

# Between relevance and excellence? Research impact agenda and the production of policy knowledge

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## Abstract

The recent moves towards incentivising ‘impact’ within the research funding system pose a growing challenge to academic research practices, charged with producing both scientific, and social impact. This article explores this tension by drawing on interviews with sixty-one UK academics and policy-makers involved in publicly-funded knowledge exchange initiatives. The experiences of the interviewed academics point to a functional separation of academic practices into three distinct types: producing traditional research, translating research, and producing policy-oriented research. These three types of practices differ in terms of both the epistemic qualities of the produced knowledge and its legitimacy as valid academic work. Overall, the article argues that the relationship between relevance and excellence of research within the impact agenda is characterised by simultaneous contradiction and co-dependence, leading to hybridisation of academic knowledge production and expansion of the boundaries of policy expertise into the traditionally-academic spaces.

**Key words:** impact agenda; policy knowledge; expertise; REF; science; policymaking

## 1. Impact in contemporary academia

An increasing number of countries adopt incentives for research relevance as elements of the research funding system (Gunn and Mintrom 2016; Williams and Grant 2018). This trend is mostly pronounced in the UK, where ‘research impact’ emerged as an assessment category for public research. For example, the next national research quality assessment—the Research Excellence Framework (REF)—will assign 25 per cent of the score based on the research impact case studies submitted by the units of assessment. Similarly, the UK research councils expect a plan of activities aimed at producing socio-economic benefits within the so-called Pathways to Impact (UKRI 2019). These diverse funding bodies in the UK express a relatively-unified outlook on the concept of research impact (Boswell and Smith 2017; Smith and Stewart 2017), which is understood as an ‘effect on, change or benefit’ (REF 2011: 26) of academic research on its socio-economic environment.

The so-called research impact agenda has posed an important challenge to academic life in the UK. To some extent, these developments have been welcomed by academics as a means of promoting engagement with non-academic audiences and an opportunity to show the broader societal relevance of various disciplines (Brooks 2015; Eynon 2012; Pain et al. 2011). Nevertheless, the research impact agenda has been criticised by academics who have expressed

concerns over diminishing academic autonomy (Slater 2012; Smith et al. 2011) and threats to the academic knowledge production (Phillips 2010). An increasing body of research analytically explores the consequences of the research impact agenda on academic work, including the risks posed to research quality (Chubb and Reed 2018), prioritising of short-term impacts rather than more conceptual impacts (Greenhalgh and Fahy 2015; Meagher and Martin 2017), ethical risks (Smith and Stewart 2017), and a focus on individual academics rather than on the broader context of research-based policy change (Dunlop 2018).

The sources of tension embedded in the debate over the impact agenda go beyond this specific form of assessment and entail a broader framing of scientific relevance in contemporary policy. The moves towards relevance of science are not new, as public funding for science and the universities has always been linked to the expectation of broader applicability of research findings in the social, political and economic environment in which science operates (Fuller 2005; Hessels et al. 2009). Yet, recent decades have witnessed a close coupling of the engagement between the universities and their socio-political environment through the notion of the accountability of science. The expectation of engagement between researchers and research users as a means of assuring the use of scientific research is increasingly becoming one of the tenets of the funding and

regulation of science (Hessels and van Lente 2008; Jacob 2006; Martin 2011). Nowotny et al. (2001) called it a transition towards a ‘culture of accountability’, replacing scientific autonomy as the main axiom of science’s value.

Furthermore, the calls for relevance of research are responsive to (and shaped by) the broader changes in the institutional setting of academia. Increasingly, the boundaries of both scientific and political institutions are becoming blurred (Etzkowitz and Leydesdorff 2000; Gibbons et al. 1994; Nowotny et al. 2001). This has led to an emergence of spaces in which scientific and policy considerations overlap (Guston 2001; Miller 2001). The universities undergo a transformation towards becoming ‘entrepreneurial’ (Etzkowitz 2004) or ‘hybrid’ institutions (Tuunainen 2005). One factor accelerating this transformation is the change in funding structures to focus on performance measurement, leading to growing competition for resources (Bazeley 2010; Watermeyer 2016). Consequently, sources of funding outside of the research councils become central to the research activity. Income from collaborative research carried out with non-academic partners and from contract research is indeed a fast-growing source of funds in the UK higher education (HEFCE 2016).

And yet, the progressive hybridisation of science and policy is not unproblematic, as these two spheres historically differ in terms of the operationalisation of quality of knowledge, the credibility and legitimacy of actors, and the enactments of expertise (Jasanoff 1990). As summarised by D’Este et al. (2018), the existing literature points to two predominant sources of this tension: grounded in convergent strategies aimed at producing academically- and socially-impactful research and grounded in the academic incentive and norm system assigning different values to these categories of practices.

Three issues arise in this context in which knowledge is expected to be ‘socially robust’ (Gibbons et al. 1994; Nowotny et al. 2001) and yet legitimate according to traditionally-academic criteria of excellence. First, how are the ideals of excellence and relevance pursued in the everyday work of academics? Secondly, are these two forms of assessment of research (in accordance with criteria of excellence and relevance of research) compatible in any way or are they always distinct? And thirdly, what is the mechanism for legitimising these practices as valid academic work? By addressing these questions, this article explores the key tensions within knowledge practices in epistemically-pluralistic environments and the legitimacy of the producers of such knowledge. As such, the article focuses on research impact as practice, rather than on a form of research assessment or change in funding paradigms. Such a micro-sociological focus offers insights into explaining the moves towards relevance in ways that go beyond purely paradigmatic change between various modes of knowledge production and instead highlight the more heterogeneous cultural, institutional and historical background of such changes and their enactments (see also Tuunainen (2005)).

