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The DTC Effect: ESRC Doctoral Training Centres and the UK Social Science Doctoral Training Landscape

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Preface

Observers of policy have long been aware that policies are solutions to a problem, but they are rarely perfectly formed and often have unexpected consequences. As this report shows, this is also the case with the UK's Economic and Social Research Council (ESRC) Doctoral Training Centre (DTC) initiative, launched in 2009. Of particular note is that the timing of this policy - during a tight fiscal climate - meant that the initial intentions and subsequent implementation varied considerably in terms of scale.

On paper, DTCs had the potential to offer a number of benefits, such as fostering doctoral and academic collaboration across academic and institutional boundaries, improving the quality of doctoral training through innovative training models, and developing a viable, interdisciplinary cadre of social scientists. They are not, however, without their challenges: literature preceding this study had already highlighted that, among other things, they were difficult to establish and run, and excluded a significant proportion of universities - and potentially, poorer students - from accessing ESRC doctoral funding.

The rationale for investigating this policy was firstly underpinned by a curiosity as to how the introduction of DTCs might have broader impact across the sector. The literature on DTCs to date tends to take the view from those universities inside the funding circle, and we know little about the experiences of other universities or, crucially, doctoral students. The ESRC only funds around 12% of all social science doctorates in the UK at any given time, and there might be a question as to how much impact they have on the sector as a whole. They are, though, the UK's most visible domestic social science funder, and we were interested to explore the extent to which the policy may have been felt by institutions excluded from ESRC doctoral funding as much as to gain further insights into life within the DTC community.

The creation of the DTCs was part of a process of growing formalisation, by the ESRC, of what social science doctoral research training should look like, but at the same time it also represented a rearrangement in the ways that doctoral education in the UK was organised, delivered, and by whom. From a broader perspective, ESRC DTCs are a relatively small but important piece of a narrative of increasing external governance of research in the UK, and DTCs in themselves were an imitation of another Research Council's doctoral training model that has been widely copied. DTCs are actually already being phased out, having been replaced by (but still currently overlapping with) a network of mostly much larger Doctoral Training Partnerships (DTPs).

This study therefore seeks to contribute to the story of the ESRC DTC policy and its place in doctoral funding in the UK social sciences more generally. It draws on national data on doctoral completions and student populations, as well as 60 interviews: 30 with senior academics or managerial staff responsible for PGR provision and/or research strategy, and 30 with social science doctoral students. Participants were drawn from across the sector, i.e. from within and outside the ESRC 'fold'. The interviews took place over 12 months, starting in May 2016. This meant that, incidentally, they coincided with the period when the bids for the new DTPs were being submitted, awarded, and subsequently established.

Foreword

This report of research about the consequences of the introduction of Economic and Social Science Research Council (ESRC) funded social science cross-disciplinary doctoral training centres (DTCs) in the UK from 2011 onwards, does not simply document how a doctoral education policy initiative was implemented. It is certainly important to tell that story, since it represents a step change in social science research training in the UK. It constitutes a move from discipline-specific research training to a much stronger emphasis on interdisciplinary and multidisciplinary research, as well as strong encouragement for external collaboration through sponsorship and thesis supervision by outside organisations (Deem et al. 2015). But in addition, the project report also recounts how a sample of students, academics and those managing social science doctoral students, both from institutions that had ESRC doctoral training centres and those that did not, viewed the change to DTCs from individual departmentally-based research training and student funding awards, starting from 2011. Their views were certainly not universally positive. Non-ESRC funded students did not always know what they were missing out on and even some funded students were somewhat less strategic in making study choices than those in long established ESRC approved departments and institutions. DTCs potentially offer opportunities for doctoral candidates to undertake research in more than one discipline, receive excellent research methods training, being supervised from outside academe or by academics from two institutions. They can also attend intellectually-demanding workshops or go on Cabinet office internships, the kind of things that would, of course, be seen as exciting by ESRC funded students (or indeed other doctoral candidates, if only they had access to all these). But the report suggests that even ESRC funded students do not necessarily identify strongly with DTCs and that the Centres (now since 2016 called Doctoral Training Partnerships or DTPs) are mainly functioning as administrative units.

DTC-connected academics interviewed by the research team seemed to value the opportunities and reputational aspects of ESRC recognition and perhaps also the chance to work with highly intelligent doctoral students on state-of-the-art projects at the forefront of social science whose work could contribute significantly to both academic and non-academic impact. On the other hand, the *de facto* exclusivity of DTCs in relation to non-funded students, plus the ESRC's failure to fund DTC administrative structures and the staff who run them, added to its desire to micro-manage its DTCs, has clearly not gone down well. Institutions without ESRC DTC membership felt they were outside the golden circle. Only those in the University Alliance alternative doctoral training system, which offers, among other things, cross-national doctoral supervision (or co-tutelles) to successful applicants, felt a viable alternative to ESRC had been found; that has been dependent on the institutions concerned finding the necessary finance by themselves.

Funded initiatives in doctoral education such as ESRC's DTCs and DTPs offer much to those who are chosen for funding, especially if they are full-time; a part-time route is also available but is much less attractive and does not necessarily deliver the same benefits. However, despite ESRC's best efforts to say that universities should make the training opportunities available to all social science doctoral students in the collaborating institutions (even if not ESRC funded), this is often not practical if it involves costly travel to other locations or if the workshops are already full of funded students. Furthermore, the funding of research methods master's degrees and doctoral education in elite research-intensive universities probably excludes a good many potential applicants from

disadvantaged backgrounds (Wakeling and Laurison 2017), who may have degrees from less prestigious universities and lack the cultural and social capital and confidence to apply for a PhD place at Russell Group and other research-intensive institutions. In addition, the whole concept of achieving critical mass in disciplines other than the laboratory-based sciences has a somewhat different meaning (Delamont et al. 1997a; Delamont et al. 1997b) and is not related to effective use of specialist laboratories or expensive equipment. Having a sense of being part of a 'real' cohort (not a virtual or distributed cohort) who regularly meet up may be more important than a theoretical mass of students spread over several institutions and many academic departments. The tendency for research policies to adopt the laboratory science model is long-standing in the UK (Becher et al. 1994). It includes assumptions not only about critical mass, but also that full-time study by very young recent graduates is the predominant model. Both of these are still somewhat reflected in the ESRC's overall approach to doctoral education, despite this being inconsistent with the 2010 Equality Act and the equality duty it imposes on public bodies and with the actual characteristics of applicants in some fields of social science.

