

Ambiguity and conflict in the development of “Third Mission” indicators

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Introduction

This paper analyses the development of “Third Mission” indicators. We use the term “Third Mission” to refer to all activities concerned with the generation, use, application and exploitation of knowledge and other university capabilities outside academic environments (Molas-Gallart, Salter, Patel et al. 2002). These activities add to the traditional “first” and “second” university missions: teaching and academic research. Third Mission activities have received substantial policy and academic attention (Polt, Rammer, Gassler et al. 2001; European Commission 2003) . There is a perceived need for new indicators to support the management of Third Mission activities, guide policy action and support research on their nature and impact. Yet, despite the many initiatives, the development of Third Mission indicators has been anything but easy. Despite repeated and protracted efforts in several European countries and at EU level to develop a common set of “Third Mission” indicators to assess the nature and impact of university activities on their socio-economic environment, and to enable longitudinal and cross-country studies, progress has been, at best, sluggish. We are confronted with a disorderly clutter of partial indicators stemming from questionnaires and data-gathering initiatives developed at international, national, or regional level, with varying degrees of robustness and little, if any, comparability. Why is this the case?

The question is relevant both from an academic and from a policy perspective. There is a need for robust analysis to support the development of new Third Mission policies, while there is understandable academic interest in the impact of commercial and social engagement initiatives on the character of university activity and publicly-funded research. Yet, data limitations have constrained research to national and regional analysis or to international comparisons of narrowly defined sub-sets of Third Mission activity. Further, the scope of academic research is often confined to those areas where data is available: mainly on activities with a commercial character an on which organisations keep accounting records for administrative purposes. The problem for those aiming at the systematic use of quantitative indicators for the analysis of Third Mission activities is that the areas on which information tends to exist are not necessarily the most important, and that the importance of different activities varies across disciplines. For instance, available data on commercialisation activities is relevant for the analysis of fields like biotechnology and information technologies, where important commercial markets exists “close” to university research and training, but it is not adequate for disciplines, like philosophy or theoretical physics, where the commercial applications are more limited and impact occurs through other channels. Further, universities make contributions to government and civil society as well as to the private sector, assisting not only with economic performance but also helping to improve quality of life and the effectiveness of public services. In fact, it is increasingly recognised that focusing Third Mission activities on commercialisation activities would likely lead to universities delivering less value to society (Florida 1999). Consequently, any approach to data collection and analysis that focuses purely on university commercial activities is likely to miss large and important parts of the picture.

We will analyse the development of Third Mission indicators as part of the broader environment in which Third Mission policies are defined and implemented. Seeing

indicator generation as part of the policy implementation process will help us assess the causes behind the slow progress in the definition and production of indicators. The first section of the paper applies concepts from the policy implementation literature to the issues at hand, and suggests that the generation of Third Mission indicators can be seen as a case of “symbolic implementation”. We then analyse the British and Spanish experiences, and conclude with a discussion of how these experiences are consistent with the theoretical framework proposed in the first section. We will argue that the problems in the development of new and commonly accepted indicators can be explained by the existence of ambiguity and conflict in the area of Third Mission policies, and suggest some policy avenues that could be better suited to the future development of commonly accepted and comparable indicators. The authors of this article have participated directly in the processes we discuss and have derived some of the data presented below from their own experience.

Third Mission and its indicators as a policy implementation problem

For at least a couple of decades governments in many European countries have been concerned by the way in which universities and public research establishments relate to society. Many different initiatives have been launched to increase the use outside academic environments of the capabilities residing within university organisations. There has been a broad agreement about the need to support these “Third Mission” activities, but much less clarity as to what the specific objectives and goals of these policies should be. Although it is broadly recognised that the term refers to the engagement of universities in non-academic activities, the same concept of “Third Mission” is subject to different interpretations:

