

INCENTIVES FOR IMPACT IN HIGHER EDUCATION: A CROSS-NATIONAL POLITICAL SCIENCE PERSPECTIVE^Ω

Justyna Bandola-Gill (University of Edinburgh),
Marleen Brans (Katholieke Universiteit te Leuven) &
Matthew Flinders (University of Sheffield)

The ‘impact agenda’ within higher education has been interpreted as synonymous with the onset of a new scientific paradigm in which academics are increasingly expected to prove their social, economic and cultural value. Although the ‘tyranny’, ‘risks’ or ‘perils’ of this agenda have been discussed at length what has been missing is (i) any deeper theoretical or conceptual framing to contextualise this shift, (ii) a robust and evidence-based comparative analysis of the emergence of ‘incentives for impact’ within higher education, or (iii) a detailed account of how this policy agenda has trickled-down to affect a specific discipline or field of inquiry. This article responds to each of these three points by presenting the results of a major international study that has examined the existence and nature of the ‘impact agenda’ as it relates to political science in thirty-three countries. Theoretically the lens of New Public Management is utilised to understand the ‘impact agenda’ and leads to a focus on what is termed ‘New Public Research’. Empirically the research discovers that ‘incentives for impact’ exist in all but two of the 33 countries examined. In most cases although the impact-regimes are less than five years it is already possible to identify a relatively clear policy-trajectory that involves the gradual diminution of academic discretion and the hardening of impact audit regimes. The United Kingdom is viewed as a policy ‘leader’ with processes of mediated mimetic isomorphism taking place in many countries. Although this process has significant implications in terms of scholarly freedom and academic autonomy the most striking finding from the field of political science is the almost complete lack of professional resistance.

As a number of scholars have highlighted (Martin, 2011; Nowotny, 2015; Smith & Stewart, 2017), the dominant science policy paradigm appears to have shifted in recent years towards an increasing emphasis on demonstrating the ‘public value’, ‘relevance’ or ‘impact’ of scholarship. Assessments of research quality - and therefore decisions regarding research funding, appointments, promotions, prizes, fellowships, institutional investments, etc. - are therefore increasingly likely to include (implicitly or explicitly) some assessment of the *non-academic societal value* of that research. It is, however, possible to suggest that the emergence of this impact-related shift has not received the scholarly attention it deserves given the potential ‘perils’ of this paradigm (James, 2018; Flinders, 2013). This is not to suggest that cognate pools of scholarship do not exist (e.g. Ergul and Cosar, 2017; Alvesson, *et al.* 2017) but it is possible to identify a gap in the existing research base concerning theoretical framing, comparative mapping and potential pathologies. It is in exactly this context that this article engages with four inter-related questions.

^Ω This study represents one strand of a much larger international research study on the professionalization and social impact of European political science that brings together scholars from over thirty different countries. See http://www.cost.eu/COST_Actions/ca/CA15207

*RQ1: **Theory** – How can the evolution of the impact-agenda be theorised in a manner that facilitates both comparative research while offering linkages to other policy domains?*

[The focus of Part I]

*RQ2: **Methods** – How can the scientific analysis of the emergent ‘impact agenda’ be most efficiently and credibly undertaken?*

[The focus of Part II]

*RQ3: **Empirics** – To what extent do research assessment processes in different countries actually include an emphasis on ‘impact’, ‘relevance’ or ‘public value’?*

[The focus of Part III]

*RQ4: **Consequences** – What are the implications of this shift in terms of professionalization, autonomy and scholarship?*

[The focus of Part IV]

The research presented in this article engages with these questions by: utilising New Public Management-theoretic studies to develop the concept of ‘New Public Research’ (in response to *RQ1*); through the design and implementation of a multi-stage and multi-method research model (*RQ2*); through the comparative analysis of impact-regimes in 33 countries and European Research Council (*RQ3*); and finally through a review of the qualitative data collected on the unintended consequences of ‘incentives for impact’ during two focus groups with country specialists (*RQ4*). Possibly the most significant finding of this research relates to the extent and pace of the unfolding impact agenda within higher education, or at least in relation to the analysis of political science, with 31 of the 33 countries analysed now having some form of impact-related research assessments, the vast majority of which were introduced within the last five years. As with other New Public Management (NPM) related reform agendas, the UK is recognised a ‘leader’ in the field but the research from British scholars also highlights what might be termed the ‘hidden politics of impact’ or the unintended consequences of this agenda (e.g. Chubb & Reed, 2018; Meagher & Martin, 2017; Smith & Stewart, 2017). In order to substantiate these arguments and to present the original data collected in this study this article is divided into four parts that mirror the core research questions outlined above. Covering such a broad scholarly agenda within the contours of a single research article has clearly demanded that we use a fairly broad brush as we work across a wide intellectual canvas. However, it is hoped that by exploring the emergence of the impact agenda within academe, particularly in relation to charting country profiles, that this article will stimulate more scholarly interest on this topic, thereby filling-in the detail and achieving a more fine-grained understanding of the topic.

1. THEORY

The article is focused upon mapping and understanding the emergence of ‘incentives for impact’ within higher education, in general, and as it relates to political science, in particular. The existing research base on this topic is relatively limited and particularly in relation to theorising the emergence of the impact agenda within academe (i.e. *RQ1*, above). The central argument of this section is that the extensive literature on New Public Management (NPM), in terms of its (i) underpinning rationalities, (ii) institutional effects and (iii) unintended consequences offers a valuable analytical framework through which to contextualise and understand the emergence of the impact agenda. The introduction of explicit assessments of ‘impact’, ‘relevance’ or ‘public value’ can be interpreted as representing the latest phase or fashion in NPM-theoretic reform

initiatives as they relate to higher education. (How to study this phenomenon is the focus of Section 2, evidence of its international spread and variations in implementation form the focus of Section 3, and indications of unintended consequences form the focus of Section 4.) And yet the link between NPM and the impact-agenda has rarely, if ever, been made in the existing research base and the main aim of this section is to demonstrate this linkage and explain why it matters. Indeed, we would suggest that NPM has fuelled the contemporary emphasis upon impact and relevance – as well as the broader marketization of universities and an increasing emphasis on the utilisation of publicly funded research to support economic growth and productivity – to the extent that the term ‘New Public Research’ now captures many elements of the emergent new science paradigm.

Although there is an extensive literature on the history, implementation and evolution of NPM in different countries and different policy areas there is very little literature on the history, evolution or roll-out of the impact agenda within higher education despite its clear links and synergies with managerialism. One way of illustrating this linkage is to reflect upon the core essence of NPM and then to identify its core themes or governing principles. Stripped-down to its core essence, NPM is concerned with a reform agenda based upon the utilisation of private sector tools, processes and institutions with the aim of increasing efficiency, effectiveness and value for money. Whether NPM ‘works’ is a contested issue (see Hood and Dixon, 2015; Sorin and Pollitt, 2015) but what is critical for the focus of this article is the manner in which it seeks to drive the ‘logic of the market’ into the public sphere. This ‘logic’, however, is applied not just through the introduction of specific reforms and ‘tools of governance’ but also through a process of ideational and discursive institutionalism whereby the political discourse surrounding a specific part of the state becomes recalibrated and, through this, redefined and redirected towards a quite different set of goals. Or, more commonly, political debates emerge due to the emergence of what Matthew Flinders (2010) has termed a ‘splintered logic’ due to the layering of new and potentially incompatible goals, values and expectations *upon* a set of pre-existing norms, assumptions and ambitions.