It would be fair to say that the staff respondents interviewed by the authors of this report were much more *au fait* with what DTCs were about than the student interviewees but that is probably also so for many other innovations and reforms in universities. Doctoral education internationally is awash with ideas and is a fast-growing sub-field of higher education research. Only a few days before writing this piece, I was at a small international workshop on doctoral education in Portugal run by their independent Quality Assurance Agency for Higher Education, Agência de Avaliação e Acreditação do Ensino Superior (A3ES). A3ES offers a sharp contrast with the English Quality Assurance Agency, also once an independent agency but now subordinated to the will of the new and metrics-driven English HE regulator, the Office for Students. A3ES itself evaluates all doctoral programmes offered in Portugal to a demanding standard, including institutional visits (Cardoso et al. 2018) and has been looking for some global insights into what good doctoral education should look like. The topics covered ranged from the impact of globalization (Nerad 2018) to quality assurance practices (Cardoso et al 2018), how doctoral candidates should be prepared for jobs outside the academy (McAlpine 2018) and the impact of doctoral schools (Amaral and Carvalho 2018; Baschung 2018), which may variously involve two or three doctoral programmes, a whole institution or several institutions.

Whereas social science DTCs/DTPs in the UK usually involve a mix of research methods teaching and more generic researcher development skills, in countries like Portugal, doctoral programmes have significant academic subject content as well as these other ingredients and are in that sense much more holistic than anything ESRC or most other UK Research Councils have developed. Cohort building in that kind of unified context does not present the same challenges as in England, where a small number of students on a single DTC subject pathway in a collaborative partnership may be located in several institutions geographically distant from one another. For example, a friend of mine who works at a university in Lisbon has just started a new PhD programme in gender studies (Torres and Deem 2017), so it is highly interdisciplinary and also has teaching and supervisory contributions from more than one university. There are nearly 30 students on it, so the cohort is a strong and real face-to-face one, unlike some DTC pathways with small and dispersed student numbers as less and less funding is spread even more thinly between rival DTCs/DTPs. In addition, initiatives from the EU funded by the Marie Skłodowska-Curie Actions and those financed by the National Science Foundation in the USA (IGERT) which aim to create collaborative and international networks of

doctoral students across several countries as well as several universities (Balaban 2016). These have had the advantage of access to significant funding for their doctoral candidates and regular academic events in different countries where network members get together and are on a completely different scale to DTCs and DTPs.

In 2009 when the DTC idea was launched, ESRC did not originally plan to place so much emphasis on inter-institutional collaboration, as contrasted with cross-disciplinary single institution collaboration or single disciplinary cross-institutional Centres. Its hand was forced towards multidisciplinary multi-institution Centres by the devolved governments of Scotland and Wales deciding to apply for funding of DTC partnerships across multiple universities in each country. At the same time it was rumoured that in the 2009–2010 funding round, ESRC may also have selectively discouraged or encouraged multiple partner collaborations in England. However, this was not so in the 2015-16 round of Doctoral Partnerships when even Oxford was forced to find partner universities, though Cambridge - and the London School of Economics and Political Science - remain single HEI DT partnerships.

Finally, whilst a number of elements of the DTCs have been welcomed and even envied by other countries, the decline in funds and the strong emphasis now on DTPs matching ESRC funding with internal university sources or external partner finance, may lead in time to an ESRC kitemark alongside a good deal of bureaucracy but no money, which in a post-Brexit Britain cut off from all EU research funding, may make the UK look like the poor relation of its European cousins. The tale of ESRC DTCs is a fascinating one but it may have a sting in its collaborative tail.

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List of Abbreviations

CDT	Centre for Doctoral Training
DTC	Doctoral Training Centre
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
HEI	Higher Education Institution
HESA	Higher Education Statistics Authority
PRFS	Performance-based Research Funding System
RAE	Research Assessment Exercise
RDAP	Research Degree Awarding Powers
REF	Research Excellence Framework
STEMM	Science, Technology, Engineering, Maths, Medicine
UoA	Unit of Assessment

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Executive Summary

Overview

This project sought to explore the experiences, of staff and doctoral students, of research training in the UK social sciences, specifically in relation to the ESRC's Doctoral Training Centre policy. DTCs admitted their first students in 2011, and the last cohort should complete their studies in 2019-2020.

1. According to our findings, the DTCs seem not to have achieved their potential, at least not yet. We found that while support among academic staff and research managers for collaborative, cohort-based training model was strong, various aspects of the ESRC DTC policy's implementation meant that their latent benefits were difficult to achieve. There were also negative consequences for those universities who were excluded - either temporarily or in the longer term - from ESRC support for doctoral training.
2. It may be the case that doctoral students associated with DTCs, or in universities that have DTCs, have minimal sense of their form and function, and do not feel associated with them. Alongside this, doctoral students across the sector reported mixed experiences - outside their supervision arrangements, at least - of the support and training provision of doctoral students at their own institutions.
3. The findings of this study suggest three main aspects of DTCs that might require reviewing, particularly if their promise is to be realised. These relate to DTCs' internal structures and processes, their role in the sector as a whole, and the social justice implications of concentrating doctoral funding within what are predominantly academically - and therefore socially - selective institutions.
4. A few notable exceptions aside, there is little research on doctoral training entities, which is perhaps surprising given their current proliferation across UK higher education. We highlight a number of key areas which merit further investigation. These concern the inherent internal and external tensions they create, their actual effectiveness in terms of doctoral outcomes, and the ways in which doctoral training policy more broadly interacts with other policies such as the Research Excellence Framework (REF).

