- 15) Auf Science-Pidgin-English: "Because than needs the NSA no translation more to take us our best hatted scientific results." Auf Deutsch: "Denn dann benötigt die NSA keine Übersetzung mehr, um uns unsere best-gehüteten wissenschaftlichen Resultate wegzunehmen."
- 16) Vgl. http://www.welt.de/politik/deutschland/artic-le131069320 sowie http://www.spiegel.de/spiegel/print/d-134878965.html und http://www.taz.de/Uebersicht-zur-BND-NSA-Affaere/!5010136/
- 17) Nr. 45, Seiten C1 und C2, beziehbar per www. fazarchiv.faz.net
- 18) Mark Twain führt auf http://german.about.com/li-brary/blmtwain01.htm aus: He runs his eye down and finds that there are more exceptions to the rule than instances of it. So overboard he goes again, to hunt for another Ararat. Every time I think I have got one of these four confusing "cases" where I am master of it, a seemingly insignificant preposition intrudes itself into my sentence, clothed with an awful and unsuspected power, and crumbles the ground from under me.

In der Microsoft-Übersetzung heißt das: Er rennt Augenwinkel nach unten und findet, gibt es weitere Ausnahmen von der Regel als Instanzen davon. Also über Bord geht er wieder auf Jagd nach einem anderen Ararat. Jedes Mal, wenn ich glaube, ich habe diesen vier verwirrend "Fällen" wo ich Meister davon bin, eine scheinbar unbedeutende Präposition dringt selbst in meinem Satz, bekleidet mit einer schrecklich und unvermutete macht und krümelt den Boden unter mir.

19) Und dies bedeutet auch, z. B. bei Tagungen mindestens so viel Geld für gute Simultanübersetzungen auszugeben wie für *location* und *fingerfood*.

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Kontakt

Dr.-Ing. Marcus Steierwald FB Geowissenschaften Universität Tübingen Stöckring 3, 71088 Holzgerlingen E-Mail: marcus.steierwald@uni-tuebingen.de

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Parliamentary TA in Portugal – A Comparative Analysis of Two Models

by Mara Almeida, ITQB, Universidade Nova de Lisboa, Portugal

Currently, a structure for parliamentary Technology Assessment (pTA) in Portugal does not exist. However, efforts have been made by the Parliament to support the establishment of pTA through the involvement of external actors. Two different models, a Parliamentary Office of Technology Assessment (GPAT) and a Parliamentary Unit of Technology Assessment (UPAT), have recently been proposed. This paper discusses some of the observations presented in a previous TATuPpaper by Böhle/Moniz (2015) relative to the establishment of TA in Portugal including observations on the GPAT model. In doing so, this paper provides a brief comparative analysis between the two models, including precedents, funding and organisational structure.

1 Introduction

In Portugal policy-making processes related to science and technology (S&T) are considered not sufficiently informed by relevant sources of knowledge and do not adequately take into account the input of key stakeholders, as well as citizens views (Almeida 2013). A main question is how to improve the current situation, and in particular how the introduction of an effective parliamentary Technology Assessment (pTA) framework can contribute to this.

In a recent article in this journal, Böhle/Moniz (2015) suggest that, in Portugal and Spain, "TA should be introduced as a democratic inno-

vation" involving parliamentarians, scientists, and the public sphere. This article will present an analysis of the Portuguese pTA context, discuss some of the observations presented in Böhle/Moniz (2015), and compare the TA model proposed by the GrEAT¹ network (Annex 1 of Duarte 2015) with a model previously proposed by a rapporteur for TA appointed by the Portuguese Parliament (Santos, 2012), developed with input from Almeida, at that time Portuguese partner for the Parliaments and Civil Society in Technology Assessment (PACITA) project. For the sake of simplicity, the model described in (Santos, 2012) will be referred to as Parliamentary Office of Technology Assessment (Gabinete Parlamentar de Avaliação de Tecnologia, GPAT), whilst the model described in Annex 1 of Duarte (2015) as Parliamentary Unit of Technology Assessment (Unidade Parlamentar de Avaliação de Tecnologia, UPAT).

In particular, Böhle and Moniz argue that there are two possible reasons for the lack of support to the initially proposed GPAT model, the first being the "lack of financial resources in the context of austerity" and the second that "there were no precedents for the type of unit proposed within the organizational structure of parliament". These views are discussed in more detail below together with other salient aspects of both models.