Our argument here is that NPM provides a broader theoretical and analytical canvas through which it is possible to both locate and understand what might be termed ‘the politics of impact’ as it relates to higher education and the value of scholarship. We see the impact-agenda very much as the latest wave of a broader NPM-derived reform agenda which has been unfolding for several decades. Put slightly differently and in line with the work of Talib (2003), the impact-agenda can be interpreted as the latest ‘offspring’ of NPM as applied to university systems in many advanced liberal democracies (following on from more generic forms of performance measurement, league-table production, transparency requirements, performance based funding, customer choice, etc.); and, as a result, tensions are likely to emerge (see Christopher and Leung, 2015) as traditional academic and disciplinary cultures either grate towards a slow alignment with corporate culture and the demands of managerialism or seek to broker a co-existence that allows the new external demands for evidence of ‘relevance’ to be satisfied while preserving a sense of intellectual autonomy and professional distance from the state. We therefore seek to capture the existence of this ‘splintered logic’ and the introduction of impact-related performance assessments on universities in the concept of ‘New Public Research’. (The ‘New’ in this sense is designed to reflect the need to demonstrate the non-academic ‘Public’ value or relevance of Research.)

Identifying the emergence of NPR as a constituent element of a broader NPM agenda is valuable for at least three reasons that range from macro-political debates concerning power, control and democracy; through to micro-level elements of the audit regime which may without careful analysis and reflection appear almost meaningless but actually reflect a more subtle shift in control, point of emphasis or mode of political signalling.

At the macro-political level, it is important to acknowledge the implicit political values that drive NPM. Couched within a lexicon that appears almost synonymous with neutral, rational, ‘common sense’ reforms – who could be against ‘increasing efficiency’? – there exists a highly political project that revolves around the vaunted superiority of the private sector and market-based relationships (see Hood, 1991). The introduction of new frameworks of ‘meta-governance’ - or simply specific new tools of governance – need not simply be associated with a desire to increase economic efficiency. It may also be driven by a political desire to exert greater control over a professional constituency who are deemed for one reason or another to be either under-performing, over-protected or professionally threatening (or a combination of all three factors). This may involve doctors, teachers, civil servants or – as in this case – university professors. NPM is therefore associated with (re)asserting control by emphasizing ‘the shadow of hierarchy’ in a democratic polity where a degree of accountability and control is deemed a legitimate expectation to place those in receipt of public money. The emergence of NPR - with ‘incentives for impact’ at the core – is therefore inevitably bound-up in debates about the appropriate relationship between the academy and the state and how this relationship is mediated through governance structures that are open to both amendment and contestation.

If the macro-political debates introduce themes such as control, power, resource-dependency and co-option then the mid-range or meso-level issues add tone and texture to these issues through a return to the notion of ‘splintered logics’ and the potential tension between ideals, assumptions and expectations. As already mentioned, NPM injects ‘the logic of the market’ into the public sector and in relation to higher education – as the work of leading scholars such as Andrew McGettigan (2013), Rob Watts (2017) and Stefan Collini (2018) has illustrated – this creates tensions as established cultures and pre-existing relationships are expected to move into alignment. When it comes to demonstrating ‘impact’, ‘social relevance’ or ‘public value’ it is also possible to suggest that certain areas of scientific inquiry are more amenable to demonstrating a causal relationship between scholarly research and demonstrable impact than others. This is particularly true of STEM disciplines (i.e. science, technology, engineering and mathematics) where the attachment to the ‘linear model’ are still holding a stronghold in both the funding schemes (Pielke, 2012) as well as scientists’ frames of reference (Roll-Hansen, 2017), despite being proved to be empirically inaccurate (Edgerton, 2004). The linear model assumes the development of innovation as a set of consecutive stages from basic research, through applied research, product development and diffusion (Hessels, van Lente, & Smits, 2009). Most of the social sciences, arts and humanities operate in a very different intellectual space in which making causal claims to demonstrable social impact are simply far more difficult and contestable (Davies, Nutley, & Walter, 2008; Weiss, 1977). How this tension or example of splintered logic (i.e. the assumption of linearity and direct causation set against the fuzzy reality of the social sciences’ relationship with society) is or can be accommodated is examined in later sections.

This brings the focus down to a micro-political focus on the commodification of knowledge. Indeed, if NPM brings with it a focus on the ‘unbundling’ (Pollitt and Talbot, 2003) or ‘unravelling’ (Hooghe and Marks, 2003) the state then NPR brings with it an emphasis on ‘unbundling’ or ‘unravelling’ of scholarship into constituent components in order to apply some assessment of quality against which some notional economic value can be attributed, decisions made in relation to the distribution of future funding and league tables created to inform potential service-users or ‘customers’ (i.e. students). The critical point is that the introduction of ‘incentives for impact’ risks creating ‘disincentives-for-research-deemed-non-impactful’ irrespective of the innate scholarly value of that work (Chubb & Reed, 2018). This, in itself, introduces a set of themes concerning gaming and unintended consequences that will be familiar to students of NPM but may not have been considered in relation to NPR. The impact-agenda can therefore be theorised and understood through the lens of NPM as it fits with a broader set

of concerns regarding managerialism, in general, and the emergence of a dominant political narrative that posits universities as ‘anchor institutions’ within a new and globalised knowledge economy. This is clearest in countries such as the United Kingdom and Australia – both acknowledged ‘leaders’ rather than ‘laggards’ in the sphere of NPR- where public research funding in higher education has been explicitly tied to the industrial strategy of each country and powerful ‘incentives for impact’ either introduced (UK) or are currently being implemented (Australia) (see Williams & Grant, 2018).

Box 1: The Evolution of Incentives for Impact in the United Kingdom, 1993-2018

In the UK, the first step towards the research impact agenda were taken in 1993 with the publication of the White Paper *Realising Our Potential. A Strategy for Science, Engineering and Technology*. This outlined two main goals for the British Science: (i) the value of science was to be made explicit; and (ii) the application of science was to be more explicitly pursued. This initial stage of making the benefits of science known to a wider field of potential ‘research users’ was followed by moves toward the formal assessment of impact-related achievements (e.g. goals, indicators, etc). The *Lambert Review of Business-University Collaboration* of 2003 and the subsequent *Science and Innovation Investment Framework* (2004-2014) established ‘knowledge transfer’ as one of the key areas governed by explicit targets. In response, the research councils that distributed funding through a semi-independent delivery structure published revised delivery plans and strategic documents to reflect this change in top-down governmental emphasis. A variety of impact-oriented funding initiatives and incentive projects were also launched. The third stage of the development of the research impact agenda in the UK entailed moving the responsibility for research impact directly onto the research councils, prompting them to introduce a more formalised and systematic approach to impact support. *Increasing the economic impact of Research Councils* (2007 – generally known as the Warry Report), for example, recommended integrating *ex ante* impact assessments within the process for assessing grants applications. This led to the requirement to submit ‘Pathways to Impact’ statements alongside your scientific research statement but in 2014 the ‘incentives for impact’ changed more substantially when the national five-year assessment of research quality (through which universities are ranked) was amended to include an explicit (*ex post*) impact component that would constitute 20 per cent of the overall score for each unit. This component was assessed through the submission of ‘Impact Case Studies’ and in a further sign of the government’s commitment in this area the impact element was subsequently increased to 25 per cent for the forthcoming *Research Excellence Framework 2021*.