Sectoral Impact

1. The ESRC Doctoral Training Centre (DTC) policy reduced the number of universities that were eligible for ESRC doctoral funding by almost half in 2011, and this reduction was borne disproportionately by post-92 universities. Eligibility was widened again under the ESRC's new Doctoral Training Partnership (DTP) scheme from 2016 onwards, but post-92 universities as a group are still largely excluded.
2. Within the patterns of retention, loss, or absence of ESRC doctoral funding eligibility before, during and after the DTC period, four main groups of universities were identified:

- Insiders - those who have retained their eligibility for ESRC doctoral funding;
 - Returners - those who lost their eligibility during the DTC period and regained it through membership of a DTP;
 - Leavers - those who lost ESRC doctoral funding eligibility in 2011 and have not regained it;
 - Outsiders - those who have been excluded from from at least 2010 onwards.
3. According to Higher Education Statistics Agency (HESA) data, we note a number of interesting patterns on doctoral student populations and doctoral completions across these groups. All are increasing the number of social science doctoral completions year on year, but Insiders appear to be awarding proportionately less over time than the other groups. Furthermore, the number of social science doctoral students at Insider institutions starts to fall from 2011 onwards, the year when DTCs admitted their first cohort of students. Returner institutions also recorded a marginal fall in social science doctoral numbers which began in 2013.

Organisational View

Based on our interviews with research managers and senior academics responsible for social science doctoral provision, we found that:

1. There was widespread acknowledgement that DTCs offer a range potential benefits. For doctoral students, these include developing broad methodological and interdisciplinary knowledge and networks. For universities, among other things, they can enable cost- and expertise sharing, the dispersal of good practice in doctoral training and supervision, and the development of research networks and collaboration. Achieving these, however, particularly across multi-institutional consortia, is not necessarily straightforward, and has been hampered by aspects of a DTC policy overshadowed by the politics of national austerity.
2. Across all groups, concerns were voiced around the effects of DTC policy on the sector as a whole in terms in terms of excluding institutions from access to ESRC funding, notably those with pockets of high quality research, post-92 universities in general, and non-PhD doctoral routes. This in turn may hinder widening participation to funded doctoral training since pre-92 universities tend to recruit their under- and postgraduate students from more disadvantaged backgrounds.
3. Setting up and running a DTC appears to be highly resource-intensive in terms of both cost and time, both of which are provided at member universities' expense. DTCs also seem to be characterised to some extent by interdisciplinary, inter-departmental and, in - the case of multi-institution consortia - inter-university, tensions. These costs and tensions, alongside geographical barriers, can make the potential benefits of a DTC harder to realise.
4. The temporary - or longer term - exclusion from ESRC doctoral funding, and the associated status of not being ESRC-recognised/accredited, was felt keenly by those institutions who were not part of the DTC policy, some of whom reported being less able to maintain and develop their doctoral provision without external support. There is also some evidence that

the DTC policy created or heightened the divides between universities which were in different DTCs, as well as between those that had ESRC funding and those that did not.

Student View

From the interviews with doctoral students, we discerned a number of key themes:

1. There was barely any movement in our sample between pre- and post-92 institutions as students progressed from undergraduate through to doctoral study. Students at Insider universities appeared to be more strategic in their selection of universities and in their applications for doctoral study, while those at the other institutions came to be there through more circuitous and serendipitous routes.
2. In terms of university choice, university status was a significant draw, although the availability of funding was a stronger factor, and other issues such as academic expertise and geographical location - largely connected with participants' relative im-/mobility - also played a part. In addition to the financial advantages of funded doctorates, it was commonly felt that external scholarships afforded more kudos on the labour market. At the same time, though, most participants expressed the view that access to those scholarships was to some extent a question of luck, rather than being the sole preserve of the strongest applicants.
3. Almost all of the students considered their access to working spaces as limited and the availability of training opportunities as variable. Those at Insider and Returner institutions were able to benefit from a better range and volume of research and other training, but even in these institutions its quality and relevance was seen as mixed. Across the sample, provision was described as comprehensive at one end of the spectrum, and non-existent at the other. It was also evident that students felt that training and other career development activities presented an added pressure in that it infringed on their ability to get their doctoral projects completed on time.
4. Very few of the students in our sample reported feeling included in their institution's academic research environment and there was, for nearly all of our doctoral participants, a notable absence of institutional effort in fostering a doctoral community. Where such communities did exist, they were almost invariably student-led, and this was as much the case for students associated with ESRC DTCs as it was for other students. DTCs seemed not to add much at all to the doctoral student experience for ESRC-sponsored students, who knew relatively little about their precise form and function, while their peers at Insider institutions were barely aware that they existed.

A. ESRC Funding Eligibility: 2010 to date

Recognised Outlets

Up to and including 2010, the ESRC awarded - subject to a satisfactory review - 'recognised status' to individual university departments, schools, institutes, or centres. This entitled the designated 'recognised outlets' to offer either a funded '1+3' - four years of funding for a Master's in research training and a PhD - or PhD-only '+3' . The number of outlets in each higher education institution (HEI) varied from one to approximately twenty, depending on the size and research strength of the institution (ESRC 2010a, 2010b). Scholarship allocations were made, on the one hand, by recognised outlets themselves who were granted a fixed number of 'nominated' ESRC scholarships per year. On the other, a nationwide open competition - judged centrally by the ESRC - was held through which universities with recognised outlets could submit additional candidates. There were also CASE scholarships where doctorates could be offered in collaboration with co-funding from non-university partners.