- As a stream of income. Burton Clark (Clark 1998) distinguishes three different streams of income accruing to universities. The First Stream is constituted by *public* core funds that universities receive to support their teaching responsibilities. The Second Stream refers to funds received from governmental research councils to support research. Finally, all other forms of funding constitute the “Third Stream”, including, for instance, income from philanthropic foundations, the European Union, student fees, the private sector, etc.
- As the activities seeking the exploitation of University resources, through technology commercialisation, patenting, licensing, research and consultancy activities, and the generation of spin-off companies. It is often assumed that Universities control a broad array of capabilities that are not being adequately exploited for income generation. Through commercial exploitation these capabilities will be released and benefit, not only the universities themselves, but generate wealth for the regional and national economies. From this perspective the Third Mission is seen as being linked to technology commercialisation.
- As social outreach. Different analysts and policy-makers will define slightly different sets of social objectives to be achieved by universities. For instance, it is common in Latin American universities to have an office for university “extension” that deals with work in the community, including services to provide water and health services to farming communities. In the UK, Ian Gibson, Chair of the House of Commons Select Committee on Science and Technology, has used the term “community stream” to refer to the need for universities to reach out to their local communities, by, for instance, providing pro bono services to

community associations, and encouraging kids from deprived neighbourhoods to follow and academic career. These approaches is starkly different from the two previous ones as it focuses on activities that will not generate extra fund for the universities, and does not consider activities like consultancies which may generate substantial funds without engaging with local communities.

These are only examples of the different, and at time divergent, policy objectives that may be covered by the term “Third Mission”. Further, policy theory has been changing, with the literature on the “knowledge society” shifting the analytical focus from technology transfer to the broader concept of “knowledge transfer”. The product of this situation is a dynamic ongoing policy debate, which translates into disputes about policy objectives and goals.

The literature on policy implementation offers insights on the ways in which policy is carried out and this type of problems addressed. In a so-called “top-down” model (Sabatier 1986) the policy maker will define clear policy objectives and devise tools to carry them out, among which we could include the establishment of a set of indicators to monitor policy results. “Top-downers” assume that politicians in charge of departments will have the power and the time to define clear political objectives to be then implemented by the departmental bureaucracies. This is, however, seldom the case. The detailed knowledge needed to define and implement policies is often in the hands of front-line bureaucrats, who deal daily with social and economic problems in need of solution. In a “bottom-up” model, managers and analysts charged with day-to-day operations and analysis will define their policy needs (including the data they require to carry out their tasks) and the resources they need to get them delivered. These models however assume that a consensus exists about the policy objectives between bureaucrats and political authorities: bottom-up approaches work when there is no societal conflict about policy or a consensus has been achieved.

Unfortunately, the world of “Third Mission” policies does not respond to any of these neat models. The diversity of potential objectives has resulted in ambiguously defined policies. Without detailed knowledge of the processes of knowledge generation and diffusion, politicians tend to define the formal objective of Third Mission initiatives in broad, ambiguous terms than can be interpreted in different ways. Further, the cultures, goals and objectives of the different communities involved in the implementation of university policies vary across groups. Many academics are suspicious of the potential impact of Third Mission policies and strive to maintain the primacy of academic objectives within university work. Economic departments and the agencies responsible for university funding focus their attention on those policies likely to increase the revenues of universities and therefore provide additional justification for the public investment that is made in universities. Politicians, and community groups are likely to support “social outreach” policies; while TTOs and other departments in charge of implementing Third Mission policies will often have a more nuanced view of their objectives and will be aware of the many different avenues through which the (ambiguously defined) Third Mission objectives can be achieved.

Following the analytical framework developed by Matland to study public policy implementation (Matland 1995), this situation can be defined as one in which ambiguity in the definition of objectives is accompanied by conflict among those in charge of defining and implementing the policies. In these situations, Matland argues, a different type of policy implementation, which he calls “symbolic implementation”