As the Section 3 (below) will illustrate, the shift towards what we term ‘NPR’ is rarely, if ever, associated with a singular policy and more commonly finds its expression in a set of evolving, increasingly comprehensive guideline (i.e. the gradual expansion of an initial set of measures that are subsequently expanded, like the positioning of wedges into cracks, to gradually impose an ever-greater and more explicit set of expectations). This can be demonstrated through a stage-based account of the content of Box 1 (above): *Stage 1* was high-level and revolved around the setting and elaboration of governmental priorities; *Stage 2* saw these statements translated into specific targets with funding available to incentivise capacity building, this was evident for example in the emergence of follow-on and specific impact funding; *Stage 3* shifted (*ex ante*) responsibility for impact related targets down the policy chain to funding organisations and grant recipients; *Stage 4* introduced an *ex-post* impact assessment as part of the national review of research quality. Soft signalling in the early stages is therefore translated into hard regulatory governance requirements in the later stages. Even though we do not expect all of the countries to follow this four-step process directly, the UK case study provides *an* example of a trajectory that may be of analytical value from a comparative perspective. This raises the question of *how* such a comparative analysis could be undertaken in order to not only descriptively map the cross-national emergence of ‘incentives for impact’ but also to explore the existence of any tensions, challenges of potential pathologies arising from this trend. This forms the focus of the next section.

2. METHODS

The main argument of the previous section was that in terms of theoretical frameworks the emergence of the impact-agenda can be located within the existing body of scholarship on NPM. The concept of ‘New Public Research’ was therefore offered as a useful shorthand phrase through which to encapsulate the drivers and expectations that are embedded within the impact agenda. The aim of this article is to map the broad topography of this new paradigm in terms of the spread of the ‘impact agenda’ (Part 3) and to drill-down into this agenda through a disciplinary focus on political science in order to explore potential or emergent concerns regarding this agenda (Part 4). In order to achieve these aims a six-stage mixed-methods framework was adopted (see Table 1, below) with the support of European Cooperation in Science and Technology (COST) funding. We offer this framework as an efficient, rigorous, tested and replicable methodology through which to analyse the emergent ‘impact agenda’ (i.e. *RQ2*, above).

Table 1. Methodological Stages

STAGE	METHOD	WHEN	DETAIL
1	Desk Research	June 2017- March 2018	Collection and analysis of over a 100 documents, including funding and peer-review guidelines, research funders’ strategies, websites
2	Country Survey+	Sept. 2017- March 2018	Initially discussed and designed at network meeting held in Sept. 2017 at the Katholieke University, Leuven. 38 European countries were surveyed
3	Focus Group I	March 2018	Convened in Lisbon. 14 Country specialists brought together to discuss survey results and implications. Qualitative data collected and coded
4	Focus Group II	September 2018	Convened in Sarajevo TBC Country specialists brought together to discuss draft analysis paper. Qualitative data collected and coded
5	Interviews	October 2018	Only when necessary to complete or clarify country datasets.
6	Expert Feedback	November. 2018	Distribution of draft analysis followed by review and reflection phase.

The initial country survey was designed through a planning session that brought network members from partner countries together at the Katholieke University of Leuven in September 2017. The survey was designed around *RQ3* and *RQ4* (above) and subsequently distributed to scholars in each of the 38 within our COST network (see Appendix 1). Detailed responses were received from 33 countries and was then developed and supplemented through country specific desk research that analysed a range of websites, resources and documents (e.g. guidelines for applicants, assessment protocols, science policy documents, etc.). Taken together, the survey data plus the desk research facilitated the creation of country profiles, which then provided the units of analysis for subsequent comparative study. In addition to these county profiles a number of additional case study units were developed with the intention of adding breadth and further comparative insight to the analysis (i.e. beyond Western Europe and the ‘+’ in the Country Survey). The additional cases focused on the European Union via the European Research Council, the United States via the National Science Foundation and Australia via the Australian Research Council with the same survey-respondent/desk research model being followed. The collected documents (over 100 in total) and survey responses were thematically coded which facilitated the creation of a thematic matrix.

What Stages 1 and 2 revealed was that: (i) the recent introduction of an ‘impact agenda’ could be identified in the vast majority of countries; (ii) the agenda seemed to be gaining policy momentum; (iii) but it was possible to identify clear country-specific variations in terms of depth, focus and pace. In order to look beyond and beneath these headline findings two focus groups consisting of the country representatives were convened in March and September 2018 (i.e. Stages 3 and 4, Table 1, above). Not only did this allow for the refinement of specific country profiles but it also facilitated a broad discussion about the emergent and potential concerns or implications of this agenda for political science, in particular, and higher education, more broadly. The focus groups flowed into a fifth ‘fact checking’ or ‘due diligence’ stage that revolved around a number of follow-up interviews with country specialists to discuss specific issues or themes that had been raised either in the survey or in the focus group. The (sixth) final stage involved the circulation of a draft final report in November 2018 to all participating country specialists in order to: (i) confirm factual accuracy and capture any recent developments; (ii) outline the key concerns or emergent issues in order to (iii) assess those topics that may need further research or may even have been overlooked. The next section reviews the emergent data produced by this methodology in order to chart the emergence of the impact agenda from an international perspective (i.e. RQ3). The fourth and final section will then offer an initial discussion of some of the key themes and issues that are being raised about this agenda (i.e. RQ4).

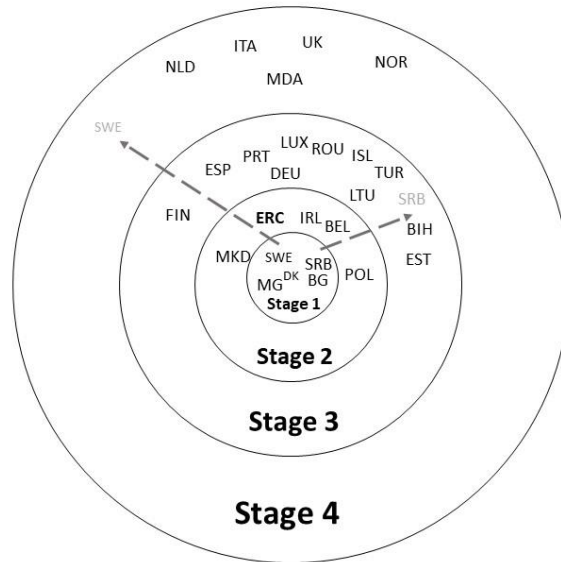
III. EMPIRICS

The aim of this section is to provide an overview of the ‘impact agenda’ from a comparative perspective. A simple descriptive statement of the ‘impact agenda’ in each of the participant countries can be found in Appendix A but the core findings can be summarised under the themes of *spread*, *pace* and *genesis*:

1. *Spread*: Expectations relating to the non-academic ‘impact’ of publicly funded research seems to be growing across European research funding systems. Out of 33 countries and ERC, 31 cases demonstrated the existence of at least some form of ‘incentive for impact’.
2. *Pace*: The findings also seem to point to an acceleration of the impact agenda in the last few years with new assessment processes either being implemented (e.g. Italy, Norway plus Australia) or planned (e.g. Sweden, Serbia) or existing processes augmented (e.g. UK).
3. *Genesis*: The United Kingdom’s decision to introduce an explicit ‘impact’ component within their national assessment regime for the *2014 Research Excellence Framework* appears to have had significant spill-over effects upon other countries (e.g. Norway, European Research Council)

The overall finding of this study is that an increasing number of scholars are expected to provide formal accounts of the demonstrable non-academic impact of their research. The impact agenda has emerged across higher education as a powerful new legitimating narrative with potentially far-reaching implications for scholarship but with relatively little external debate. The spread and depth of the impact agenda is illustrated in Figure 1. (see Figure 1, below).