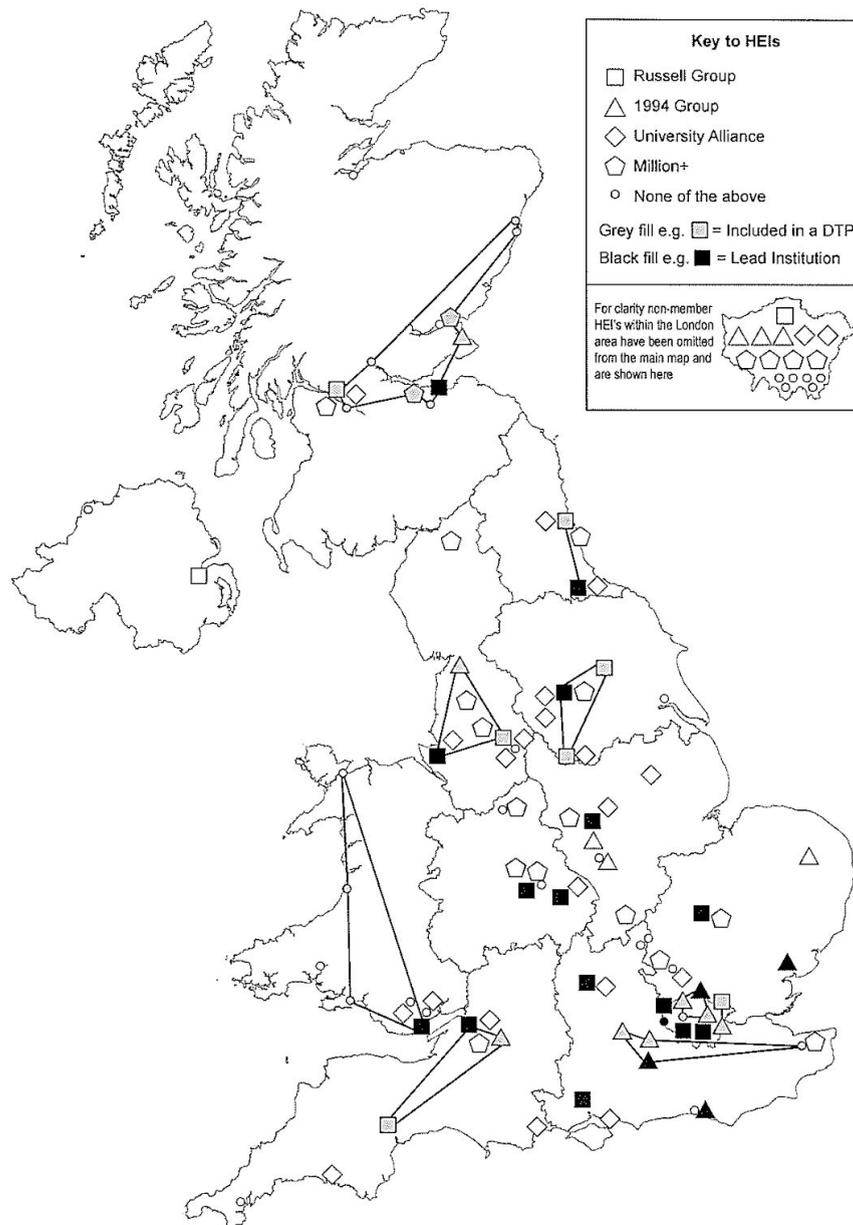
Doctoral Training Centres/Units

The ESRC signalled a change of direction in this arrangement with the release of its Postgraduate Training and Development Guidelines in 2009 (ESRC, 2009). The Guidelines regularly refer to the promotion of/commitment to 'excellence' and 'impact', calling for collaboration and interdisciplinarity - and advanced quantitative methods - to address 'complex research social/economic situations' (p.2), as well as the development of transferable skills for doctoral students. Underpinning this strategy, according to the ESRC, were a need to contribute 'to the economic competitiveness of the UK' (p.2) and to sustain the 'long-term health and strength of the social sciences' (p.3). There is an implication here that somehow the economic contribution of the social sciences, and their health, are in a questionable state, and that the implementation of the Guidelines will solve the problem. There was, though, no accompanying evidence base to support this. Nevertheless, HEIs were invited to apply for an 'accredited' interdisciplinary - and potentially multi-university - Doctoral Training Centre (DTC) or a smaller, discipline-specific Doctoral Training Unit (DTU) through which to offer appropriately formulated, ESRC-funded 1+3 and +3 doctoral training. This in itself was an adaptation of a similar strategy from the Engineering and Physical Sciences Research Council (EPSRC), which had created a range of thematically-oriented Centres for Doctoral Training (CDTs). The other Research Councils have since followed suit, with these doctoral training entities - CDTs, DTCs, and DTPs - taking a variety of shapes and sizes (see Harrison et al, 2015, 2016).

Fifty-seven DTC/DTU applications - covering 98 institutions - were submitted to the ESRC: 29 for DTCs, 28 for DTUs (ESRC, 2011). The bid submission and final awards, however, had straddled a government Spending Review (HM Treasury, 2010). It was initially estimated that 20-25 DTUs would be supported, with no restrictions on DTUs, subject to meeting the specified quality standards. In practice, though, only 21 accredited DTCs - involving 46 university partners - were funded (see figure 1.1, below). No DTUs were awarded at all - these were considered to be below a revised quality threshold that emerged during the review and funding allocation period. Thirteen of the DTCs were single-institution centres, with the remainder operating as regional consortia of between 2 and 10

university partners (ESRC 2018a). The ESRC subsequently issued its 'Pathways to Excellence' report (ESRC, 2011, p.2), a post-hoc justification of the DTC roll-out, citing that the final decisions had to be made 'in a very different fiscal and policy [and] tighter funding environment' to the initial 2009 PGT Development Guidelines. They highlighted the clarity and accountability of the decision-making processes that had led to the implementation of what became the new threshold of 'high quality environments' (Ibid., p.3), but did not acknowledge the effect this may have on the social sciences more broadly. The first cohort of DTC students subsequently started their degrees in 2011, and the policy was due to run for five years but was subsequently extended for an additional year. This means that the final DTC cohort entered in 2016, and will be expected to complete their doctorates some time between 2019 and 2020.

Figure 1.1: The Geography of ESRC Doctoral Training Centres (Source: Harrison et al, 2015, p.31)



Doctoral Training Partnerships

It should be noted that the DTC policy has already been superseded, while also still being simultaneously in place. Following a review of DTCs (Bartholomew, 2015), the ESRC launched a new call for Doctoral Training Partnerships (DTPs) and thematic Centres for Doctoral Training (CDTs) in 2015. Fourteen applications were received - 12 broad social science DTPs, 2 thematic CDTs - all of which were awarded. All but two of the DTPs involved a consortium, and 73 universities are now involved (ESRC 2018). CASE scholarships - funded doctorates in partnership with non-academic organisations - have also been reinstated, having been abolished during the DTC phase. The first DTP cohort entered in 2017, which means that DTCs and DTPs, involving to some extent the same universities but in often larger configurations, will be running concurrently. For example, the South West DTC included the Universities of Bath, Bristol, and Exeter, while the new South West DTP also includes the University of Plymouth and the University of the West of England, who were not part of the DTC phase. Similarly, the Midlands Graduate School Doctoral Training Partnership involves three universities which are, at the time of print, also still running single university DTCs, as well as three new partner universities.