By exploring research impact as a practice, this article makes two key contributions. First, by identifying a variety of knowledge practices aimed at producing research that complies with the norms of excellence and relevance, it proposes the notion of hybrid expertise in which the roles of academics and policy experts increasingly overlap and the epistemic practices previously expected of a smaller group of policy experts are expanded to encompass all academics. Secondly, this emergent paradigmatic pluralism and blurring of boundaries between academia and policy have important consequences, as it results in new forms of orderings of these hybrid spaces into new epistemic hierarchies. Once ordered, various knowledge practices (e.g. producing academic research, policy research, or translating research) have differing levels of legitimacy attached to them.

Empirically, this article explores experiences of academics and policymakers involved in three knowledge exchange initiatives located at British universities. These structures were funded by the public funders with the aim of supporting production of research impact by academics (ESRC 2009). As these investments were relatively long term, the academics associated with these types of organisations (1) have significant experience with knowledge exchange and research impact; (2) were early adopters (starting in the early mid-2000s) of this research funding paradigm and therefore could be seen as the actors at the forefront of cultural change in academia. Academics involved in these organisations may be considered beneficiaries of the move towards research impact in UK academia, as that move opened up the new sources of funding and career pathways. An exploration of these organisations therefore offers an opportunity to study not only the process of knowledge exchange but also its institutional and organisational context.

After the introduction, the following section will summarise the existing literature on knowledge in policy in order to explore the conceptual differences between purely academic and policy-relevant research. Following a brief section on methods, the article will go on to explore how the notions of excellence and relevance were understood and practised by the academics involved in the projects aimed at producing research impact. The findings will then be discussed in a larger context, to point out that, even though these two guiding research paradigms are contradictory, in practice, they are closely coupled with the institutional and cultural context in which research is produced. The article will conclude by outlining some insights into the relationship between science and policy that have emerged from this research.

## 2. Scientific and policy knowledge

A starting point of this literature summary is an acknowledgement that, as highlighted in both Science and Technology Studies (STS) and policy studies literature (Knorr-Cetina 1981; Lasswell and Harold 1949), no type of knowledge—whether scientific or policy oriented—has objective, de-contextualised meaning, but rather, knowledge gains meaning in particular contexts. However, as these two broad categories of knowledge operate in different contexts, they gain legitimacy and authority from different sources and institutions and, as a result, have different epistemic qualities (Jasanoff 1990). Scientific knowledge production has historically developed within an international community of scholars for whom values such as objectivity and de-contextualisation are not only ‘epistemic virtues’, but also prerequisites for effective communication across different settings (Daston and Galison 2007). Furthermore, impartiality and disinterestedness are often seen as key values in scientific communities (Merton 1942), even if the actual practices of academics digress from these ideals (Jasanoff 1987; Yearley 2005). In this ‘canonical’ (Sundqvist et al. 2015) view of science, knowledge production has to be separated from policy and politics in order to be effective and authoritative (Haas 2004). Furthermore, adherence to rigorous methodological rules is seen as central to knowledge practices (Sundqvist et al. 2015) and assures self-correction of science (Sarewitz 2018).

In conflict with this model, knowledge used in policy prioritises embeddedness in the context of the decision-making (or ‘relevance’) over methodological rigour (McGill et al. 2015). This does not mean that policy is not a knowledge-driven domain, on the contrary (Radaelli 1995). In reality, the boundary between science and policy

is not necessarily grounded on essential, inherent characteristics of these two spheres, but is actively constructed by the social actors within the process of boundary work (Gieryn 1983). The epistemological diversity and interplay of different types of knowledge (Maybin 2016) within policy require a wider consideration of context and a multiplicity of different research findings, values, political goals, etc. (Freeman 2007; Smith and Joyce 2012). Evidence for policy purposes does not garner legitimacy exclusively from rigorous methods, but rather is subject to argumentative work and interpretation (Majone 1989). Knowledge in policy requires mediation between the scientific, abstract knowledge and the political setting (Grundmann 2017), through provision of direct recommendations and capacity to act (Mitton et al. 2007). In that sense, policy knowledge is a hybrid between scientific knowledge and political context (Jasanoff 1990; Sarewitz 2018). Consequently, knowledge used for decision-making purposes differs significantly from academic knowledge in terms of the type of problems being dealt with (cognitive versus normative), incentives, timelines, accountability standards, procedures, and institutions (Jasanoff 1990).