Figure 1. Spread and Depth of Scholarly Impact Assessment Regimes, 2018



KEY	MEANING
Stage 1	High-level policy statements in place.
Stage 2	Impact- or engagement-oriented funding.
Stage 3	Funding as a part of research applications [<i>ex ante</i>]
Stage 4	National assessment framework for research quality includes non-academic 'impact' component

Figure 1 provides a very broad overview of the contemporary situation and therefore veils the existence of significant variations in relation to a number of variables. Therefore, in order to unpack the overview provided by Figure 1 it is useful to utilise the data generated by this project to explore five sub-questions:

- SQ1.* How is 'impact' defined?
- SQ2.* What role does 'impact' play in relation to research grant applications?
- SQ3.* What role does 'impact' play in relation to national assessments of research quality?
- SQ4.* How is 'impact' weighted?
- SQ5.* What incentives and sanctions are attached to the 'impact agenda'?

SQ1. How is 'impact' defined?

The main finding is that 'impact' appears to be an example of what W. B. Gallie (1956) (in)famously described as an 'essentially contested concept' in the sense that it appears bound to a loose set of values or principles but tends to lack any agreed core definition. To some extent

this is unsurprising as science policy concepts are often underdetermined in order to remain flexible and open for interpretation by both the science and policy communities (Pielke, 2007, Calvert, 2008). But, on the other hand, at a broad comparative level a significant amount of confusion appears to exist about exactly what the ‘impact agenda’ is trying to achieve and how it can be assessed. Indeed, the setting of the definitional boundaries – and therefore how the quality of ‘impact’ is assessed – has itself proved the focus of wide-ranging debates as disciplines seek to ensure that dominant interpretations are broad and flexible enough to include a wide-range of activities. The definitions of impact generated in this study therefore varied across the countries and were – overall – quite broad. Impact has been used interchangeably with ‘valorization’ (Belgium, France), ‘third mission of the universities’ (Italy), ‘practicality’ (Latvia), ‘relevance of science’ (Serbia, Luxembourg), ‘knowledge exchange’ (Hungary), ‘knowledge mobilization’ (Canada) or ‘knowledge utilization’ (in the Netherlands). Some definitions discussed relationships with the ‘socio-economic environment’ (France) or in terms of ‘engagement or partnerships’ with non-academic audiences (Poland, the Netherlands). One popular conceptualization of impact defines it with reference to ‘benefit’ or change to different social realms (such as the economy, society or culture). This conceptualization has been adopted for example in the UK, Norway and the European Research Council. The general opacity surrounding the impact agenda is reflected in the fact that twelve countries reported that there was no official definition of impact in their research funding systems.

Table 2. Definitions of Impact – Examples from the Database

COUNTRY	DEFINITION	SOURCE
United Kingdom	‘An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.’	“Research Excellence Framework: Assessment framework and guidance on submissions” https://www.ref.ac.uk/2014/pubs/2011-02/
The Netherlands	‘Knowledge utilisation is the process of making scientific knowledge suitable and available for use outside of the academic world and/or use within other scientific disciplines.’	“Manual Knowledge Utilization in the Social and Behavioural Sciences” https://www.nwo.nl/en/documents/magw/knowledge-utilisation/manual-knowledge-utilisation-in-the-social-and-behavioural-sciences
Norway	‘An effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.’	“A preliminary analysis of the impact cases submitted in SAMEVAL” https://www.forskingsradet.no/en/Artide/Evaluatio_n_of_social_science_research_in_Norway/1254020218541?lang=en
Italy	‘Openness to the socio-economic context through the exploitation and transfer of knowledge.’	“Terza Missione e Impatto Sociale di Atenei ed Enti di Ricerca” http://www.anvur.it/attivita/temi/ http://www.anvur.it/wp-content/uploads/2016/06/Manuale%20di%20valutazione%20TM~.pdf
ERC	‘Any effect or benefit to the economy, society, culture, public policy or services.’	“Information for Applicants to the Proof of Concept Grants 2018 Call” http://ec.europa.eu/research/participants/data/ref/h2020/other/guides_for_applicants/h2020-guide18-erc-poc_en.pdf

The definitional debates surrounding the non-academic ‘impact’ of publicly funded research demand further research and analysis. However, on the basis of the data that has been collected it is possible to highlight three inter-related issues. First and foremost, a large amount of confusion seems to exist within the academic community about the impact-agenda, what it

means and why it matters. Moreover, academics often have their own ideas about the legitimate role and boundaries of the impact agenda that may not be in complete alignment with the framework being imposed by funders, regulators or the government. This flows into a second argument concerning the risk of ‘conceptual stretching’ - as opposed to ‘conceptual travelling’ (see Sartori, 1970) – if ‘impact’ becomes too broadly defined in order to capture each and every possible form of non-academic influence or interaction then it risks becoming almost meaningless. One response to this agenda - that explicitly builds upon Sartori’s responses to Gallie’s puzzle – has been to offer a demarcation between ‘impact’, ‘relevance’ and ‘engagement’ in order to demonstrate a degree of taxonomical breadth that can accommodate the potential role and strengths of different disciplines (see Flinders, 2013). This flows into a final definitional point that relates to evolution and drift. As Box 1 (above) explains, what the UK reveals as a ‘critical’ or ‘extreme’ case of the evolution and ‘hardening’ of the ‘impact agenda’ is the gradual broadening of the formal definition of impact away from a fairly tight, narrow, linear and STEM-inspired characterisation towards a far broader understanding that could accommodate the more complex ways in which social science feeds into and influences the broader social milieu. More specifically, the definition of ‘impact’ in the UK initially entailed dominantly ‘economic impacts’, as emphasised in the Worry Report, but gradually broadened to include social, cultural, health and environmental impacts (i.e. forms of public engagement and evidence of ‘relevance’ in addition to tight impact claims). This broadening was also reflected in assessment processes which transformed from quantifiable indicators toward more descriptive formats such as case studies in REF. With these three points in mind it is necessary to look at *how* impact is being introduced within the governance of academe.

SQ2. What role does ‘impact’ play in relation to research grant applications?