B. Literature

Doctoral Training Models

There is a little literature on the ESRC and DTC policy, and it is evident from this that the DTCs did not appear entirely out of the blue. Work by Harrison et al (2015) shows how the ESRC was, to some extent, copying the Centre for Doctoral Training (CDT) model instituted slightly earlier by its sister organisation, the Engineering and Physical Sciences Research Council (EPSRC). The other research councils have since followed suit, and we can now see a nationwide proliferation of doctoral training centres/partnerships of differing sizes and configurations. A report by Universities UK - a national university representative body - has described the emergence of these as 'the most significant trend shaping PGR provision at UK universities' (UUK, 2014, p.4). This was based on the observation that universities were both ceding an element of control on the design of their doctoral programmes and being encouraged to collaborate in doctoral provision and in research more generally. Observable within and around this, Harrison et al (2015, 2016) identified, is an ongoing 'regionalising effect' characterised by the creation of a geographical 'archipelago' of distinct and somewhat disconnected multi-institution consortia.

A Changing Doctorate

It seems that the ESRC had form in influencing the content and shape of the social science doctorate. Mills (2009) notes that the it had begun to play an 'increasingly dirigiste' role in terms of social science research training from the mid-1990s onwards. This in itself appears to be part of a broader trend observed in English-speaking countries where the doctorate is increasingly conceptualised as more than a research project and scholarly apprenticeship, but also as a space for the development of generic skills useful to employers, and as a means of promoting national economic competitiveness (Gilbert et al. 2004; Smith-McGloin & Wynn, 2015).

Knowledge Economy and PRFSs

This emphasis on economic outcomes as underpinning doctoral policy features across the DTC literature, with several authors acknowledging the growing prevalence of knowledge economy discourses that place greater emphasis on technological and applied research. This again is situated within a large body of scholarship that charts this phenomenon (e.g. Deem, 1998; Brennan & Shah, 2011), which includes the widespread implementation of Performance-based Research Funding Systems (PRFSs) in many countries (Hicks, 2012). PRFSs are seen to represent a changing relationship between the state and universities whereby higher performing institutions are rewarded for attracting funding and producing of certain outputs, and weaker institutions are incentivised to perform better. At the same time, though, the uneven distribution of funding can reproduce and enhance differences in performance and outcomes.

On ESRC DTCs

This uneven distribution was very much in evidence in relation to DTC policy. It was observed by the review of DTC policy that the ESRC itself commissioned that resulted in 'The Bartholomew Report' (Bartholomew, 2015). Bartholomew highlighted, among other things, that the policy had been

particularly exclusionary in relation to both ‘pockets of excellence’ - i.e. individually strong research departments within relatively weaker (in research terms) institutions - and newer/less research-oriented universities. Omitting the latter, it was noted, created problems around widening participation in that newer universities have tended to have a stronger record of recruiting students from minority and less affluent backgrounds (see e.g. Wakeling & Hampden-Thompson, 2013; Pasztor and Wakeling, 2018). Further concentrating research in elite universities may, therefore, have the ongoing effect of making (social science) doctoral study more socially exclusive.

There is also some evidence of operational concerns within the DTCs themselves. Lunt et al (2014) describe how they saw the ESRC is exerting a greater influence over the universities through which it channels its funding by imposing a range of structures and processes. They also noted how the DTC policy represented a move by a cash-strapped research council to farm out much of its administrative functions to universities. This in itself involves a transfer of effort: as Lunt et al explain, a DTC represents an entirely new organisational structure, either within a single university or across several, and establishing and running them requires a significant outlay of both time and financial resources. There are also internal political sensitivities within DTC consortia - which are now the norm under the ESRC DTP policy - as they represent, in some ways ‘forced partnerships’ that may not be of equal benefit to all partners (Deem et al, 2015). In relation to this, these partnerships require a degree of alignment in practices which have to be satisfactorily negotiated and implemented. There was some recognition of bureaucratic concerns in the Bartholomew Report, which recommended a ‘light touch’ review of the regulations. This, though, related to DTCs needing to seek ESRC approval for relatively minor decisions, rather the administrative burden associated with the creation and ongoing maintenance of the DTCs. As this report documents, however, bureaucratic/administrative concerns and internal tensions were front and centre for the DTC staff who participated in this project.

The remainder of this project report is dedicated to the findings from the study. These are described in three sections, before being drawn together in a final conclusion chapter:

- C. Sectoral Impact;
- D. The Organisational View;
- E. Students’ Perspectives.

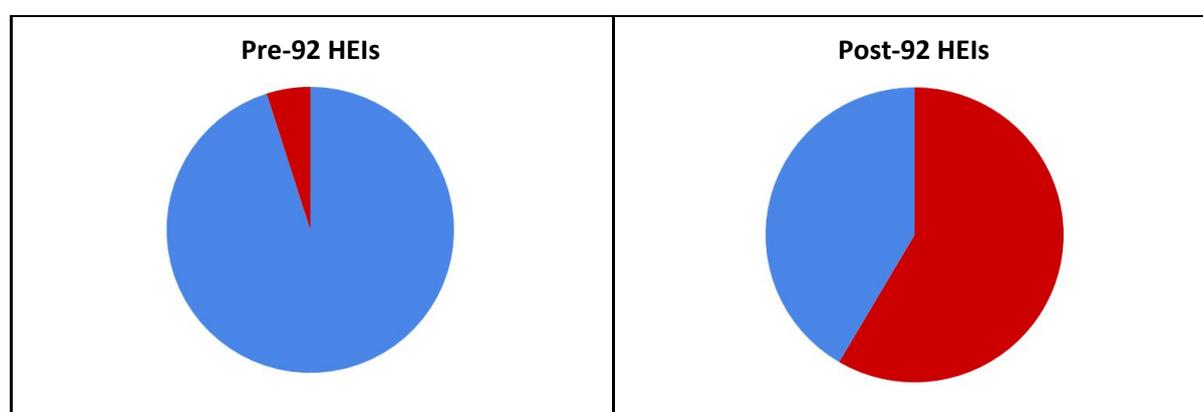
C. Sectoral Impact: A Shrinking Pool

One of the most evident effects of the DTC policy was that it marked an immediate contraction in the number of universities who could offer ESRC-funded doctorates. Of the circa 120 Higher Education Institutions (HEIs¹) with postgraduate research degree awarding powers (RDAP) in the UK, 86 were eligible to host ESRC-sponsored doctoral students in 2010, the last year before the first cohort of ESRC DTC students was admitted (ESRC 2010a, 2010b). This number then shrank by almost half the following year when the DTCs were created, and remained static across the DTC policy period, bar the merging of two members - the Institute of Education and University College London. There was a recovery of sorts with the introduction of the DTPs, which now included 73 eligible universities/HEIs (ESRC 2018). This number may change as new entrants to DTPs are allowed, subject to meeting the eligibility criteria (a minimum of 3* in all three categories of the periodic Research Excellence Framework, or REF²) and individual DTPs being willing to extend their partnerships.

