across schools and a more active academic job market.

7. Research productivity

The panel felt that the research being done in Portugal is not as significant as in other European countries of similar size. However, the panel noted a clear progress and some potential for the future. During this evaluation period the panel noted five publications in the leading general interest journals in economics while there were none in the last evaluation period. In some research units there is a clear understanding of what constitutes worthy research and how this goal could be achieved. As stated above, it is also clear that research units are under external constraints that seriously hinder their ability to produce high quality research. The improvement being observed seems to be the result of the efforts of FCT both in supporting of the research units and in evaluating them. In this sense, the efforts of the FCT are already generating real results, and the panel felt that even more is going to come if FCT continues its steady effort to increase research productivity.

Some research units are already publishing in reputable journals, but their researchers need to be more ambitious and aim at top journals, where their work will have greater recognition and greater impact. This will also positively affect the depth of their work, as they realize that a submission to a top Journal will not result in a publication unless it contains serious and rigorous research.

Among the research units being evaluated, UNICEE (Universidade Católica Portuguesa), NOVA (Universidade Nova de Lisboa), and CEMAPRE (one of the research units in ISEG) are clearly the most productive, with several papers in well-known journals and a few in top specialized journals or leading general interest economics journals. This should

yield some international visibility and reputation for these three research units. However, the panel felt that the research productivity could still be significantly improved with more clear incentives and more risk-taking. The areas of economics where there has been greater quality of production are macroeconomics, general equilibrium theory, and econometrics. There has also been some significant work in industrial economics and labor economics.

The research output in management was smaller overall than in economics, with operations research being the management area where there is greater productivity (although not published in the very top journals). Other areas in management such as finance, marketing, organization behavior, and strategy were covered very occasionally, and in lower quality publishing outlets.

In several research units the pressure to publish in "international journals" has led their researchers to direct their attention to obscure international journals of very dubious quality. This seems to be a serious problem and a really inefficient this direction of research efforts. The objective should be to publish in the "top international journals," not just in "international journals". Rankings of international journals are available from different sources and should be used in evaluating publications in international journals.

Other valuable research-related activities such as workshops, relationships with prominent foreign research institutions, the organization of Ph.D. programs, the employment of post-doctoral researchers, and the organization of conferences have been put in place with some degree of variability across the different research units. Once again, these activities were more numerous in the units with greater research output.

8. General Recommendations

The panel's general recommendations follow from the observations raised above. The panel understands that some of these recommendations are outside the control of the research units and even outside the control of FCT. We see them as essential, however, to creating the conditions under which the potential for research in the Portuguese research units in economics and management can be fully realized.

First, the research units should have a common understanding of what is excellence in research at the international level. FCT may help here by providing even clearer guidelines. In fact, it might be worthwhile to consider creating a list of journals ranked by

degrees of international reputation. Several lists of this type are readily available from different sources and are all very similar. Even though this may not be an ideal way to evaluate exceptional contributions, it may be useful to help standardize publication goals among researchers and to reinforce research values. Several European countries with greater research productivity than Portugal have chosen this option with excellent results along these lines. This seems to be particularly important because some researchers seem to be directing their research at international journals of dubious quality. Furthermore, there seems to be little difference in several research units between "top international journals" and merely "well-known international journals".

Second, several constraints on the research units may be relaxed without further use of resources while creating much better incentives for research. These involve, in particular, introducing flexibility in compensation and in teaching loads as a way to free time and give incentives to researchers. In the same spirit, but harder to implement, would be a consistent policy of up-or-out promotion that would keep only the most productive researchers in the research units. Several of the units that were visited are already implementing some of these proposals to various degrees. This is the case, for example, of the three most productive research units noted above.

Third, one serious and potential danger in several of the units evaluated is the possibility of growth through inbreeding - the research units hiring their own Ph.D. students. Unfortunately, this is a situation where each unit gains little from unilaterally stopping the inbreeding. However, a general policy from above regarding this issue would work wonders for all units, allowing them to grow by hiring the best possible researchers in the market, bringing with them new knowledge into each unit. This would also give the right incentives to the different units in terms of their investment in Ph.D. programs and the exchange of ideas and faculty between the different Portuguese research units.

Fourth, the continuation of the support by FCT along with serious research evaluations is important given that in several research units this is the major source of funds for research purposes. The units need good support in terms of library resources, computer equipment and software, travel expenses to conferences and to invite seminar speakers, post-doctoral support, and other suitable forms of support. Additional compensation for the most productive researchers also seems to be needed, but the panel understands that this may be an issue beyond the control of FCT. The panel believes that the serious research evaluations being undertaken by FCT are already generating very positive results.

9. Conclusion

This evaluation exercise showed that some of the research units have made good and solid progress in the last few years and have a potential for improvement in the next few years. Changes towards common values in research, toward providing incentives for the most productive researchers, and toward stopping potential inbreeding would have a major impact on total research output.

The Ministry of Science and Technology should be commended for undertaking a serious evaluation of these research units. The exercise in itself generates incentives for research productivity, and is already affecting in a very positive way the research productivity in economics and management in Portugal.