In terms of *how* the impact agenda has come to influence the publicly funded research landscape it is useful to distinguish between *the particular* and *the systemic*. The former relating to applications for specific research grants or fellowships (let us call this *Type I*), the latter to national assessments of research quality at the institutional level (labelled for the purposes of this article as *Type II*), and often feeding into various rankings and league tables – the focus of the next subsection. The most common strategy for incentivizing impact activities from a comparative perspective is through *Type I* mechanisms whereby the assessment criteria for funding grants and fellowships now includes some explicit statement of expected non-academic impacts. This format of project-based *Type I* incentives was identified in fifteen participating countries (and within European Research Council funding¹). The country profiles suggest that there are two main forms of *Type I* funding. There are what can be termed ‘integrated’ systems where all major funding applications generally include some question about the expected non-academic social benefits of the proposed research or fellowship (e.g. UK, Norway, France); and there are examples of ‘separated’ pathways where funders offer some opportunities solely on the basis of scientific excellence as well as separate resourcing options for the dissemination or application of scientific knowledge (e.g. Poland, Belgium, Ireland, European Union).

If there was a general pattern or direction of drift to be identified out of this research it would be the increasingly role of ‘impact’ related considerations within *Type I* funding decisions. Two insights flow out of this: first, the expectations placed on academics and even the definition of ‘scientific excellence’ appears to be broadening to place emphasis *beyond* a traditional knowledge-

¹ It should be noted that the ERC funding is distributed mainly on the basis of research excellence. Impact accounted for as one of the criteria of “Proof of concept” funding, which is a form of a follow-on funding. See: <https://erc.europa.eu/funding/proof-concept>

creation role (i.e. ‘scientific discovery’) and to incorporate an emphasis on the role of the scholar in knowledge-*brokerage*, knowledge-*filtering* and knowledge-*translation*. This flows into a second dimension of the impact-agenda that is often referred to as ‘deep impact’ or ‘co-production’ (see Flinders, 2016). This involves the engagement of potential non-academic research-users in the initial research design and conception phase and then throughout the whole research process. This may also involve non-academic assessors within the research grant or fellowship assessment process that can also be the case in relation to broader *Type II* national evaluations of research quality. This is the focus of our next sub-section.

SQ3. What role does ‘impact’ play in relation to national assessments of research quality?

A second way that this research suggests that ‘impact’ is increasingly influencing academe is at a broader institutional level through its inclusion within national research audit and assessment frameworks. In *Type II* processes the ‘impact agenda’ has basically been ‘up-scaled’ and although the evolution of these processes is less developed than in relation to *Type I* processes it is still possible to identify a general drift or direction of travel *towards* the introduction of ‘incentives for impact’. These incentives can be *direct* in the form of financial rewards and penalties for performance’ or *indirect* in terms of providing a basis for claim-making and a proxy for research excellence that in a period of financial austerity can be incredibly valuable *vis-à-vis* attracting future students or underpinning persuasive research grant applications. The *Type-II* processes therefore take the form of *ex-post* evaluations of the ways in which publicly funded research has enjoyed some form of social impact beyond academe (i.e. ‘impact’, ‘relevance’, ‘knowledge exchange’). Impact has been introduced as an assessment criterion for broad *Type II* institutional funding in nine countries. However, the emphasis placed upon this assessment of impact varies considerably. In Italy, for example, although impact is part of the audit regime it is not thought to actually have a significant impact on funding decisions; in France the situation was thought to be only slightly different with ‘impact’ perceived to play a fairly minor element of evaluations. In the Netherlands the relevance of research and ‘productive interactions’ is an element of the *Standard Evaluation Protocol* that is conducted every six years. The results of the evaluation are not binding, but are meant to promote self-reflection. In Romania a similar triennial evaluation requires academics to report on (*inter alia*) collaborations with other non-academic institutions, media engagement, etc. In other countries, by contrast, assessments of ‘impact’ play a larger and more formalised role in evaluations of research quality with potential implications in terms of finances, prestige, etc. The UK’s REF process represents the acme of this approach with Norway also adopting this model.

SQ4. How is ‘impact’ weighted?

What the analysis of *Type II* impact assessments revealed was the existence of what might be termed ‘soft’ and ‘hard’ evaluative processes. In the former some appraisal of non-academic impact is made but not necessarily tied to any explicit scoring or grading assessment – reviewers enjoy high levels of discretion in relation to whether to consider impact. In the latter an explicit proportion of the marking criteria is formally assigned to an assessment of non-academic impact – reviewers are obliged to build an assessment of impact into their assessment of scientific quality. What this comparative project has revealed is a clear but relatively immature and embryonic international impact agenda within higher education with a small number of reform ‘leaders’ at the forefront followed by a large number of ‘followers’ (Figure 1, above). What is

interesting about the data arising from this project is that although the ‘impact agenda’ appears to have emerged in the vast majority of countries it is generally associated with ‘soft’ appraisal methods. Out of 33 countries (plus the European Research Council) examined in this project seven cases reported a definite or ‘hard’ weighting of the impact element in funding or career development frameworks (summarised in Table 3)

Table 3. Forms of assessment of impact.

HARD <i>[Formalised and weighted]</i>	SOFT <i>[Discretionary use]</i>
Spain, Turkey, The UK, Norway, Italy, Moldova, The Netherlands (but not across all tools)	Finland, Bulgaria, Montenegro, Bosnia and Herzegovina, Latvia, Germany, Denmark, Ireland, Poland, Luxembourg, Ireland, Serbia, Lithuania, Macedonia, Belgium, France, Hungary, Greece, Croatia, Germany, Romania

In the largest number of countries impact was raised as an issue but was perceived by academics to be a relatively minor element of assessment systems (with research income and publications, alongside teaching evaluations continuing to dominate). Moreover – and confirming a certain sense of opacity surrounding the impact agenda – the role that impact could play within Type I and Type II processes was often unclear with assessors given a significant amount of discretion. This approach was most explicitly stated in the Finnish guide for peer-reviews:

When reviewing an application, the peer review panel may opt to comment on the application’s potential in terms of impact beyond academia. Impact beyond academia will not, however, be rated as a separate item. Impact beyond academia is one of the science policy objectives adopted by the Academy. The bodies responsible for making the funding decisions (e.g. the Academy’s research councils) may use the review panels’ remarks on impact in making the decision.²

But in many ways such an evolutionary process from initial soft-signalling through to the gradual elaboration and introduction of ‘hard’ audit or assessment methods would fit with the staged-approach to policy design and implementation outlined in Figure 1. Put slightly differently, an initial ‘rhetoric-reality gap’ is almost to be expected as politicians and policy-makers seek to recalibrate the broader ideational and discursive context to the point at which the implementation of more direct control mechanisms can be framed as legitimate expectations. This is particularly true in a policy sector where practitioners (i.e. academics) have traditionally enjoyed high-levels of professional autonomy from the state. This is an issue we will return to but pulling the initial findings from the four secondary questions that have been examined in this section together, it is possible to think in terms of a grid-group framework (Diagram 1, below). This would combine the *Type I* and *Type II* dimension with the distinction between discretionary and non-discretionary (i.e. ‘hard’ and ‘soft’) assessments in order to create a two-dimensional conceptual map based upon the impact-regimes discovered by this project.