Pre- and Post-92 Divisions

Particularly striking when examining how ESRC eligibility changed is how this transpired unevenly across the sector, notably between those who had university status prior to 1992 and those who gained it in 1992 or later. For historical reasons, universities in the UK are commonly considered to consist of research-intensive 'Pre-92s' and teaching-intensive 'Post-92s', although in practice the distinctions between them are not always so marked. Figures 2.1, 2.2, and 2.3, below, show how access to ESRC-funded doctorates (eligible in blue, ineligible in red) contracted during the DTC policy and expanded again after it. In total, 13 pre-92 universities lost their eligibility from 2011, while 26 post 92s lost it and only one retained it.

**Figure 2.1: Pre-92 and Post-92 ESRC-funded PhD Eligibility 2010 (Pre-DTC)
(Eligible - Blue; Ineligible - Red)**



¹ The UK HE sector has both universities and higher education institutions (HEIs), the latter of which are often associated with a parent organisation (e.g. University of London) but are largely independent in terms of their operations.

² The Research Excellent Framework (REF) - formerly known as the Research Assessment Exercise (RAE) - involves a comprehensive review of individual HEIs' research activity, by discipline, over a given period. The last REF was in 2014, the next is due in 2021.

Figure 2.2: Pre-92 and Post-92 ESRC-funded PhD Eligibility 2011-16 (DTC Phase)
(Eligible - Blue; Ineligible - Red)

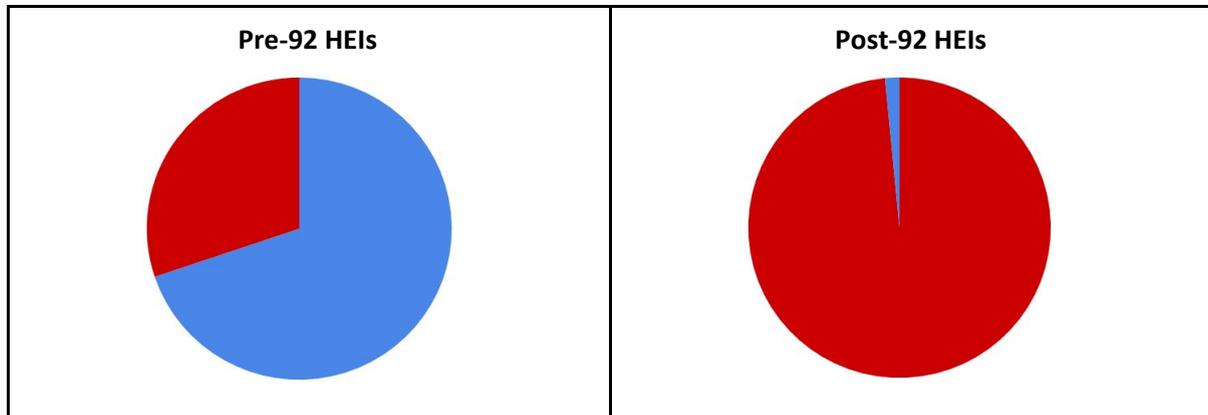
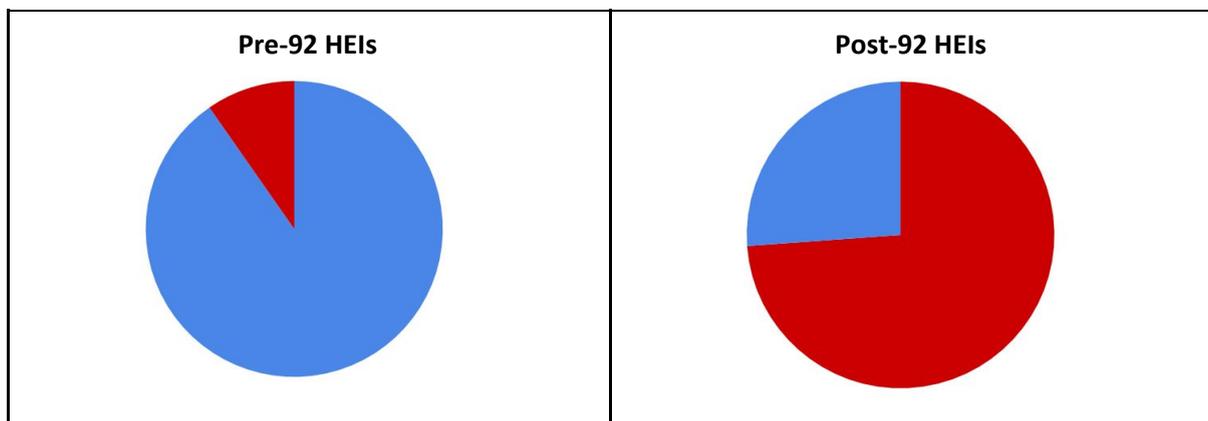


Figure 2.3: Pre-92 and Post-92 ESRC-funded PhD Eligibility 2017-22 (DTP Phase)
(Eligible - Blue; Ineligible - Red)



We can see that, although the DTP policy allowed a broadening of the ESRC-eligible HEIs (indeed the ESRC explicitly encouraged it), we have not seen a recovery to the levels of 2010. It is also evident that this loss of eligibility overall has been felt far more acutely in the post-92 group.