2 Background

2.1 The Parliamentary TA Context in Portugal

In 2009 the Portuguese standing Parliamentary Committee on Education, Science and Culture (CECC) produced a report about science (Nico 2009). One key aspect of this report was the reference to the importance of developing an office for S&T in the Portuguese Parliament. The report has led to a resolution of the Portuguese Parliament no 60/20092, laying the foundations for the implementation of TA.

In September 2011, the Chairman of CECC (J. Ribeiro e Castro) was invited to participate in the conference on Cross-European TA, organized by the European Parliament's Science and Technology Options Assessment (STOA) Panel, which took place in the European Parliament. During the conference, Ribeiro e Castro stated that efforts

would be made to initiate the process of parliamentary TA development in Portugal. In October 2011, following a proposal from the Chairman of CECC, the appointment of a rapporteur (R. Santos) on matters of pTA was approved. The mandate of the rapporteur was to consider and evaluate the operationalization of the resolution 60/2009, which included submitting a proposal of a TA office (GPAT) for approval by the CECC. This was the first time the Portuguese Parliament considered the operationalization of the resolution.

In April 2012, as a representative of the Portuguese partner within the European funded PACITA project, M. Almeida was invited by the rapporteur (R. Santos) to attend a committee hearing (Parliamentary Hearing Nº 47-CE-CC-XII) and, following the hearing, to contribute to a report considering the operationalization of the resolution (Santos 2012) which included pursuing a feasibility study for the possible establishment of a Parliamentary Office of Science and Technology. In their analysis, Böhle/Moniz (2015) state that members of the PACITA project approached the Portuguese Parliament with a proposal for TA unit (the GPTA). Contrarily to what was reported in Böhle/Moniz (2015), the input of Almeida, as a partner of PACITA, to the development of the GPAT model resulted from the contact made by Santos and not vice versa.

In July 2012, the rapporteur presented the report to CECC, proposing a model of a parliamentary TA office (GPAT) that could be established within the Portuguese Parliament (Santos 2012). Further progress on the matter, however, was halted due to the "lack of budgetary framework for the initiative" and led to a recommendation that another organizational model making use of existing resources should be considered, either internally to the Parliament, or using other external entities within the state. As an interim solution, a Committee model was adopted, with the responsibility over pTA taken by CECC, from which a Member of Parliament would be nominated as "Rapporteur for Pta" (Santos 2013).

In 2014, the CECC held hearings with several stakeholders with interest in pTA (including members of the GrEAT network), in order to consider and evaluate the operation/reformulation of the resolution 60/2009. In general, there was strong

support for establishing a pTA unit with connections between the Parliament, universities and research centres. J. Caraça, one of the pioneers of TA in Portugal (Gonçalves/Caraça 1987), pointed out that TA activity needs "legitimacy, competence and authority". Therefore, he was supportive of an independent unit in the Parliament under the Presidency (Parliamentary Hearing no 166-CECC-XII).

In March 2015, the Portuguese partner of PACITA organised a conference to discuss with Members of Parliament and several stakeholders different models for the future of pTA in Portugal, considering some of the existent TA institutions in Europe. Key contributors to the event included representatives of the UK Parliamentary Office for Science and Technology (POST), the Dutch Rathenau Institute, and TA Swiss. In general, there was an agreement on the need to establish an independent structure to support the Parliament function in issues of S&T and innovation in Portugal.

In July 2015 a report was presented by the rapporteur for pTA (Duarte 2015) and approved by the CECC. This report describes the current state of pTA in Portugal acknowledging the inputs of GrEAT and PACITA. The report includes in annex a proposal by the GrEAT network, suggesting a pilot project for the establishment of a Parliamentary Unit of Technology Assessment (UPAT) based in the Parliament, including the establishment of a supporting digital library. Funding of the new proposal will be dependent by a new assessment by the Administration Board of the Parliament.

2.2 Models of pTA

Parliamentary Office of Technology Assessment (GPAT) – An Office with a Permanent Scientific Team

The model of pTA initially proposed in Santos 2012 suggested the establishment of an office (GPAT) based in the Parliament providing objective, balanced and accessible analysis of policy issues related to science and technology. The GPAT would have been composed by a board, a scientific team and a communication officer. At least initially, the overall team would have been small (up to 4 personnel) and operate as a pilot project. The work would have been public and communicated to society, institutions with a stake

in S&T, and governmental spheres through the organization of dedicated events (e.g. discussion platforms) on a frequent and structured basis. The funding suggested (of the order of € 200,000 per year) would have come directly from the Parliament and include salaries, the costs of external experts, as well as the organisation of events for public debate and dissemination.