Diagram 1. Varieties of Impact Regime

	<i>SCALE OF IMPACT ASSESSMENT</i>
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² See: <http://www.aka.fi/en/research-and-science-policy/effects-and-impact-of-research/impact-beyond-academia-in-academy-of-fin-land-research-funding/>

		Type I <i>[Project/Fellowship Funding]</i>	Type II <i>[National Assessments of Research Quality]</i>
TYPE OF IMPACT ASSESSMENT	Hard <i>[Formal element of assessment dedicated to impact score]</i>	HI Spain	HII UK, Australia
	Soft <i>[Discretionary consideration]</i>	SI France	SII The Netherlands

Note: Full country profiles provided in Appendix A

The consideration of four types of ‘impact agenda’ (i.e. HI, HII, SI, SII) type combined with the consideration of the progressive development of the various stages of impact agenda (the centrifugal logic indicated in Figure 1) further highlights the *directional emphasis or expected policy pathway towards a hardening or formalisation of impact agendas*. This is reflected on Figure 1 in the case of Sweden and Serbia. In Sweden, currently using mostly discretionary forms of assessment of the broader relevance of research, is planning to implement a new research assessment strategy accounting for social and economic benefits of science³. Similarly, in Serbia there is a planned reform aimed towards implementing impact within the grant funding. Furthermore, as indicated in Figure 1, not even one country reported a reverse direction – one that would entail minimising the formality of impact measurements and incentives within the national funding systems.

Indeed what this comparative analysis has revealed is not just the emergence of ‘incentives for impact’ but the gradual formalisation of a new set of professional expectations. The direction of policy travel is therefore centrifugal when viewed through the lens of Figure 1 that reflects a progressive hardening of formerly discretionary rules and a movement of the impact agenda from the periphery of higher education policy very much towards the core (as originally occurred in relation to the REF in the UK). This leads us to a focus on the final theme of this section and the issue of incentives and sanctions.

SQ5. What incentives and sanctions are attached to the ‘impact agenda’?

Universities are generally large bureaucratic organisations that take time to respond to external stimuli and move into alignment with new expectations. One of the interesting elements of this research was therefore how universities in different countries – either individually or collectively – were beginning to respond to the creation of clear ‘incentives for impact’. ‘Impact’ has been added to (at least some) universities’ missions in Germany, Norway and the UK. In Romania and Belgium universities increasingly offer funding for impact or community-oriented projects but it was in relation to career incentives and promotion systems were a significant shift in institutional incentives was observable (see Table 4). In Iceland, for example, academics can be rewarded with bonus payments each year for significant achievements in relation to non-academic impact (media work, public engagement, etc.). One point that could be made based on these data is that assessment of and incentives for impact across different countries were both ex-ante (for project funding) and/or ex-post (for block funding). The incentives for impact could be categorized into four groups: (i) appointment and promotion structures; (ii) Type II–style national-level evaluations; (iii) Type I–style grant applications requiring a ‘pathways to impact’ statement of some kind; or (iv) impact-oriented knowledge-utilisation projects. The overview of these approaches is presented in Table 4.

³ See: https://www.vr.se/download/18.2412c5311624176023d255af/1529480556938/Research-Quality-Evaluation-Sweden_FOKUS_VR_2015.pdf

Table 4. Incentives for Impact

Individual (1)	Type II (2)	Type I (3)	Impact Grants (4)	Country examples
x	x	x	x	UK
	x	x	x	Norway, Romania
	x	x		France, the Netherlands
x	x			Latvia, Moldova, Iceland
x			x	Belgium
x				Bulgaria, Montenegro, Croatia, Sweden, Serbia
	x			Latvia, Italy, Slovakia, Hungary
		x		Finland, Luxembourg, Bosnia and Herzegovina, Lithuania, Spain, Turkey, Portugal, Germany, Greece
			x	Poland, Macedonia, Ireland, ERC

- (1) Incentives on individual level, for example in terms of career benefits for individual researchers.
(2) Impact as an element of national research evaluations/assessments, for example UK REF or Norway's SAMEVAL.
(3) Assessment of grants include a specific impact or relevance element. Examples would include UK Pathways to Impact.
(4) Grants that are awarded specifically for impact related activities and not for primary research. Examples would include funding under the 'Impact Acceleration Accounts' in the UK or the more specific ESRC Knowledge Exchange Fellowships.

Although Table 4 provides a formal review of the current 'incentives for impact' it is interesting to note that the focus groups identified a strong 'anticipatory effect' amongst scholars in the sense that there was a general acceptance that: (i) the 'impact agenda' was very likely to intensify rather than to wane in the near future; (ii) this fearfulness about 'the tyranny of relevance' was a source of concern amongst most focus group participants irrespective of the specific 'impact agenda' in the represented country and (iii) at the core of this concern was the fear that an incentive system might be created that possibly over-rewarded those scholars whose research was particularly amenable to impact claims (e.g. public policy, governance, public administration, etc.) while over-penalising those whose sub-fields made 'playing the impact game' far harder (political theory, cultural studies, etc.). This brings the discussion to a brief review of some of the consequences of the 'impact agenda'.

V. CONSEQUENCES

The main aim of this article has been to examine the degree to which the emergence of a potentially far-reaching 'impact agenda' within higher education – or what we term the emergence of 'New Public Research' - is a particularly British phenomenon or part of a far broader international pattern. This has been achieved through a focus on political science and the results have been striking in the sense that it is possible to identify the emergence of an impact agenda in all but two of the thirty-three countries or scientific domains analysed in this study. In some countries the analysis and measurement of impact has become formalised and linked to funding decisions; in other countries it remains little more than a rhetorical steer towards thinking about the social benefits of scholarship. But the general international pattern is clear: an increasing expectation that academics are able to account for the non-academic 'value' or 'social benefit' of their publicly funded research. The aim of this final section is to explore this core finding in terms of its implications for professionalization, autonomy and scholarship (i.e. *RQ4*, above) and in doing so it draws largely upon arguments and concerns expressed in the two focus groups of country specialists (See Table 1, above). Two issues deserve brief discussion.

The first was a general consensus that the nature of academe was changing and that a new scientific paradigm seemed to be emerging with an emphasis on ‘relevance’ or ‘impact’ at its core. Three sub-debates add tone and texture to this realisation. The first was a conceptual debate that sought to distinguish between these terms: ‘impact’ was deemed to be problematic as it brought with it an assumption of having a direct effect; ‘relevance’, by contrast, was seen more positively as being associated with contributing to policy discussions and public debates without having to over-claim. ‘Impact in combination with incentives for impact’ one participant noted ‘is actually something that we would consider really dangerous and threatening to political science’. Most political scientists were content with the assumption that their research should in some way be ‘relevant’ but not that it should necessarily have a direct ‘impact’. (Other country representatives made exactly the same point by suggesting that they favoured *knowledge-mobilisation* and *knowledge-transfer* activities but could not be held responsible for ‘*knowledge-utilisation*’ or ‘*knowledge-take-up*’.) Interestingly, and a second sub-theme, is that several scholars noted that the ‘tyranny of relevance’ might actually serve as a corrective to dominant disciplinary assumptions about standards of scholarship. As one German political scientist noted:

I come from an institution where we have a tradition of applied research and some of my colleagues say that they welcome the impact agenda...because there is still this idea that you have ‘superior’ and ‘inferior’ research...there are the cowboys who do applied research versus the ‘real’ academics who stay away from it.