Insiders, Returners, Outsiders, and Leavers

Our analysis of this contraction and expansion of eligibility before, during, and after DTCs has revealed several interesting patterns. The first is that the majority of the 86 HEIs³ entitled to receive ESRC doctoral funding over this period fall within four main categories (see also Table 1.1, below):

- 'Insiders' (aka 'in-in-in'): ESRC-recognised outlets in 2010, with DTC and then DTP membership;
- 'Returners' (in-out-in): ESRC-recognised outlets in 2010, no DTC access, but then DTP membership;
- 'Leavers' (in-out-out): ESRC-recognised outlets 2010 but then no DTC or DTP membership;

³ Those with ESRC approved status in 2010 (see ESRC, 2010), during the DTC period, and at the outset of the DTP policy.

- ‘Outsiders’ (out-out-out): No ESRC Recognition in 2010, and no DTC or DTP membership.

There were two other, less rarely seen types:

- ‘Late Leavers (in-in-out)’: ESRC Recognition in 2010, DTC participation but not in a DTP;
- ‘Late Entrants’ (out-out-in): No ESRC Recognition in 2010, no DTC participation, then DTP inclusion.

Table 1.1 ESRC Eligibility for ESRC Doctoral Funding, 2010 onwards

HEI Type	Eligible for ESRC doctoral funding		
	2010	DTC Period (2011-2016)	DTP Period (2017-2021)
Insider	✓	✓	✓
Returner	✓	X	✓
Leaver	✓	X	X
Outsider	X	X	X
Late Leaver	✓	✓	X
Late Entrant	X	X	✓

As we might expect, how the Pre-92 and Post-92 universities are represented within these categories - that we now term ‘university type’ - pans out quite differently⁴, as Table 1.2 details, below. The key observations, though, are that:

- 90% of the Pre-92 institutions were either Insiders or Returners, i.e. maintained or regained access to ESRC doctoral funding. It is also worth noting that only two members of the 24 ‘elite’ Russell Group institutions were not included in the DTC phase;
- Exactly half of all Post-92 institutions with RDAP are Outsiders (i.e. no ESRC doctoral funding eligibility from at least 2010 onwards), and just over a quarter were included as either Returners or Late Entrants in DTPs. This highlights how the pre-92/post-92 divide is less than clear, and the post-92 sector in particular is quite diverse. Incidentally, the only Post-92 member of a DTC was excluded from the subsequent DTP phase.

For pre-92 universities, age and size seem to matter. Of the Insiders - those who never lost ESRC patronage - the older and larger pre-92 universities outnumbered their younger (i.e. founded in the 1960s) and smaller peers by 3:1. Among Post-92s, though, there was no greater proportion of former polytechnics (the oldest of the Post-92s) than other post-92s.

⁴ It should also be noted that, geographically, most countries/regions of the UK were covered by the DTCs. Wales and Scotland had their own DTC; the Wales consortium included 4 of Wales’ 9 universities, while the Scottish consortium included nine universities in a DTC which sat within a pan-Scottish Graduate School of Social Science. Northern Ireland, though, which was excluded altogether - two Northern Irish Universities are now included in the Northern Ireland and North East Doctoral Training Partnership, which is an extension of the previous North East DTC .

Table 1.2: Eligibility for ESRC doctoral funding by university type, 2010 onwards

	Pre-92	Post-92
'Insiders'	44 ⁵	0
'Returners'	14	12
'Leavers'	2	15
'Outsiders'	3	32
'Late Leavers'	1	1
'Late Entrants'	1	5
Total	64	65

Doctoral Numbers

In order to gauge a sense of the impact that the DTC policy might have had on the sector, we examined the most recent HESA (Higher Education Statistics Agency) 'Heidi Plus'⁶ data on the numbers of social science doctoral completions and doctoral populations in the period surrounding the DTC policy. This covers the period from the 2008/9 academic year to 2016/17. It is possible that, for example, having a DTC enables institutions to more easily recruit doctoral students, while those who lost their ESRC eligibility (or never had it) may find it more difficult to attract doctoral applications; this was certainly a concern for a number of the Returner institutions in our interviews, for example.

Setting the Scene: UK Doctorates across all subjects

As indicative background for the sector as a whole, the number of doctorates being awarded in the UK is growing at a relatively steady rate year on year, and has risen from 17,425 in 2008/09, to 23,830 in 2016/17. Within this, exactly two thirds (67%) of the almost 190,000 doctorates completed over this period were awarded in Science, Technology, Engineering, Maths, and Medicine (STEMM) subjects, while the Social Sciences comprise 19% of the total and the Arts and Humanities 15%.

In terms of university status, 58% of all doctorates have been awarded by the 24 Russell Group institutions, while the other pre-92 institutions comprised a further 31%. This means that the post-92 universities with RDAP - who make up approximately half of the total number of doctoral-awarding institutions in the UK - have contributed only 11% of all doctorates in the past nine years.

⁵ The merged Institute of Education and University College London have been counted once.

⁶ Available to all subscribers, which includes 'UK higher education (HE) providers, alternative HE providers, charities, government departments, agencies, public bodies and not-for profits'
<https://www.hesa.ac.uk/services/heidi-plus>

Doctorates in the Social Sciences

To examine whether there might be any evidence of DTC policy having any impact on doctoral numbers/completions, we isolated the data within the following four JACS⁷ subject areas:

- Social Studies;
- Law;
- Business & Administrative Studies;
- Education.

We acknowledge that these will not provide a perfect match for the full breadth of subjects that the ESRC DTCs may fund; subjects such as linguistics fall within Languages (within the AHRC remit), and health-related areas within Subjects Allied to Medicine (MRC). However, we expected that these four categories should capture the majority of ESRC-eligible areas.

From the HESA data, and in line with the overall doctoral trends, the number of social science doctorates (i.e. within those four categories) awarded is also rising - from 3125 in 2008/9 to 4520 in 2016/17. Of the nearly 35,000 completed social science doctorates over this period, pre-92 institutions have awarded over 29,000 (83%) of the total; Russell Group members awarded 52% of the whole. This shows that, outside the often materially expensive STEM disciplines, the elite presence is still dominant but slightly less so; in fact the pre-92 share, year on year, is steadily falling from 85% in 2008/2009 to 82% in 2016/17. While these are 'marginal gains', post-92 universities have actually doubled their doctoral production in the social sciences over this period.

The DTC Effect?