Furthermore, there is a difference between the notions of an academic/scientist and of an expert. An expert is someone who is asked to give a performance—to share their knowledge, give advice, etc. (Bijker et al. 2009; Hilgartner 2000). It follows that knowledge produced or shared by experts must provide a capacity to act (Grundmann 2017). Jasanoff (2011b) and Grundmann (2017) have argued that the role of an academic and the role of an expert are not interchangeable, as policy knowledge is not interchangeable with academic knowledge. According to this view, experts are seen as bridges between science and politics:

Unlike scientists whose primary mission is fact-checking, experts are by definition boundary-crossers whose job is to link scientific knowledge to matters of social significance: they are the diagnosticians of public problems, the explorers of solutions and the providers of remedies. (Jasanoff 2011b: 24)

Therefore, the key identifier of experts' knowledge work is the ability to reduce complexity and sort out relevant information, rather than to present all available scientific knowledge on a topic. These types of practices—falling under the broad umbrella of knowledge exchange or brokerage—are not unitary, but rather consist of a variety of different types of strategies and approaches (Michaels 2009; Turnhout et al. 2013). Ward et al. (2009) argue that these different practices are based on different underlying models of knowledge exchange, including: knowledge management (regarding changes in the contents and format of research); linking and exchange (a structural position charged with making connections); or capacity building (highlighting the learning function of knowledge exchange). One strategy, widely acknowledged as increasing the evidence uptake by policymakers, is co-production of knowledge (Durose et al. 2017; Holmes et al. 2017). Co-production involves conducting research across the groups which traditionally would be labelled as research 'users' and 'producers', who work together to produce, disseminate, and implement research findings (Durose et al. 2017).

### 3. Methods

#### 3.1 Empirical setting

This research employed a comparative case study design (Stake 1994, 1995) focusing on three knowledge exchange initiatives in the UK, working in the areas of genomics (Case 1), public health (Case

2), and environment (Case 3). The case selection was made on the basis of two criteria: (1) timeframes of the organisations: in order to capture various stages in the development of the research impact agenda and (2) disciplinary approaches to science–policy interactions. These organisations might be seen as located at the forefront of the broader institutional changes in UK academia, as they had an explicit knowledge exchange and academic remit. The organisations operated for up to 10 years, but were established at different points in time (respectively, 2004, 2008, and 2011). These initiatives received a mix of public funding from ESRC (Cases 1 and 2) and MRC (Case 2), and direct government funding (Case 3), as well as diverse charity and civil society funding.

The three organisations differed in their central knowledge exchange strategy. Cases 2 and 3 opted for more direct engagement with policymakers, including collaborative and contracted research, whereas Case 1 strategy focused more often on dissemination and engagement strategies such as seminars and workshops. Nevertheless, all three organisations engaged in a wide variety of knowledge exchange strategies, ranging from communication of research results via research briefs, seminars and workshops, to carrying out research projects with policymakers, practitioners, civic societies, and NGOs.

#### 3.2 Data sources and analysis

This article is based on interviews with sixty-one individuals—academics and policymakers associated with the three organisations. The interviewed academics were at various levels of seniority, ranging from postdoctoral research fellows to professors. The disciplinary backgrounds varied across the disciplines and included a mix of social (across all three cases: sociology, STS, and social policy) and natural sciences (Case 1—biology and genetics; Case 3—climate science) or medical sciences (Case 2—medicine, public health, and epidemiology). The interviewed policymakers were placed at various administrative levels, including local, national, and international institutions. The interviewees were selected based on publicly available information (such as organisations' websites), supplemented by the snowball technique.

The interviews were semi-structured and employed a thematic interview schedule that explored the approaches to, and perceptions of, the knowledge exchange process, including strategies, key audiences, uses and production of research, barriers to and facilitators of knowledge exchange, and relationships with other institutions (such as funders, universities, and policy departments). The vast majority of interviews were face-to-face and took place in a private room. The interviews lasted between 45 and 90 min, most of them taking about 60 min, and were digitally recorded and transcribed. An overview of the interviews is presented in Table 1. The research received ethical approval from the University of Edinburgh.

The transcripts were thematically coded in NVivo. The analysis process followed the grounded theory approach (Charmaz 2006) and consisted of multiple rounds of coding and re-coding of data with an increasing level of abstraction of concepts, including descriptive, focused, and theoretical coding. This iterative process was repeated until key themes and concepts emerged.

### 4. Findings

#### 4.1 Knowledge and knowledge practices

The vast majority of interviewees acknowledged the difference between knowledge produced for policy and for research purposes.

**Table 1.** A summary of interviews.

Category of interviewees	Case 1—genomics organisation	Case 2—public health organisation	Case 3—environmental organisation	Total
Researchers	15	21	7	43
Policymakers	5	10	3	18
Total	20	31	10	61

**Table 2.** Types of practices of knowledge exchange organisations.

	Producing academic research	Translating research	Producing policy research
Type of activities/strategies	Conducting primary research and publishing	Seminars, workshops, policy briefs, blog, website, and media relations	Contracted research, evaluations, and rapid reviews
Relationship to context	De-contextualised	Contextualising	Contextualised
Dominant institutional setting	Academic institutions	Academic or policy institutions	Policy institutions
Timescale	Long term	Long term or short term	Short term
Quality assessment criteria	Reliability	Applicability or reliability	Applicability
Type of impacts	Conceptual	Conceptual or instrumental	Instrumental

The epistemic differences between various forms of knowledge were closely linked with specific sets of practices which could be categorised into three broad groups based on the type of knowledge they were focusing on: producing academic research, translating academic research into a format useful to policymakers, and producing policy research. These categories differ in terms of the epistemic qualities of produced knowledge (e.g. a level of contextualisation), institutional setting of knowledge production (e.g. academic or policy oriented), and the type of impacts they aim at or have the capacity to achieve (e.g. long term or short term and conceptual or instrumental). Furthermore, different types of practices require various skill sets, either in terms of types of dominant form of communication (abstract versus contextualised) or of networking (inter-professional or intra-professional). The organisations employed all three types of practices yet in various proportions between translation (dominant in Case 1) and production of policy knowledge (employed more commonly in Cases 2 and 3). The three types of practices are summarised in Table 2.