This flows into a third and final sub-theme about the emergence of a new paradigm: irrespective of the country in question most academics were generally uncertain about the specific parameters of the impact agenda in terms of what was now required of them or whether their professional training had given them the necessary skills to fulfil the new agenda. One focus group member summed-up the general view by concluding: ‘To be honest, this is all something we have not learned, we’ve had no training whatsoever and we’re just muddling through’. If this raised some of the practical issues raised by the introduction of an ‘impact agenda’ then our second main issue of concern was more political and takes us back to the issue of New Public Management (Section I, above).

Just as ‘new public management’ is generally interpreted as a neo-liberal approach to the management of the state that is articulated within a language that is almost seeped in allusions of common sense and neutrality then so too was the notion of ‘new public research’ generally accepted as a useful shorthand phrase for interrogating what might be termed ‘the politics of impact’. ‘New public research’ might from this perspective be viewed as a neo-liberal approach to the management of academe through the incentivisation of specific modes of behaviour. As one participant suggested,

I think it’s a lot about [the question of] how do you control and manage the university sector? So in a way I would say that part of it is actually part of new management ideas. And that what happens more often now is that I think universities are seen as just one other government agency that have to be managed and evaluated.

A constant theme within the focus group discussions related to the potential narrowing of intellectual horizons as academics were implicitly or explicitly steered towards research projects that were deemed to have the highest chances of producing demonstrable ‘impact’. The creation of ‘disincentives-for-research-deemed-non-impactful’ were therefore adjudged as not only being real but existing to some extent even in those countries where the impact agenda was still relatively young and high levels of academic discretion still existed. This led to a open discussion about power and control within academe and who retained final decision-making powers. One

participant, for example, placed great emphasis on the manner in which academics could in effect shield those sub-fields where impact might be thought to be more problematic.

So we all have to fill out the box, but the grant applications are judged within the disciplines, and the juries are all made up of scholars in your discipline. And we all know that this is a kind of theatre situation... if I were a political theorist going into the archives of an 18th century thinker I would have to fill the box out, and I would probably make up something about the impact...[but] I know that it's going to be judged by other political theorists in the jury who also know that they have to play the game to satisfy [the system]. So there's this kind of overlay and crustacean of performance that cascades down throughout, from the government to the funding agencies, down right into the application and the little box you have to fill up. But in practise it doesn't end really forcing people to jump through too many hoops, except to fill the box.

And yet, as other participants pointed out, in many cases funding decisions are no longer being made by an applicant's peers working within a specialist microcosm as it is increasingly common for academic assessment panels to be not only multi-disciplinary but also in some cases to include non-academic members to assess the 'impact potential' or 'user need' of applications. Panel members who were less invested in sub-field loyalties were thought unlikely to accept the 'crustacean of performance'. Moreover the emerging research from the consequences of the REF regime in the UK do suggest that individual academics and universities are altering their behaviour in terms of both publishing and recruitment (respectively) towards a new impact agenda (Chubb & Reed, 2018; Watermeyer, 2012; De Rijcke, *et al.*, 2016; HEFCE, 2016; Greenhalgh *et al.*, 2015; Meagher & Martin, 2017; Smith & Stewart, 2017). The argument is not that traditional scholarship is no longer possible but simply that there is a certain 'squeezing of intellectual spaces' (Smith, 2010) taking place as higher education attempts to respond to a potentially transformative set of external demands concerning the nature of publicly funded scholarship. This brings us to possibly the most striking and unexpected finding of this research: surprise amongst political scientists at how passive higher education, in general, and political science, in particular, had generally been to the emergence of an 'impact agenda' that was so obviously steeped in neo-liberal values to the extent that it was increasingly interwoven with ambitions related to delivering increased efficiency and economic growth. There was almost a sense of frustration amongst focus group participants about the perceived failure of academe to recognise the risks of state co-option and control via the impact agenda. As a Swedish political scientist put it:

I think we were surprised to see how many of our colleagues just don't seem to realise what's going on. From our point of view it has a lot to do with the academic freedom kind of idea, where we do think that academia in general, and political science specifically, needs to keep its freedom from being engineered by politicians and outsiders. So there is a debate going on. We've tried to encourage it even more but I'm kind of surprised how passive political scientists are about what's happening with their own community.

'I think we have maybe a similar problem' a Norwegian focus group participant suggested 'In general people are passive. Now 'new public management' has been on the agenda for thirty years or so.... So the generation that was really up in-arms against it...they're now leaving. And the people who are left know nothing else than public management.' Even in the UK where the impact agenda is arguably most advanced within higher education the lack of any major debate or professional resistance is stark. That is not to say that scholars have not criticised the impact agenda or that pressure groups have not been formed – such as the Council for the Defence of British Universities – but in reality the gradual growth in the impact agenda has not been the focus of sustained, intense or collective critique. This passivity is arguably the most relevant finding of this study.

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Appendix A: Country Profiles – Impact Agenda

Country	Any form of impact incentive	Summary	Key documents	Hard (formal) or soft (discretionary)	Stage
Austria	No				
Belgium	Yes	While impact or relevance is not included in the criteria for evaluating university institutions or programmes, ‘service to society’ features as a third mission dimension of universities, next to education and research.		Soft	2
Bosnia and Herzegovina	Yes	The question of social and economic benefit is included in grant applications on a national level, however without some assessment/accountability mechanisms in place.		Soft	3
Bulgaria	Yes	Impact is important in promotion procedure.		Soft	1
Croatia	Yes	New regulations for promotion of associate and full professors now includes a set of society-wide impacts, e.g. link with the industry, writing law proposals, policy papers, etc.		Soft	1
Denmark	Yes	Research funders evaluate and report their impact.	https://dff.dk/en/about-us/goals-and-policies/impact-5-ways-of-research-impact	Soft	1
Estonia	Yes	Both applications for new funding as well as final reports from completed projects have a rubric where PI’s are required to talk about their benefits for wider “Estonian and European society and economy.” The issue also comes up during institutional evaluations. Institutes, faculties and universities as a whole must put together indicators and results within this rubric.		Soft	3

European Research Council (ERC)	Yes	The main ERC grants are distributed based on academic excellence. However, some forms of follow-on funding ("Proof of concept" grants) are granted based on a set of criteria, one of which is impact (along with excellence and quality and efficiency of implementation)	https://erc.europa.eu/funding/proof-concept	Soft	2
Finland	Yes	Impact is one of the criteria of assessment of grant applications funded by the Academy of Finland (next to scientific quality and science renewal). However, science quality is the most important element as the assessment.	http://www.aka.fi/en/research-and-science-policy/research-councils/what-the-research-council-for-culture-and-society-does/funding-criteria-and-policies/ http://www.aka.fi/en/research-and-science-policy/effects-and-impact-of-research/impact-beyond-academia-in-academy-of-finland-research-funding/	Soft	3
France	Yes	The consideration of social benefits of science ("rayonnement") is part as a part of evaluation of teaching and research by Haut Conseil d'Evaluation de la Recherche et de l'Enseignement supérieur. Social benefits as an assessment criterion for both teaching evaluation and grants. These social benefits are a criteria for evaluation of research projects applied to Agence Nationale de la Recherche for fundings.		Soft	4
Germany	Yes	The approach is largely determined by the institutions. At many universities, researchers have to report their activities according to a standardized format (e.g. publications of different type, attracted third-party funding, but also including knowledge-transfer activities). Impact is linked to some of the research funding, for example the DFG, the German Research Foundation that mainly funds fundamental research, "broader impact" is one ranking criterion	"General Guidelines for the Written Review"	Soft	3