emerges. Matland argues that the combination of conflict and ambiguity leads to policy actions that revolve around deploying highly visible social symbols. In other words, as the policy objectives are ambiguous much policy effort and debate revolves around “symbols.” The use of symbols in policy definition and debate is, for instance, very common in the “Third Mission” field. Examples of success are sought by policy stakeholders and given as “glossy” a presentation as possible to politicians, and the broader policy community. Successful cases form the basis of policy reports and presentations, and are often offered to and picked by the press as part of an ongoing policy debate. Case studies of successful examples are good, but policy-makers often find that quantitative data pointing out the impact of a programme is a more convincing tool in the policy debate than a list of examples, no matter how glossy and professional their presentation is. The development of indicators to be able to show the impact of a policy arguably becomes part of the “symbolic implementation” of Third Stream policies. Further, symbols can be used by policy groups tussling with others for policy influence to institutionalise their own values and objectives (Berg 2004). It can be argued that quantitative indicators are particularly suited to this goal. They can be used as symbols of achievement that, in turn, reinforce the types of policy objectives that the indicators reflect and, in this way help institutionalise the implementation of policies pursuing specific subsets of policy goals, from the broad variety of, at times, conflicting, policy objectives.

Finally, Matland argues that in symbolic implementation contexts, the outcome of the policy process will depend on the strength of local coalitions. In other words, the way policies are implemented will vary from one locale to another.

Our hypothesis is that the development of Third Mission indicators can be seen as an example of “symbolic implementation”. We will next use the cases of Third Mission indicator development in the UK and Spain and will show how these developments are consistent with the characteristics that Matland attributes to symbolic implementation environments.

The UK Experience

The UK has had a long experience in the design and implementation of missions addressing different aspects of “Third Mission” activities, but focusing mainly on university-industry relations. Since 2001, the Higher Education Funding Council for England (HEFCE) has been carrying out an annual survey, initially known as the “Higher Education-Business Interaction” (HEBI) survey, it collected data organised into several categories including collaborative research, intellectual property, consultancy activities, spin-off firms, training, personnel links and regeneration.

In parallel, the UK University Companies Association (UNICO), and the Association for University Research & Industry Links (AURIL) supported by the UK Economic and Social Research Council (ESRC) commissioned Nottingham University Business School (NUBS), to carry a survey to gather data on the Intellectual Property and commercialisation activities of UK universities. The so-called UNICO-NUBS survey focused on commercial activities including the number of spin-offs created, the barriers to spin-off formation and the income generated from commercialisation activities and was carried out annually between 2001 and 2003 covering a large sample of over 100 UK universities. The structure of this survey built upon the survey instrument designed in the US by the Association of University Technology Managers (AUTM).

The whirlwind of activity that characterised the first years of this Century can be attributed to two, interrelated policy events. First, a White Paper on science and innovation published in 2000 by the Department of Trade and Industry saw the British universities as “dynamos of growth” and “major agents of economic growth” (Department of Trade and Industry 2000,27). To implement this vision, British policies regarding Third Mission activities would be reconsidered. Since 1999, HEFCE and DTI had allocated Third Stream resources to universities through discrete calls for tenders under a number of different schemes set up to support mainly entrepreneurial activities. These included the Higher Education Innovation Fund (HEIF), the Higher Education Reach-out to Business and the Community (HEROBC) initiative, and the University Challenge and Science Enterprise Challenge schemes. Universities trying to access these funds had to bid presenting specific project proposals. The project-based nature of the funding creates long-term instability and therefore prevented the development of long-term Third Mission strategies. Consequently, the funding agencies and departments started considering the establishment of a stable stream of funding (the “Third Stream”) to support Third Mission activities in all UK universities. The objective of this permanent stream of funding would be the reduction of universities’ dependence of project bids and their associated uncertainty and inefficiencies, and the provision of core funding to promote knowledge transfer. The problem became then the establishment of criteria to distribute these funds across British universities. The UK Treasury sought the establishment of a formula-based criterion that would take into consideration the past performance of universities in a selected set of activities that the funding stream was trying to encourage. The formula would have to be based on a common set of indicators. Establishing the types of indicators, defining them, and setting up and agreeing a formula was a very difficult problem that would exercise the minds of academics, public servants and university administrators for years to come.