The board proposed for the GPAT would have been composed by 5-8 invited leading personalities from the science and technology community which should "not represent any political, academic, scientific or technological interest, only the public interest as they understand it in their conscience and within their technical competence in the scientific area" (Santos 2012). The board would have been nominated by and operate under the President of the Parliament and would establish a direct interaction with relevant Parliamentary Committees (e.g. health, economy, etc.) to assess the themes of interest to them and agree a work programme.

Parliamentary Unit of Technology Assessment (UPAT) – A Unit Without a Permanent Scientific Team

The model of pTA proposed in annex 1 of Duarte 2015 as a pilot study suggests the establishment of a parliamentary TA unit (UPAT) comprised by two boards (coordinating and advisory), with the technical TA work commissioned to external research centres (i.e. no permanent scientific team). The proposal suggests that financing should be provided by external organisms, including the national funding agency for science, the Foundation for Science and Technology (FCT), which is under the directive of the Ministry of Education. According to such proposal, (ad hoc?) contracts would be established "probably directly between the funding agencies and the proposers of the studies". The funding suggested for external studies would be of the order of 50,000-130,000 euros per year.

The coordinating board of UPAT should have one representative of all the Parliamentary Committees existing in Parliament. The advisory board would be composed by one representative of each of the funding agencies, one representative of the GrEAT network, and one representative of the academic programs associated with

TA³ as proposed by GrEAT. Additionally, the parliamentary rapporteur for pTA suggested that one representative of the PACITA project and of other academic institutions (state Laboratories and associated Laboratories) should also be members of the advisory board. During the start-up phase, the advisory committee would be comprised by 2–4 members, increasing to 15–17 at later stages. It is worth noting that it is currently not clear who would appoint representatives of both boards and how they would be nominated.

3 Discussion: Comparison between pTA Models

In this section, a comparison of the existence of precedents, levels and sources of funding, organisational structure and positioning, and stakeholders involvement between the GPAT and the UPAT is presented. The criteria include the two possible reasons (precedents and funding) to which Böhle/Moniz (2015) attribute the lack of support to the initially proposed GPAT model.

Precedents

While not common, a relatively independent and specialised unit within the Portuguese Parliament currently exists, initially set up as pilot project in 2006: the Technical Unit of Budget Support (UTAO)4. Although working on financial matters, its structure and size would be similar to that envisioned for the GPAT (Santos 2012). Following the resolution no 53/2006, a report by the Budget and Finances parliamentary committee (COF) was produced assessing the work developed by UTAO in the period of 2006-2009 (Evaluation of UTAO; Neto 2009). The report considered UTAO a very good experience characterised by high-level quality work. It also recommended an analysis of the best model to be adopted in the future for such unit, including consideration of its integration in Parliament or outsourcing. The model adopted for UTAO was integration in Parliament as a technical team.

Thus the GPAT model proposed for Portugal has a limited but noteworthy precedent in the Portuguese Parliament. As such, the presence/lack of precedents for either TA model cannot be considered a key differentiator between the two.

If a differentiator, it is arguable that a model fully integrated in the parliament (GPAT) has a stronger precedent in the Portuguese Parliament than a model of a unit at the dependence of external institutions.

Level and Sources of Funding

It is very likely that the current economic climate is substantially hampering progress with TA in Portugal, with the Parliament predisposed to reject initiatives requiring additional expenditure and not considered within agreed budgetary frameworks. It is informative to compare the level and sources of funding proposed for the two pTA models and discuss how they compare with the typical budget of a similar unit (i.e. the UTAO) and with the overall budget of the Parliament.

The budget of the UTAO over the start-up period 2006-2009 (salary of 2-3 experts, working trips and daily allowances) was close to € 462,000 (Neto 2009). The budget is broadly comparable with the budget suggested for GPAT (€ 200,000 per year) and for the UPAT (€ 50-130,000 per year). The budget for GPAT would be provided by the Parliament while the one for UPAT would be based on external funding, including funding from the government funding agency for science, FCT. In 2010 the UTAO saw its human resources and competences strengthened (Parliamentary resolution nº 57/2010), resulting in a higher budget than that allocated over the start-up period. The overall budget of the Portuguese Parliament in 2015 was of the order of €105 million, so the budget of the GPAT and the UPAT would represent about 0.1–0.2% of the total budget of the Parliament in 2015.