#### 4.1.1 Producing academic research

The first category of practices entailed traditional academic work—conducting research and publishing it in academic journals. Even though the formal goals of the studied organisations explicitly entailed knowledge exchange, the vast majority of academics considered research production as one of their core activities. While both policymakers and academics were concerned with the notion of ‘evidence’, the models of quality assessment of evidence differed across the two groups. For example:

Research that’s funded academically is done to a different standard. It has to go through an academic peer review in the best quality journal you can get to. Research for policy has to be really done to a standard that’s just good enough to the purpose of the decision-making. It may not be as rigorous. It needs to solve the problem that’s ahead of it. It might use different techniques. [...] You could make a decision on a different level of evidence. (Senior academic, public health)

The difference in ‘standards’ reflected a variety of activities linked with this knowledge practice, most notably publishing in academic journals. Here, the main guiding criteria for knowledge production was the theoretical and methodological robustness of research.

Academic research was seen as guided predominantly by the notion of objectivity and the process of abstracting knowledge from a particular setting. As highlighted by a senior academic working in Climate science: ‘Policy people need information to help them make decisions [...] science is much more objective than that; you report what you find.’ One aspect in which these two understandings diverged was in the scope of the research questions. Academic research was perceived as guided by research questions that were more abstract and specific, as opposed to policy questions that were seen as concrete, yet often too broad and often unanswerable according to academic standards of rigour and methodological robustness.

And yet, the vast majority of the interviewees shared the perception that conducting academic research was insufficient to produce research impact, especially in terms of direct, short-term changes in policy and practice (such as those expected by the funders). This does not mean that ‘excellent’ research would not be perceived as yielding any benefits to policy change, but rather that producing high-quality academic research is necessary for addressing long-term policy problems, going beyond particularities of the current policy debates. Therefore, the types of impacts emerging from this category of practice would be more ‘conceptual’ (as opposed to ‘instrumental’). The conceptual uses of research (Nutley et al. 2007; Weiss 1979; Weiss et al. 2005) entail more diffuse and long-term effects on policy. The key idea of the conceptual model of evidence use is the assumption that, over a longer period of time, research can indirectly impact on policy by changing the ways the decision-makers understand the policy problem (Weiss 1977). Furthermore, according to Weiss, conceptual models of evidence entail an ability to critically challenge decision-makers’ views, as research provides ‘social criticism’ (Weiss 1977: 544), regardless of the policymakers’ delineation of problems or the immediate applicability of research results. This understanding was aligned with the interviewees’ perceptions of academic research which was oriented more towards problems, rather than solutions, yet could offer more in-depth, paradigmatic changes in policy framings over the longer period of time.

#### 4.1.2 Translating research

The second category of practices included a variety of activities aimed at translation of academic research and dissemination of the

results in a more accessible format. The strategies that could be placed in this category include, for example, organising seminars and workshops, and producing briefing papers, reports, or evidence submissions. The translation activities are the most mixed of the three types as they could mobilise both academic and policy knowledge. Some of the activities, such as organising seminars or workshops, were well established in academic life and academics historically would organise such events to disseminate their findings. This was evident in all case studies, as organising seminars was the first type of strategy both organisations employed in the early stages of their work.

In order to make the seminars and workshops more attractive to policymakers and practitioners, the academics had to go beyond just disseminating and discussing academic knowledge. One strategy was to contextualise presented research and provides clear implications for practice stemming from the research. For instance:

One of the things we've been able to do is to hold these [meetings] where practitioners come together and we'll say, 'Look this is the research we've done here and it reinforces stuff everyone's been doing everywhere else but it really does work and here is an example of how it works in this region'. [...] Bringing the evidence close to them [decision-makers] and showing how it works or how it could work for them or how it links with their own local experience. (Senior researcher, public health)

The key issue here was the process of what another interviewee described as 'interpreting the evidence for them [policymakers]' (Early career researcher, public health). This approach would encompass not only bringing a mix of people together but also translating the presented research into actionable points, and accordingly would imply a close involvement with the way research is being utilised.

The question of 'impact' of seminars and workshops for policy change was perceived as problematic. Members of the organisations saw these events as rarely leading to direct policy changes. For example, one of the policymakers described an approach based largely on seminars as inadequate to produce policy change, as it is not sufficiently embedded in policy. Another researcher reflected on why seminars are not working well enough:

We found that actually, [attending seminars] doesn't change very much because people got back to their day job in the desk. So the idea of just creating evidence and sharing it is not enough; there has to be more support, it has to be better embedded into ongoing plans and projects, and the way that these organisations work, to meet their priorities going forward, so it's not the point of sharing, it's not enough, it has to go beyond that. (Senior researcher, public health)

At the same time, a direct change (or 'instrumental use') as a criterion of successful knowledge exchange activity seems to be quite rigid, particularly considering the literature on knowledge use, which points to a wide variety of different uses of research by policymakers and practitioners (Nutley et al. 2007; Weiss 1979). And indeed, some of the policymakers who participated in the meetings pointed out that they benefitted from more conceptual forms of learning. One of the policy advisers to the government called it 'a lightbulb moment' (Policymaker 5) when he gained a new outlook on an issue as a result of being exposed to multiple perspectives by different participants.