Administrators of University TTOs were afraid that a simple formula, using relatively easy to gather indicators of university patenting, licensing, spin-off creation, and income generated by commercial activities would not reflect the variety of activities in which they were involved and would result in an disproportionately lopsided distribution of resources. As a result of this concern, in late 2001 the Russell Group of Universities, an informal grouping of UK leading research universities, invited tenders for a study to develop a system of indicators for Third Stream activities. The resulting study (Molas-Gallart, Salter, Patel et al. 2002) stressed the need for a comprehensive definition of Third Mission activities, which would necessarily result in a more complex system of indicators that was initially envisaged. It identified some 65 potential indicators organised under 12 different classes of Third Mission activity and suggested a roadmap towards the implementation of a system of indicators and the eventual development of a funding formula that would take several years to execute.

The emphasis that the study placed in the development of social indicators was corroborated by the results of a stream of workshops and reports that followed. HEFCE tried to agree with stakeholders both the approach to data gathering and to Third Mission funding. HEFCE and other governmental departments continue to favour the development of a stable stream of funding. The UK Treasury has continued to favour the development of a formula on which to base funding, but has not yet found a way to develop a model that could be acceptable to universities, TTOs, academics and stakeholders. Experts continue to question the wisdom of such

an attempt, pointing out the danger that formula-based funding may focus policy on only a subset of Third Mission activities (Hatakenaka 2005). HEFCE did, in fact, broaden the scope of its annual survey: the fourth one, published in January 2005, added other forms of social interactions to the traditional business and commercialisation indicators and referred to knowledge “exchange” rather than “transfer”. The exercise was accordingly renamed the “Higher Education-Business and *Community* Interaction (HEBCI) survey, and the latest edition has maintained this new format. Yet, the relationship between indicator collection and funding strategies is far from being solved. Recently, HEFCE has commissioned exploratory work to try to determine, through a variation of the HEBCI survey, the impact of existing project-based funding of Third Stream activities.

To sum up progress in the development of new funding tools has been, at best, slow, and accordingly, the approach to indicator development remains under constant revision.

The Spanish Experience

The first instance in which the issue of indicators for Third Mission activities emerged in Spain was in relation to the implementation of the National R&D Plan in 1998. This was the first time in which a national programme to support R&D across a broad variety of fields and disciplines was implemented in Spain (Muñoz 2001). From its inception the plan included initiatives to promote cooperation and knowledge transfer between universities and public research establishments on the one hand and industry on the other. The main tool the Plan envisaged was the creation of technology transfer offices in universities and public research establishment (the Offices for the Transfer of Research Results –OTRI). To gather information about the outcomes of this initiative became a policy need. In other words, the first attempt to gather Third Mission indicators were directly linked to the monitoring and evaluation of funding schemes. The Plan funded the newly created OTRIs who had to report annually on their activities including R&D contracts (number, type, value, type of client), patent applications, licensing contracts, R&D projects, and OTRI personnel.

This information was collected annually during the 1989-1995 period, while the OTRIs were all receiving core funding from the National Plan. The data provided a detailed perspective on OTRI’s activities and their evolution, and offered a good longitudinal perspective on the most important channel for Third Mission activities available to Spanish universities. However, this approach to data collection changed when the funding structure was altered.

In 1996 this form of core support was substituted by a new project-based approach to funding. The OTRIs applying for the new forms of funding had to submit, as part of their application, data on their activities over the previous three years. The data requested was much more exhaustive, including detailed information on the personnel structure of the applying OTRI, funding sources, and a number of “management” indicators which included the number of projects managed, lists of “clients”, patents, licences and spin-offs “managed”, and “other indicators” selected by the applicant. None of the categories used were defined, and it was therefore left to the applicants to interpret the categories in any way they suited them best. The gathering of a small number, well defined set of indicators for reporting purposes across all OTRIs had been abandoned without any discussion, and the data gathered

through the funding application process lacked the representativeness, robustness and reliability necessary for their use as an indicator. Nevertheless the data was still used in an aggregate form to provide “indicators” of Spanish Third Mission activity in the annual National Plan reports.

Along with Third Stream funding available from the National Plan, many Spanish regional governments deployed their own initiatives in support of Third Mission activities as part of their own regional R&D plans. This has led regional governments to request information on these activities to Universities and public research establishments, often referring to the economic resources obtained from contracts and research agreements with firms and other organisations.