Overall, whereas the costs of the GPAT would have been higher, the two pTA models proposed a similar scale of operations, with costs broadly comparable to that of UTAO currently operating within the Parliament. Differences in levels of funding associated with the two models (largely associated with the salaries of personnel comprising the office) are small in the context of budgets of parliaments/institutions and are unlikely to represent a primary differentiator between the two. However, the source of funding is a differentiator between the two models, as the GPAT would

require financial resources from the Parliament whilst the UPAT would be dependent on external funding. Therefore, it would be interesting to analyse if the arguments associated with the "lack of budgetary framework" for the GPAT model, described in (Santos 2013) and subsequently reported by Böhle/Moniz (2015), could be interpreted purely on the basis of lack of resources for unplanned expenditure and on the political difficulties of justifying additional parliamentary expenditure in a context of austerity (making it easier to support political initiatives in which funding is external to the Parliament), rather than on the actual costs involved. In other words, it is possible that the key differentiator between the two models is the source of funding rather than the actual amount of resources required by either model. It is worth reflecting on the fact that, whilst providing a contingent solution enabling TA to be formally establish and lay its foundations in Portugal, setting up the UPAT with budget external to the Parliament may introduce issues of accountability and inefficiency (see below).

Organisational Models

In the GPAT, a board composed by leading personalities from the S&T community would establish the work programme, while a dedicated technical team would be permanently employed to deliver the work. Such a team would be required to develop a strong network of experts across different disciplines and institutions (scientific community, public institutions and civil-society organisations), as well as understand the work of the Parliament. In this model, the presence of a permanent technical team, its autonomy from conflicting interests on producing the technical work, the possibility of developing its own work plans to anticipate issues on the horizon in the parliamentary debate and its ability to operate with its own budget would result in an effective, accountable and transparent organisation. The board would have had the function of developing a good platform of interaction with the different Parliamentary Committees and to ensure that the GPAT focused on issues relevant to the Parliament. A possible difficulty with this model is maintaining the direct involvement of Members of Parliament, hence ensuring that the

work of the board would be integrated with that of the Parliament.

In the UPAT, there is no permanent technical team coordinating and procuring the work, so both the governance and delivery of the work would rely on the activities of the coordinating and advisory board. Taking into account the input of the advisory board, the coordinating board would establish its work programme, and proceed to procurement. In such model, it is crucial to clearly define how funding would be managed to assure a transparent and independent process of procurement, given the potential for conflict of interest between members of the advisory board and institutions potentially executing TA-relevant technical work. Additionally, the lack of a structural budget (i.e. resources would come from external funding agencies rather than by the UPAT itself) could make the procurement processes less efficient and decrease the overall accountability of the unit.

Institutionalisation of Parliamentary TA: Positioning and Stakeholders' Involvement

Models of pTA currently operating in different countries place different emphasis on the involvement of with the four societal spheres, Government, Parliament, Science and Society. The two pTA models proposed so far in Portugal can be characterised by a "shared parliamentary-science involvement in TA" (Ganzevles et al. 2012). However, in the case of the UPAT the dependence of the unit on funding provided by the FCT (dependent from the Ministry of Education) would indirectly introduce a link with the government.

One of the main differences between the two models proposed is at the communication level. The GPAT model places a strong emphasis on the communication of results and involvement of stakeholders in order to have an impact on the (public and political) debate on S&T. Such function would have been performed through the organization of dedicated events, facilitated by the presence of a dedicated communication officer responsible for establishing interactions with the press offices of newspapers, TV and radio. The GPAT model also aimed at creating discussion platforms to involve different stakeholders, encouraging the development of a wider communi-

ty able to influence the debate on S&T. The work produced would be presented to the Parliament, Government and to the public through the page of Parliament and by dedicated events.

In the available proposal of the UPAT there is less emphasis on public debate or dissemination of the results. More generally, information currently available suggests that the UPAT would approach dissemination and stakeholder engagement in an ad hoc, rather than structured manner. In particular, the studies produced by the UPAT would be accessible to the Members of Parliament through a digital library, and eventually to the public in general with public consultation, or other public participation methodologies, to be used as appropriate, depending on specific studies. Overall, it would be important to understand how the UPAT would result in the introduction of pTA in Portugal as a "democratic innovation", as proposed by Böhle/Moniz (2015).

In general, in order to promote a strong institutionalisation of pTA, a broader acceptance by key stakeholders (CSO, national councils, business, industry, academia, etc.) of any TA office/ unit proposed will be needed. In Portugal, there are many bodies⁵ for policy consulting in the field of S&T that could be considered as carrying out some kind of TA-like activities and could be involved as members of the UPAT advisory board or, as a minimum, as important stakeholders. These structures currently include an advisory role to government/parliament relative to specific matters within their competences, executed by producing reports or opinions which can then be requested by the Government or the Parliament (Almeida 2013), and need to be considered when discussing the institutionalisation of TA in Portugal.