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APPENDIX

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Instituto Superior de Economia e Gestão - ISEG)

Centro de Estudos sobre África e do Desenvolvimento - CESA (Universidade Técnica de
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Centro de Estudos de Economia Europeia e Internacional - CEDIN (Universidade Técnica
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CIEF - Centro de Investigação sobre Economia Financeira (Universidade Técnica de Lisboa
Instituto Superior de Economia e Gestão - ISEG)

Unidade de Estudos sobre a Complexidade na Economia (Universidade Técnica de Lisboa
Instituto Superior de Economia e Gestão - ISEG)

Centro de Investigação sobre Economia Portuguesa - CISEP (Universidade Técnica de
Lisboa Instituto Superior de Economia e Gestão - ISEG)

Centro de Matemática Aplicada à Previsão e Decisão Económica - CEMAPRE
(Universidade Técnica de Lisboa Instituto Superior de Economia e Gestão - ISEG)

Centro de Investigação em Gestão - CIGEST (Instituto Superior de Gestão)

Centro de Investigação em Economia Aplicada (Universidade Lusófona de
Humanidades e Tecnologias / COFAC)

Centro de Investigação de Ciências Empresariais - CICE (Universidade Lusíada)

Centro de Estudos de Economia Aplicada do Atlântico - CEEApIA (Universidade dos
Açores)

Núcleo de Estudos em Ciências Empresariais (Universidade da Beira Interior)

CIG - Centro de Investigação em Gestão (Faculdade de Economia da Universidade de
Coimbra)

Centro de Investigação da Academia Militar - CINAMIL (Academia Militar)

CEDE - Centro de Estudos e Documentação Europeia (Universidade Técnica de Lisboa
Instituto Superior de Economia e Gestão - ISEG)

- CEGI - Centro de Estatística e Gestão de Informação (ISEGI - Instituto Superior de Estatística e Gestão de Informação)
- INOVA - Economia (Universidade Nova de Lisboa Faculdade de Economia)
- Unidade de Investigação em Ciências Económicas e Empresariais - UNICEE (Universidade Católica Portuguesa)
- Centro de Estudos de Gestão do Instituto Superior Técnico - CEG-IST (Universidade Técnica de Lisboa Instituto Superior Técnico - IST)
- Unidade de Gestão e Engenharia Industrial (IDMEC - Instituto de Engenharia Mecânica, Pólo FEUP)
- Centro de Estudos Macroeconómicos e Previsão - CEMPRE (Universidade do Porto Faculdade de Economia)
- Centro de Estudos de Economia Industrial, do Trabalho e da Empresa (Universidade do Porto Faculdade de Economia)
- Centro de Estudos Transdisciplinares para o Desenvolvimento - CETRAD (Universidade de Trás-os-Montes e Alto Douro)
- Centro de Estudos de Gestão e Economia (Universidade Católica Portuguesa - Centro Regional do Porto)
- Unidade de Investigação em Inovação e Competitividade do Território (Universidade de Aveiro)
- Núcleo de Investigação em Microeconomia Aplicada (Universidade do Minho)
- Núcleo de Investigação em Políticas Económicas (Universidade do Minho)
- Núcleo de Estudos em Gestão (Universidade do Minho)
- NEEII - Núcleo de Investigação em Economia Europeia, Industrial e Internacional (Universidade do Minho)
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- Unidade de Investigação em Desenvolvimento Empresarial - UNIDE (Instituto de Ciências do Trabalho e da Empresa - ISCTE)

Programmatic Funding Evaluation 2003.

The panel recommends to award programmatic funding to Unit #124 (INOVA), Unit #407 (UNICEE), and Unit #491 (CEMAPRE) in the following amounts

	2002	2003	2004	Total
Unit #124 INOVA	150.000 €	150.000 €	150.000€	450.000 €
Unit #407 UNICEE	150.000 €	150.000 €	150.000 €	450.000 €
Unit #491 CEMAPRE	50.000 €	50.000 €	50.000 €	150.000 €

for a total of 350000 (three hundred and fifty thousand) Euros per year, for a total Programmatic Funding for the three years of 1050000 (one million and fifty thousand) Euros. If there is not another evaluation before 2005 the panel recommends continuing the programmatic funding per year after 2004 for each of these centers in the same amounts as in the period 2002-2004. This programmatic funding is allocated to facilitate more collaboration between the members of each of these centers, greater research productivity, as well as to enhance their international contacts. The payoff to FCT funds in terms of international reputation for these centers will be substantial.

Recommendations for FCT - Evaluation 2003

These are a couple of recommendations for FCT in the fields of economics and management for future evaluations and for the management of the funds in the next three or four years:

1. At the moment a large part of the support awarded to each center depends on the number of researchers that are members of the center. The panel suggests FCT to change the evaluation criteria and to base the evaluation of each center's past performance on the research output per researcher. This might eliminate a rather awkward practice followed by some of the research centers. Indeed, as of now some centers with a few very productive researchers, but a large number of members without great research productivity, end up receiving more support than centers with the same number of very productive researchers but a smaller number of members. The panel regards this outcome undesirable and therefore suggests the FCT to change the evaluation policy. The impact of changing this

policy will affect the classification of the centers (j.e., excellent, very good, etc.) and/or the total support awarded to them. If the FCT decides to adopt this change of policy, the panel suggests that the centers should be informed in advance of this change of policy so that they can respond to these new incentives. The centers should then specify in their report the members that should count toward the output-per-researcher measure (only the number of these members should then be used to compute the amount of support given to each center).

2. In order to facilitate the work of the evaluating panel in future evaluations it might be a good idea for FCT to create a spreadsheet with the number of publications in each international journal per research unit along with the number of authors and their affiliation in each publication.