Importantly, the Spanish universities launched two main data gathering activities of their own. The “Conference of Spanish University Rectors” (CRUE) has published a biannual report since 1998 offering data on university sources of income including research grants. Unfortunately, the survey suffers from definitions that do not match the conceptual conventions that have been used for decades in the analysis of science and technology policy. For instance, it considers that all public grants, regardless of their objective and character, support “basic research”, and that “applied research” is equivalent to industrial funding of projects (development, consultancy and other support activities that universities can offer to both public and private sectors are not considered).

In 1997, the same CRUE set up a network of all university OTRIs to support the “convergence and complementarity” between university research activities and the needs of their socio-economic environment. In 2000 the OTRI Network set up an “R&D Indicators Working Group” to develop information and indicators that could help them in the management of their work, be used to generate an annual report of their activities, and provide a solution to the proliferation of surveys and reports on University R&D and knowledge transfer activities that were being requested by national, regional, and European bodies. As the departments in charge to respond to official questionnaires and surveys, the OTRIs found themselves under an increasing administrative burden to respond to the several questionnaires in circulation. The objective was to develop an efficient approach to data gathering and management that could supply the data needs of public agencies and provide comparable data while reducing

The latter initiative coincided with the launch in 2002 of ProTon Europe,¹ a network of Technology Transfer Offices funded by the European Commission within the Gate2Growth programme.² The initiative brought together 54 European TTOs, and one of its 13 Working Groups (WG13) focuses on the development of indicators. The objective is to develop the professional capabilities of European TTOs through different tools and initiatives including benchmarking, for which there is a need for shared indicators. PROTON’s attempt to develop an European questionnaire has been long and difficult. The participating organisations had to agree on a conceptual framework and a set of associated indicators that could be applied equally to TTOs from different countries, following very different models, and often having to respond to different questionnaires compiled by their own national authorities. The

¹ www.protoneurope.org

² http://www.gate2growth.com/g2g/g2g_welcome.asp

first pilot survey was carried out in 2004, gathering 2003 data. Meanwhile the Spanish OTRI Network is also developing a new questionnaire, aligned with ProTon's, and sharing many questions.

Both these questionnaires are targeted to TTOs and assume that they engage in the management of a set of basic instruments. The questionnaires distinguish between R&D contracts, government grants in support of collaborative R&D, assessment and protection of research results, licencing, and the creation of spin-offs based on research results or University capabilities. Yet, not all TTOs engage in each and every one of these activities, and besides it is common for them to change focus, abandoning at times a whole line of activity to enter or strengthen another.³ It is difficult therefore to agree a questionnaire format that will be equally relevant for a broad variety of institutional set-ups. In practice, however there is an even more complex difficulty: the experience with existing and previous data collection initiatives, pilots and co-ordinating discussion has shown that the same "indicators" are interpreted by different stakeholders in different ways. For instance, when referring to "contracts", some approaches measure the contracted amounts, others the annual invoicing, other the income accrued, and yet others the number of contracts. Similarly, using "patents" as an indicator is can be done in many different ways: some questionnaires ask for the number of patent applications (national, European or USA), the number of patents renewed, the number of licences obtained in a single year or the total number of patents under licence, the income received from licences, and so on.

Not surprisingly then, existing survey instruments are long and cumbersome to answer. The annual survey that is now being distributed to the Spanish OTRIs has some 140 items, of which 127 require the supply of quantitative data, which has to be extracted from the OTRIs own databases and management systems. The OTRI Network has also presented a formal proposal to the Spanish Foundation for Technical and Scientific Research –FECYT- asking it to lead another working group on R&D and knowledge transfer indicators, with participation of OTRIs, universities, the National Institute of Statistics, and potential indicator users (public agencies, analysts and scientists,...). The objective would be to coordinate the different data collection systems currently in place, and to propose and agree questionnaire objectives, concepts, definitions and questions, and develop a guide for the collection of indicators in public research establishments.