Therefore, even though this type of practice rarely yields direct changes in policy, it was seen as useful in informing or challenging the existing frameworks. For example, all of the policymakers

interacting with the genomics-focused organisation pointed to the fact that because of their participation in the seminars, they had started to consider genomics as a social problem rather than a purely technological or scientific one. Similarly, other policymakers and practitioners commented that they came to the seminars to keep up with the field and get some new ideas rather than to change their practices or to seek support in decision-making.

#### 4.1.3 Producing policy knowledge

Finally, the third group of practices included producing research directly applicable to policy problems, for example, as part of commissioned research and evaluation. This group of practices involved the production of knowledge that was responsive to policy needs and was intended to be inform the decision-making. This third category points to a false distinction between research and impact practices, as it shows that often achieving research impact would indeed require the production of new research. But this type of research would differ from purely academic research, as it would not comply with the expectations usually placed on academic knowledge production (such as objectivity, universality, and exploratory questions). This type of research was also funded through different sources, often directly from the government departments. As such, producing policy knowledge was perceived by the academics as an effective way of achieving research impact but also of obtaining funding to conduct research.

Academic knowledge production—with its focus on objectivity and scientific reliability—was organised (implicitly or explicitly) by hierarchies of evidence (Evans 2003), with priority given to evidence produced through more methodologically rigid methods, for example, RCTs or systematic reviews. Contrary to this model, policymakers did not operate under these assumptions, but focused on the locality of knowledge in preference to its objectivity (akin to McGill's et al. (2015) findings). Policymakers wove personal stories and narrative-based arguments into the decision-making process, and this proved challenging for the academics, who struggled with 'turning the evidence ladder upside down' (Senior academic, public health). As described by one academic:

When you work with policymakers [...] you learn the importance of the local. So what do you do if you have evidence-base where you have three outstanding randomised control trials, all conducted in Japan in the 1980s, and you have a recent quota to study with 29 constituents of the local community? It's very difficult to say – if they point in different directions – how you align that evidence with each other. We simply learn to look into evidence in a different way. (Senior academic, public health)

Producing policy-relevant knowledge entailed going beyond the criteria of scientific reliability but rather entailed what Jasanoff (1990: 229) described as 'a hybrid activity that combines elements of scientific evidence and reasoning with large doses of social and political judgment'. This difference was described by one of the academics as follows:

The policymakers need our best expert opinion and that's a different way of working. In science, we just sort of say right, we've got a null hypothesis and we test that hypothesis and we can't really say if we can't disprove that hypothesis that we can't. And there are all these caveats and methodological things [...]. Sometimes what the policymakers need is our best expert opinion. In your expert opinion and those in the community, what is your best hunch, your best guess, about what this sector would look like in the future. (Senior academic, climate science)

The production of policy knowledge required a series of adaptations to traditional academic practice, going as far as co-producing research with policymakers and practitioners. Research produced in responsive or co-produced mode required methodological and practical adaptations, the main one having to do with accelerating research practices. The problem of timeliness of research evidence is widely acknowledged as one of the key barriers to the use of research in policymaking (Davies et al. 2008; Lomas 2000). Therefore, one of the challenges for the academics was to conduct research in the shortest possible time (to make it still relevant for the stakeholders), while making the research methodologically sound:

[A call for evaluation] was in sort of two to six months, and most current scientific methodologies to develop complex interventions take about two or three years. So, there's a massive discrepancy between the two and you need to find how you align those requirements with each other so you can start negotiating shortcuts, rather than making random shortcuts. You have to understand what matters and what matters less. (Senior academic, public health)

This process of stripping down the research design in terms of methodological robustness was seen as very context dependent and negotiable with the research users. At the same time, producing policy knowledge via responsive modes of research or co-production was perceived as the most effective strategy for achieving 'instrumental' change in policy. Instrumental knowledge uses are aligned with the linear and technocratic logic of policymaking in which knowledge is used directly to solve policy problems (Nutley et al. 2007; Weiss 1979).

#### 4.2. Legitimacy of different knowledge practices

Not all practices discussed in the preceding section were considered equally 'academic', as they carried various levels of credibility and legitimacy for academics. One clear example here was the fact that academics mainly involved in conducting activities in the 'translation' category were perceived as 'administrative staff' (Mid-career researcher, genomics) by other academics. Similarly, those conducting only directly applicable projects would risk the perception of 'being an academic at the end of a career' (Senior researcher, public health). This finding seems to suggest that the problems of negative career effects of knowledge exchange goes beyond a lack of sufficient time to publish (as discussed by Bruce and O'Callaghan (2016) and Knight and Lightowler (2010)). Instead, just doing what was considered 'too much' knowledge exchange seems to be damaging to one's academic standing.

This de-legitimising effect of producing policy knowledge was not static, but rather was determined by other activities conducted by the academics. The most unequivocal damage to academic 'social capital' was reported by the academics who conducted predominantly policy research requiring close collaboration with decision-makers and interaction with the policy setting: for example, as embedded researchers. By contrast, a number of interviewed academics discussed the career benefits in a positive light (in terms either of their own careers or of the overall incentive system in academia). One interviewee even ascribed a recent promotion to impact work.