For a suitable TA structure to be established, it seems important to develop a consistent and systematic integration process with the participation of the different existing actors. In Böhle/Moniz (2015) GrEAT is presented as a "national TA network". It would be relevant to assess the awareness and acceptance of such network by key national stakeholders. In the absence of such assessment, indicating the GrEAT network as the main (and possibly only) stakeholder to consider the future of institutionalised TA in Portugal may provide a limited vision, as there are many other

stakeholders/established bodies that deserve to be taken into account when considering the context of, and for, TA in Portugal.

In the opinion of the author of this paper, the PACITA project had an essential role in increasing societal involvement in the establishment of pTA in Portugal, by conducting various national activities involving a broad range of stakeholders. These helped raise awareness of TA practices far beyond the TA community, increasing the societal support for TA.

4 Summary

Analysis of recent events indicates that the establishment of pTA in Portugal is progressing. Proposed models of pTA have been developed based on the input of a number of stakeholders, including members of the GrEAT network and of the PACITA project. After progress with the GPAT model (developed by the national rapporteur for pTA with the contribution from Almeida and initially approved by the CECC) was halted due to a "lack of budgetary framework for the initiative" by the Administration Board of the Parliament (Santos 2013), the UPAT model (proposed by GrEAT network in 2015) is now being considered by the parliament.

The interpretation of the reasons indicated by Böhle/Moniz (2015) as being responsible for the lack of progress with the initially proposed GPTA model requires consideration. In particular:

- Level of precedents is unlikely to be a key differentiator between the two models, in fact the GPAT has a precedent in the parliament (the Technical Unit of Budget Support, UTAO) which the UPAT does not have.
- While the sources of funding (Ministry of Education for the UPAT as opposed to Parliament for the GPAT) and level of funding (€ 50–130,000 per year for the UPAT as opposed to € 200,000 per year for the GPAT) present some differences, the amount of resources required by the GPTA is broadly comparable to that of a similar initiative operating in the Parliament (i.e. the UTAO) and very small compared to the costs of operating the Parliament. As a result, differences about "budgetary framework" are better interpreted

on the basis of resource planning and political justification for Parliamentary expenditure as opposed to actual levels of resources.

On balance, whilst overcoming the short-term issue of not requiring Parliamentary funding, the proposed UPAT introduces an organis ational model with no precedents in the Parliament, with the potential for conflict of interests on executing the TA work and, raising other questions that will require consideration (i.e. accountability and efficiency). In general it would be important to consider the long-term implications of the use of funding from the Foundation for Science and Technology (FCT, an agency at the dependency of the Ministry of Education) to support the work of the UPAT and the relationship of the UPAT with the Government.

Notes

- 1) Group for the Study of Technology Assessment
- 2) In the Resolution of the Portuguese Parliament no 60/2009 the Parliament commits to: "(1) Build an institutional platform that promotes the meeting of politicians and scientists in order to provide quality information, timely and usable on all controversies and scientific implications that determine or are consequences of public policies, anticipating or evaluating human impacts, social, economic and environmental policies built in Parliament; (2) Pursue a feasibility study for the possible establishment of a Parliamentary Office of Science and Technology; (3) Promote efforts to enable the future membership of the *Assembleia da República* to the European Parliamentary Technology Assessment (EPTA) network; (...)."
- 3) PhD program on TA (Programa Doutoral de Avaliação de Tecnologia, PDAT), Faculdade de Ciência e Tecnologia-Universidade Nova de Lisboa (FCT-UNL), described in the article by Böhle and Moniz (2015) and PhD program on Engineering and Public Policies (Programa Doutoral em Engenharia e Políticas Públicas, DEPP), Instituto Superior Técnico-Universidade de Lisboa (IST-UL).
- 4) UTAD works under the direction of the permanent parliamentary committee responsible for budgetary and financial matters, providing support by elaborating studies and documents on technical work regarding public budgetary and financial management (Law n° 77/88, 1 July).
- 5) Examples of these national bodies include the National Council of Ethics for Life Sciences

(CNECV) and the National Council of Environment and Sustainable Development (CNADS).

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Contact

Dr. Mara Almeida ITQB, Universidade Nova de Lisboa Av. da República, Estação Agronómica Nacional 2780-157 Oeiras, Portugal Email: mara.almeida@itqb.unl.pt