Alongside with these initiatives, data continues to be gathered in the context of funding allocation processes. It is increasingly common that university, departments and researchers centres receive at least part of its funding on the basis of past activity or performance as reflected by sets of indicators. Yet the indicators being used vary across universities, public research establishments, and regions.

Discussion

Comprehensive Third Mission data is complex and expensive to collect. Both the UK and the Spanish case share an important aspect of the policy context in which the

³ Until recently, for instance, Spanish OTRIs did not engage in the setting up and managing of spin-offs; the spin-offs that existed had been established using other channels.

initiatives to develop indicators have taken place: data collection schemes have been related to the implementation of policy initiatives to support Third Mission activities. In the UK many of the initiatives that have taken place during the last years have been related to the attempt to set up a stable funding system that would not be based on project proposals, but would reward performance. In Spain, data on Third Mission activities was collected, initially, as a reporting requirement and, later, as part of the application process required to obtain funding to support Third Mission projects. The proliferation of agencies with an involvement in university and research policy led to the proliferation of data collection initiatives.

The connection between the development of indicators and the policies to support Third Mission activities has important implications. The policy goals, however, remain under discussion and are seldom, if ever, clearly defined. Within this context, characterised by a high level of *ambiguity*, the indicators that will be used to guide policy implementation are not clearly delimited and are the subject of debate and constant re-definition. Up to what extent, for instance, should social outreach activities be included among the policy objectives and the indicator collection activities?

The organisations directly involved in Third Mission activities are naturally participating in the discussion on the development of new indicators. TTOs, for instance, are usually responsible for the assembly of data requested by public agencies and, therefore, have a keen interest in setting up systems of indicators aligned with their administrative practices, and which, in their opinion, will adequately reflect the scope of their activities. Further, they are interested in developing indicators that may help them in the management of their organisations: initiatives to generate comparable indicators for benchmarking purposes respond to this interest. Yet, the data needs of technology transfer managers, are not necessarily the same as those of ministry officials. The type of data that can help in the efficient management of a TTO, are likely to be different from the limited number of indicators that could be used in a funding formula. Further, academic researchers may have different views on the desirability of Third Mission approaches, and may resist the additional reporting burden associated to indicator collection and centralised management of extra-academic activities. When academics have involved themselves in activities to develop and collect Third Mission data they have been guided by their research needs and are proved less sensitive to the organisational and administrative context within which data is generated and collected.⁴ In short, different groups have different objectives and, correspondingly, different data requirements and attitudes to data collection. There is therefore an element of *conflict* among stakeholders in the process.

Matland argues that when ambiguity and conflict are present in policy implementation processes, the policies and approaches that are executed are determined by the strength of local coalitions. This characteristic of “symbolic implementation” is also to be confirmed by our analysis. There is a fragmentation of initiatives, across and within countries following a diversity of approaches and

⁴ For instance, the ProTon network has received proposals to collect indicators, which TTOs managers within the network deemed virtually impossible to collect.

indicator definition, while the attempts to develop an European-wide single system of indicators have made scant progress.

Additionally, practical problems make it difficult to co-ordinate national data collection to generate comparable data. As the nature and characteristics of stakeholders vary from country to country, so do the scope and relevance of any indicators collected through international initiatives. For instance, in Spain the OTRIs concentrate many of the Third Mission activities of Spanish universities, and particularly those related to the relations between University and Industry. The OTRIs are practically the only organisation in Spanish universities that take responsibility for commercial exploitation tasks. If data is designed to be collected by the OTRIs about their own activities, the result will be an adequate, but not complete, approximation to the Third Mission activities traditionally carried out at the University level (contracts, patenting, licencing, spin-offs) while providing a very poor estimate of activities (like social outreach activities) that are carried out independently by university researchers and groups and other types of university departments. It will also leave outside the scope of the analysis activities, like the development and management of science parks, that are not traditionally carried out by the OTRIs. In the UK the scene is much more complicated. There is a much broader range of organisations involved in technology commercialisation and knowledge transfer to the private sector. Traditional TTOs are accompanied by industry liaison offices, university departments in charge of IP management, spin-off companies to support university commercialisation activities, etc. An estimate of University-Industry relations cannot be carried out through a survey of TTOs, but must be carried out at university level. By the same token, the coverage of Third Mission activities afforded by an analysis of TTOs would be different in Spain and in the UK.