		(http://www.dfg.de/formulare/10_20/10_20_en.pdf) for the (scientific) reviewers to take into account.			
Greece	Yes	Some funding applications to state authorities for research funding, EU funding requiring ex-post and ex-ante evaluations.			
Hungary	Yes	Reporting to funders include the question of "social impacts of findings".			
Iceland	Yes	One of the criteria of assessment of grant applications within The Icelandic Research Fund is: "Project's potential impact on the academic field and society" (p.12). Furthermore, impact is accounted for in bonuses at the University of Iceland.	The Icelandic Research Fund's Handbook Rules of The Icelandic Research Fund For Applicants, Expert Panels and External Reviewers 2018	Soft	3
Ireland	Yes	Funding via specific programmes, for example: Research for Policy and Society Programme - programme to promote partnerships and EBP; or New Foundations programme which supports research aimed at enhancing civic society.	Strategy Statement, Irish Research Council, 2017	Soft	2

Italy	Yes	The academic assessment exercise (VQR –Valutazione Qualità della Ricerca), include a section devoted to the terza missione. All universities are thus required to collect information about this aspect and the Agency for evaluation (ANVUR) publishes a report based on such information. However, this assessment is not linked to a distribution of funds, but rather was meant to map existing activities.	http://www.anvur.org/rapporto-2016/static/VQR2011-2014_TerzaMissione.pdf (Hard	4
Latvia	Yes	The key way in which impact is accounted for is through reporting within the State Research Programme 2014-2017 which alongside information about scientific performance indicators (like number of publications) include information about: “Further research and practical exploitation of the results (Describe further research activities that are planned, describe possibilities to practically exploit results)”.		Soft	4
Lithuania	Yes	Research applications to the Lithuanian Council of Science include an element regarding the impact on decision-makers and public beyond academia.			3
Luxembourg	Yes	Impact, understood as excellence, but also economic and social impact is stated as one of the goals of FNR. Impact is named as a criterion in the application assessment for some of the research grants.	Research with Impact; ATTRACT Peer Review Guidelines	Soft?	3
Macedonia	Yes	Fund for Innovation and Technology Development with the aim of encouraging innovation by providing additional resources to finance innovation.	http://www.ftr.mk/?lang=en http://www.ftr.mk/portfolio-item/mission-and-aims/?lang=en	Soft	2

Moldova	Yes	Economic and social benefits of science are an element of an institutional report to Supreme Council for Science and Technological Development of ASM. The institutions are reporting the number of public appearances in mass-media (in TV, radio or written publications etc) of each researcher. Furthermore, a specialised department – ASM is assessing scientific and non-academic impact on society.	Code of Science and Innovation of Republic of Moldova. http://lex.justice.md/md/286236/	Hard	4
Montenegro	Yes	The assessment of impact occurs predominantly on the level of career progression for a senior position; furthermore (but informally) impact is accounted for when applying for funding in collaboration with third party organisations		Soft	1
Netherlands	Yes	The proposals for funding by the national research funding institution (NWO) or any sub-level research funding organizations and programs contain social impact criteria (potential), However, that this is not actually measured after the research has been carried out (conclusive). Further, in research output assessments by external committees (to which re-accreditation of research programs is linked), more conclusive indicators of impact are included in Standard Evaluation Protocol (SEP). Institutes write self-evaluation reports, but the most meaningful indicators for this would be the external committee reports. Such site visits and reporting happens every 4 to 5 years in the Netherlands.		Soft	4
Norway	Yes	Research impact is an element of the national evaluation of public research institutions – Cristin, which incorporates a case study model. Furthermore, some of the RCN funding incorporates the impact element in their applications.	Long-term plan for research and higher education 2015–2024; https://www.cristin.no/english/	Hard	4
Poland	Yes	Funding for applied projects within The National Centre for Research and Development (the second major funding organisation - National Science Centre funds only basic research)	https://www.ncbr.gov.pl/en/	Soft	2
Portugal	Yes	The funding applications include the element of “Outreach”, both in individual research centres and the			3

		national science foundation (FCT).			
Romania	Yes	The national funding agencies expect a section on proposed impact of research (but it is not the main element of the assessment). There are however stimulants such as prizes for inventions and certain funding schemes that target having a relationship with the industry. Usually universities have their own funding schemes through which they encourage colleges to get involved in community life. These are evaluated through presentations and accounting of finances.		Soft	3
Serbia	Yes	The accounting for social relevance of research as a part of research grants is planned in the future but at the moment it is not clear if and how it will impact the funding decisions. Furthermore, social relevance of one's work counts in a promotion process within the publically funded universities.		Soft	1 (to 3)
Slovakia	Yes	National and institutional evaluations of impact			4
Spain	Yes	Some of the public calls for research funding include the element of the socio-economic impact. More specifically, the main research funding programme establishes that, among the criteria for evaluation, it will be considered the 'socioeconomic impact' (up to a 10% of the evaluation in most projects affecting social sciences). However, there is no specific conceptualization concerning what this 'socioeconomic impact' consist of (the specification is usually left to the evaluating committees, but such specific conceptualizations are not public).	Ministerial Order 1779/2013, http://www.boe.es/diario_boe/txt.php?id=BOE-A-2013-10258	Hard	3
Sweden	Yes	The considerations for social benefits are the moment voluntary (as a part of the third mission of the university). However, there are plans to include impact element in funding assessment ("FOKUS").	Research quality evaluation in Sweden – FOKUS, 2015; Om utvärdering av forskningens genomslag utanför akademien, 2017	Soft (but planned hard)	1 (to 4)
Switzerland	No				
Turkey	Yes	The Scientific And Technological Research Council Of Turkey (TUBITAK) expects competitive	https://www.tubitak.gov.tr/tr/yarismalar/i	Hard	3

		<p>projects funded in the areas of basic sectors (10% weighting in evaluation), techno entrepreneurship (5%), social entrepreneurship (25%), science centre and exhibition unit design (25%), environment and energy (10%), smart/sustainable cities (30%) to satisfy 'social impact' criteria. These include social value of the proposed project; whether positive and negative impacts of the project for stakeholders are considered; whether the project offers a solution or a resource for a social problem; whether a project contributes to local and/or regional development; whether a project has social value component.</p>	<p>inovasyon-yarismasi/icerik-degerlendirme-kriterleri</p>		
UK	Yes	<p>As part of the national research quality assessment process (the Research Excellence Framework) an evaluation of 'impact' beyond academe was introduced and was worth 20% in 2014 (increased to 25% for REF 2021). The vast majority of research funding applications for grants and fellowships now demand a 'pathways to impact' document and post-project impact-evaluations.</p>	<p>REF Guidelines on submission and assessment, 2011; UKRI Pathways to Impact (https://www.ukri.org/innovation/excellence-with-impact/pathways-to-impact/)</p>	Hard	4