This variety of perceptions of practices falling into the last two categories—policy research and translation research—shows that they were not considered legitimate on their own, as illustrated by the cases of academics' careers suffering as a result of engaging in impact work. Accordingly, conducting academic research, thus

complying with the standards of 'excellence', was seen as a baseline practice the need for which must be satisfied for the other two groups of practices to be considered legitimate. As summarised by one of the public health researchers: 'as long as you're doing good research, [impact] is a good thing' (Mid-career researcher, public health). But—conversely—doing too much of the impact-related work would start to threaten the person's academic standing. As an illustration:

It was important not to sacrifice excellence for something else, and the something else was the translational agenda. That it had to be relevant, and applied and accessible and to answer the questions the practitioners and policymakers wanted answered, but you still had to do it in an excellent fashion. (Senior researcher, public health)

This perception was particularly prominent when contrasted with the expectations of funders that impact would be achieved on the basis of excellent research (for example in terms of research underpinning the impact case studies). Hence, the idea of 'excellence' promoted by funders and university management was perceived by the interviewees to be pervasive, even though practically achieving impact was more complex and was based on multiple, epistemically-diverse forms of knowledge.

The notion of 'sacrificing excellence for impact' is significant for the understanding of legitimacy of different categories of practice. Pluralistic environments—and contemporary academia could be regarded as such—are characterised by a complex interplay of different modes of legitimacy (Kraatz and Block 2008). In cases where legitimacy depends on multiple audiences (as is the case with knowledge exchange), different organisational practices might be guided by various rationales (Smets et al. 2015). Furthermore, different legitimising actors and organisations (e.g. universities, REF, research users, and other academics) might invalidate each other's value assessments (Kraatz and Block 2008). For instance, an action that would be assessed as highly useful by policymakers might be perceived as not sufficiently excellent, through the mere fact of its value to non-academics.

Paradoxically, production of primary academic research alone would not be considered an effective strategy for improving policies (see also Tyler (2017)), yet would be seen as necessary for legitimising policy-oriented knowledge exchange practices (Fig. 1). Therefore, even though official institutional expectations were to carry out both excellent and impactful research, in reality the two were—at least to a degree—decoupled (Boxenbaum and Jonsson 2017; Meyer and Rowan 1977). As such, the institutional rules and the practices were more imbalanced and, rather than just co-existing, were hierarchically organised.

#### 4.3. Institutionalisation of impact and boundaries between practices

These three types of practices—producing academic research, translating research, and producing policy-relevant research—are distinct in terms of the types of knowledge they produce, yet are not completely disjointed. The boundaries between different practices (particularly for applied researchers) were quite blurry and production of academic work and policy often co-existed within one process. This entanglement of policy and research reflects its co-produced nature (Jasanoff 2004), in that the two spheres interact with each other and the boundary between them is functional (Weingart 1999) rather than static.

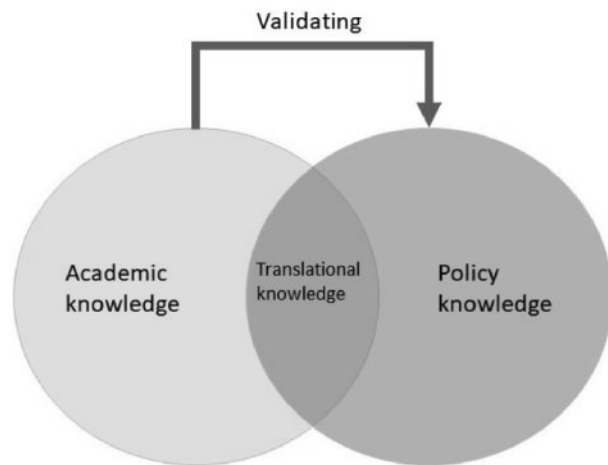


Figure 1. The validating properties of academic research.

Yet, in the perception of the vast majority of the interviewed academics, the boundaries between the three activities were clearly identifiable, even if their own values or objectives were oriented towards challenging such differences. One interviewee pointed out that blurring the boundaries between these categories was one of the central goals of knowledge exchange activities. Such a pervasive presence of three, perceptibly separate categories of practices might be emblematic not only of epistemic differences between different forms of knowledge but also of broader paradigms guiding this field. Practices are not simply sets of actions carried out by social actors but rather reflect broader ideas and discourses projected in the various social settings (Swidler 2001). In particular, two factors have led a reinforcement of the functional (rather than actual) divisions between the different categories of practices: (1) expected timelines and the level of specificity of impacts and (2) pathways of institutionalisation of impact within universities.

The way 'research impact' is defined and operationalised by the research funders influenced the ways these categories of practices became established as separate. Boswell and Smith (2017) argued that such an understanding of impact within REF is implicitly based on 'problem-solving' models of evidence use in which evidence is used directly to design policy solutions. And yet, proposing such a direct link between science and policy would inevitably require producing knowledge that is contextualised and directly applicable in a policy setting, hence aligned with 'policy knowledge' (Table 2). However, over the longer timeframe, the three categories of practices became more blurred. For example, academic research projects were established to explore problems identified in shorter-term evaluations or commissioned research. Or academic research exploring and challenging existing policy frames led to conceptual changes in policy. In the shorter (and reportable) timeline, however, the diverse categories of practices became more distinct.