These different local structures have led to different approaches to data collection. The OTRIs remain in Spain the main locus of activity regarding data collection. In the UK, the initiatives are launched centrally, from governmental agencies (mainly the funding councils of England, Scotland and Wales,...) and have university activities as their level of analysis. It is very difficult to solve these differences through co-ordinating mechanisms.

The type of implementation context in which indicator development takes place shapes the nature of indicator development, and we are to expect further fragmented initiatives leading to datasets adequate for static analysis of specific countries or regions, but unable to provide the basis for longitudinal and comparative study. We can conclude that, in the context of “symbolic implementation,” the data needs of analysts are not in the driving seat. The batteries of indicators on which future analyses will be built, and policy decisions taken, will not be provided spontaneously and freely, but will be the outcome of policy-making processes. In this situation, the quantitative analyst studying the relationships between university and society will need to rebuild and generate data sets constantly or end like the proverbial drunk: looking for his keys under the lamppost, where the light exists, rather than the place where they are likely to have fallen.

This is a rather bleak view of the future. While indicator development continues linked to policy development and implementation, there is little room for improvement. To move away from this environment is extremely difficult. Data collection must be supported by adequate administrative processes and TTO

managers will play a key role as data gatekeepers. The type of indicators that are becoming available are shaped more by existing managerial processes (which are highly variable within and across countries) than by the plans or desires of policy analysts. The only areas in which abundant data exists and cross-country comparisons are possible are those where due process requires the filing of public data, like patenting and patent-related income flows. These are however only one part of the very broad field of Third Mission activities.

Is it then possible to break the link between indicator definition and policy implementation? A possible avenue to “disconnect” them, while maintaining the involvement of the institutions and groups in charge of running Third Mission activities, is to move data generation initiatives to a supra-national level. There are some examples already of supra-national initiatives to develop comparable indicators in areas related to Third Mission activities. In the last years both the OECD and the European Commission have been involved in studies aimed at benchmarking industry-science interactions.⁵ These initiatives aim to undertake international comparisons by using aggregate country level data on a limited number of indicators of industry-science interactions. Further, in 2001 OECD organised a high-level workshop on the role and significance of intellectual property rights emanating from public sector research organisations. One of its objectives was to examine the extent to which various OECD countries are gathering data on aspects like the number of TTOs and Technology Liaison Offices (TLOs) per research university, the funds committed to Intellectual Property management, number of patents and licensing revenues, number and size of research contracts, etc. The goal was to suggest a standardised methodology and some core questions to be included in future questionnaires so that this type of data could be internationally comparable.

This, however, had the traits of a co-ordinating activity and suffered from the same difficulties we have explored in this paper. Moving data generation to a supra-national level would mean, instead, placing an organisation like the OECD in charge of data development and management, in a similar way to what is already being done with other Science and Technology Indicators, including R&D. This will, at the best of time, be a long and challenging process. Even when a consensus has been reached on the institutional leadership to launch a process of indicator definition and collection, technical problems call for a long-term effort. The way in which R&D and innovation indicators have been identified and collected by the OECD provides a good example. It took a long time to define, agree and implement the R&D indicators that are currently used worldwide. The Frascati Manual was revised and several annexes issued. It then took several years for the attempt to broaden these indicators to cover other, increasingly relevant, innovative activities and to produce the Oslo Manual in 1995. This was then revised in 2005 and we are still far from obtaining reliable and comparable innovation indicators.

⁵ The OECD devoted the third phase of the “National Innovation Systems Project” to the relations between science and industry. Within this framework, the OECD and the German Federal Ministry of Education and Research jointly organised an international conference, “Benchmarking Industry and Science Relationships”, in Berlin, on 16-17 October 2000. The European Commission has launched several studies and workshops, followed by the publication of the resulting reports (Polt, Rammer, Gassler et al. 2001).

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