Furthermore, within REF the outputs—academic publications—are separate from the impact case studies that report achieved impact on non-academic audiences. The universities responded to the assessment by adapting their structures and priorities (RAND Europe 2015). Consequently, universities manage academic publications and impacts as separate entities. This translation of the performance evaluation system into institutional practices has resulted in further separating policy and academic knowledge, not only in terms of their epistemic qualities but also in terms of incentives, targets, and reports. The clearest example of this impact of the

measurement system and its institutionalisation on epistemic practices was the regulating role of the REF coordinators within the universities regarding the strategies employed by the knowledge exchange organisations and academics within them. As highlighted by one of the interviewees:

[Rapid response] is a thing that people [in policy and practice] particularly like. But again, that's one of these tensions: if we put all of our energy in things like that, we will be in big trouble from the universities when it comes to REF. So you've got to get that balance. (Senior researcher, public health)

Accordingly, the interviewees perceived the epistemic tensions between different forms of knowledge as escalated by the institutionalised expectation to carry out (and balance) both types of practices.

#### 4.4. Integrating and separating academic practices

This functional separation of academic and policy research within academic structures posed an important challenge for academics trying to navigate knowledge production. Frenk (1992) identified three models of balancing the excellence of research with its relevance: academic subordination (where the research would be produced only in accordance with decision-makers' needs); segregation (where different parts of the organisation would be charged with complying with either excellence or relevance criteria); or integration (where relevance and excellence would be integrated within one project). This categorisation offers an intuitively comprehensive account of possible approaches to this problem; however, the empirical findings presented in this research point to a more complex reality of competing interests, values, and objectives in the moves towards institutionalisation of any of these strategies. As highlighted in the previous sections, academic subordination was not possible in the academic setting, as the institutional pressures and modes of legitimacy required the academics to conduct both academically excellent and policy relevant research and translation.

The most common strategy aimed at satisfying expectations of both excellence and relevance of research, reported by the vast majority of interviewees, involved a level of separation of activities aimed at producing academically 'excellent' research and activities aimed at producing impact. However, contrary to Frenk's (1992) model, separation of the activities aimed at relevance and excellence could not include relegating the responsibility for relevance to a separate unit or department, because of the barriers presented by academic incentive and legitimacy systems. As discussed previously, an activity would not be considered 'academic' without at least a baseline of excellent research.

Instead, the strategy that aimed at separation of excellence and relevance involved balancing the number of policy-oriented, local projects with the number of academically-oriented projects. This approach of 'compartmentalising' impact and academic research activities was not formalised, but rather relied heavily on perceptions of balance between different activities, and on the practice of implementing a 'rule of thumb' for balancing different types of projects.

This approach was reported not only on an organisational level, in terms of the overall types of projects the organisations were conducting, but also on an individual level, when academics divided up their workloads (e.g. by deciding on specific days of the week when they would do more academic or more policy-relevant projects).

A second—and arguably more challenging and, consequently, less common—strategy that aimed at navigating between the two

contradictory expectations was to adapt the policy-oriented projects in such a way as to allow one to simultaneously produce academically excellent and policy-oriented knowledge. For instance, one of the interviewees reported shaping the research question and the analytical angle in commissioned research so as to yield academically excellent results:

We just completed a trial on [a health issue], but we have had people from the local government public health team involved in the development of the intervention. They are involved in disseminating their work back to them through [knowledge exchange]. It's a local trial, but the way we have set it up, the way we have evaluated it, also seeks to answer a broader question. Once those two things come together, I think you'll get really nice public health research. (Senior academic, public health)

At the same time—as foreseen by [Frenk \(1992\)](#)—integration of these two types of knowledge practices was quite challenging and not always successful. The interviewees discussed one case of a clearly successful intervention and its evaluation, which was perceived as an example of integration of policy-relevant and academically excellent knowledge. However, both academics and policymakers acknowledged that this was an extraordinary case in which multiple different factors (such as political will, investment, skills, relationships, timing, etc.) happened to align.

Overall, as argued in this section, navigating between excellence and relevance of research was perceived as a challenging task and none of the strategies were considered unproblematic. At the same time, academics involved in the knowledge exchange organisations had to participate in this ‘balancing act’ in order to maintain their dual legitimacy in the eyes of both their academic peers and assessors and their policy and practice partners.

## 5. Concluding discussion: impact agenda and hybrid expertise

The often difficult relationship between applicability of research and its scientific quality has been central to the development of science policies since the beginning of the public funding of science ([Clarke 2010](#); [Guston 2000](#); [Wilkie 1991](#)). However, these tensions—even if not new—have been amplified in recent years by the introduction of ‘impact’ as an assessment criterion of academic work involving both new incentives for and evaluation of impact-oriented practices. As such, the system of academic incentives in the UK has evolved towards supporting production of knowledge that is excellent and relevant, simultaneously aimed at fulfilling the highest standards of academic quality and leading to tangible change in policy (and other areas of social activity).

The argument put forward in this article thus far has operationalised this tension as being enacted within the three categories of epistemic practices carried out by the academics ([Table 2](#))—producing academic research, translating research, and producing policy research. Hence, the sources of tension between relevance and excellence of research have been identified as grounded in the epistemic complexity of the newly-emerged impact and knowledge exchange spaces, a complexity intensified by the impact measurement system that enhances the divisions between categories. The engagement with policymakers and production of directly applicable knowledge that could potentially lead to direct changes in policy and practice require going beyond purely scientific considerations and producing new types of policy knowledge that combine political and scientific

considerations (akin to [Jasanoff \(1990\)](#)), practically mediating scientific knowledge and particular policy contexts ([Grundmann 2017](#)).

As a result, this type of knowledge, produced with different methodologies and objectives, is inherently antithetical to scientific knowledge and its ‘purified’ ([Latour 1993](#)) core. Furthermore, these conflicting types of practices place the locus of quality assessment in different groups—either academics themselves (excellent research) or broader panels of both researchers and research users (impact). Arguably, the source and scale of the tensions discussed in this article point to the deeply embedded, paradigmatic tensions in academia, requiring academics to produce knowledge that is both contextualised and de-contextualised, fitting into the existing policy debates and requiring those involved to look beyond them.

The framework presented in [Table 2](#) offers important theoretical insights into the relationship between science and policy, and consequently into the roles of experts and academics. The research impact agenda, seen from this perspective, is a symptom of progressing ‘de-differentiation’ ([Nowotny et al. 2001](#)) or ‘hybridisation’ of institutions, leading to an increasing dominance of spaces which are neither purely scientific nor political ([Cash 2001](#); [Jasanoff 1990](#); [Miller 2001](#)). As argued in this article, academia is increasingly becoming such a space. Yet, even in these hybrid spaces, science and policy, while conceptually mutually constitutive ([Jasanoff 2004](#)), are not completely integrated but rather are loosely coupled ([Maasen and Weingart 2005](#)). This ‘functional separation’ of science and policy is underlined by both epistemic and practical considerations—epistemic gains stemming from representing ‘truth’ ([Jasanoff 2011b](#)), or practical gains stemming from simply dividing labour between experts and policymakers ([Turnhout et al. 2008](#)).

The process of impact and research assessment embedded in the impact agenda has achieved two paradoxical goals—of both hybridising and separating the spheres of science and policy. On the one hand, it reinforced the divisions by separating the assessment categories of impact and excellence. On the other hand, by assessing them within one evaluative framework (e.g. within the REF), impact assessment effectively expanded the boundaries of the academic sphere to encapsulate policy expertise. Hence, one of the consequences of the impact agenda is the expansion of the production of policy-relevant knowledge into spaces that were previously domains of academic knowledge production. The framework discussed in this article provides two main types of insights into the understanding of the science–policy interface shaped by the research impact agenda: regarding new forms of hybrid expertise emerging in the academic spaces and regarding the shaping of the evidence-based policy-making process through research funding.

The research impact agenda ostensibly has led to an establishment of new forms of hybrid expertise. Unlike other forms of hybridity (e.g. in format of boundary organisations—[Guston 2001](#); [Miller 2001](#)), this form of expertise not only mixes science and policy considerations but also requires academics to navigate the production of this hybrid policy knowledge while producing excellent research. Therefore, the boundaries around expertise are being expanded and categories of experts and academics are increasingly collapsing. The legitimacy of academics as policy experts depended on their hybridising abilities in both demarcating the boundaries between science and policy (to produce excellent research) and blurring them (to produce effective policy knowledge). The legitimating practices entailed navigating the balance between producing these two types of research without losing recognition as an academic. This is particularly important as the academic community linked



the symbolic and epistemic status of produced knowledge with the social standing of its producer.

This process occurred via ordering of practices: once different epistemic categories emerged, they were organised. Therefore, the epistemic hierarchies—an indirect consequence of the measurement system embedded in the REF—by prioritising more objective and decontextualised knowledge were imposing a softer form of social control, effectively decoupling the institutional priorities of impact and excellence. Even if the research funding provided incentives for various forms of epistemic practices, including both excellence and impact, in reality these forms were filtered into settled hierarchies of more and less ‘academic’ (hence legitimate) forms of practice.

Taken together, the social changes discussed in this article offer further insights into the key importance of academic institutions and science policy as determinants of evidence-based policymaking (building on the work of [Jasanoff \(2011a\)](#) and [Smith \(2010\)](#) among others). The paradigmatic pluralism of academia and the hybridisation of expertise in the post-impact agenda academia lead to a conflict between the effectiveness of epistemic practice and its legitimacy. The emerging epistemic hierarchies between impactful and excellent research pose a challenge to knowledge exchange organisations aiming to produce research that is both impactful and conducted in a robust way. The findings presented in this article, by linking the legitimacy of academic and policy-relevant knowledge, might offer further insights into the academic-side barriers to evidence-based policymaking. Seen from this perspective, the implementation of ‘socially robust’ ([Gibbons et al. 1994](#); [Nowotny et al. 2001](#)) or context ‘appropriate’ ([Hawkins and Parkhurst 2015](#)) models of evidence governance, which call for ways of assessing evidence that go beyond purely academic criteria, even though conceptually fruitful, might in practice be difficult, as academic excellence is an important element of legitimising knowledge exchange practices.

This article has drawn attention to the close and complex interplay between the excellence of research and its policy relevance. In the context of knowledge exchange organisations, these two models of knowledge production and its assessment proved to be simultaneously contradictory and conjoined, in turn proving knowledge exchange to be an inherently hybrid activity.

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