Establishing whether there may be a 'DTC effect' in terms of raw completion numbers is difficult to gauge according to the HESA data for two reasons. The first is that the initial cohort of ESRC-funded DTC students will not have graduated until at least 2014/15 - assuming they took the +3 route and completed in three years; in all likelihood, they will not have begun graduating until 2015/16 or later. This means that the DTC effect, if there is one for doctoral production, will be lagged and potentially only visible in the last two years of the current data. Secondly, HESA's data for Postgraduate Research (PGR) students does not indicate funding sources, which makes it impossible to identify the ESRC-funded students. However, according to the ESRC, they are funding approximately 3000 students in the system at any given time⁸ - only around 12% of the total UK social science doctoral student body in a given year (average 24,000). However, they represent around a fifth of the student body of Insider institutions (average 15,000). We might therefore expect that the DTCs' contribution to overall doctoral numbers in those universities must have at least some visible effect on their overall social science doctoral production.

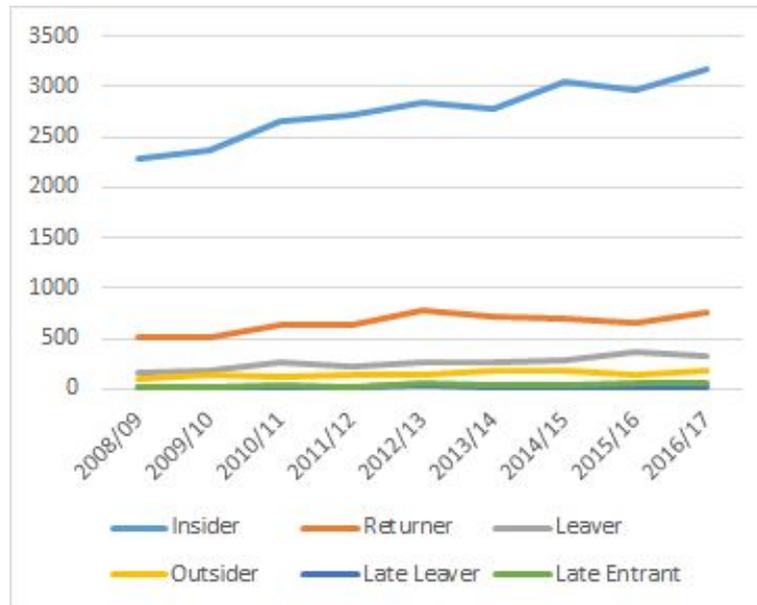
As we can see in Figure 3.1, below, Insiders are by far the most dominant producers of social science doctorates, and have been steadily increasing their doctoral completions from 2009/10 onwards. The latter appears to be true, although less markedly, for Returners and Leavers - as well as for Outsiders - the first two of which were first excluded from ESRC doctoral funding under the DTC phase. This suggests that, if there is a DTC effect around completions, Returners and Leavers have potentially mitigated the damage inflicted by the loss of ESRC-funded doctoral students through

⁷ Joint Academic Coding System - how HESA classifies academic subjects.

⁸ Confirmed in personal correspondence with the ESRC, August 2018.

other funding sources. Outsiders appear not have not suffered greatly but then their situation, regarding ESRC funding/status at least, has not changed, either.

Figure 3.1: Social Science Doctoral Completions by HEI Type, 2008/09-2016/17



The next question we explored in the data was to see whether the Insiders were perhaps stealing a march on the other groups by producing proportionally more PGR social science graduates than the other universities from 2014/15 onwards; this appears to be the case in Figure 3.1. What the data in Figure 3.2 (below) shows, though, is that there is a small but evident *downward* trend in terms of Insiders' 'market share' of doctoral completions from that point, particularly in relation to Leavers, and to a lesser extent, Returners. So, while Insiders are producing more social doctorates in terms of raw numbers, it seems that they are beginning to produce proportionally less than the two groups of institutions who had had their ESRC eligibility revoked under the DTC policy. These are marginal differences, movements of a few percentage points, but it does raise questions as to what underpins this, other than chance. Even bearing in mind that the ESRC students should only make up around a fifth of the Insiders' social science doctoral numbers, their fall in relative production is perhaps surprising.

We therefore examined the total number of social science students in the system according to the six university types, to see if any patterns emerged. We might expect that the Insiders, already being of high status and operating a prestigious ESRC DTC, might see their social science doctoral populations growing faster than the other groups. Curiously, though - as Figure 3.3 shows, below - from rising to a peak in 2011/12 (the first year of the DTCs), the Insider institutions saw their social science PGR populations falling marginally but almost continuously for the next five years. Returners, interestingly, saw their numbers begin to decrease from 2013/14 onwards, perhaps reflecting a delayed effect from the loss of ESRC recognition. Leavers and Outsiders, on the other hand, recorded moderate gains across the time span of this data.

Figure 3.2: Proportion of Social Science Doctoral Completions by HEI Type, 2008/09-2016/17

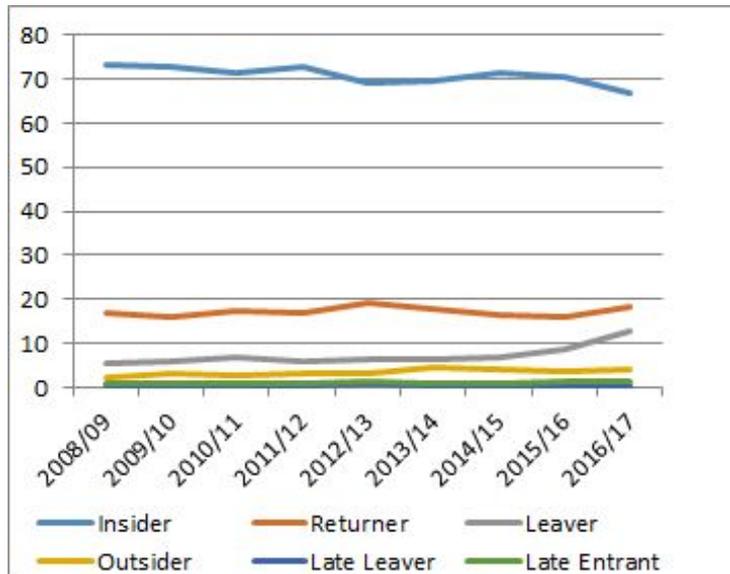
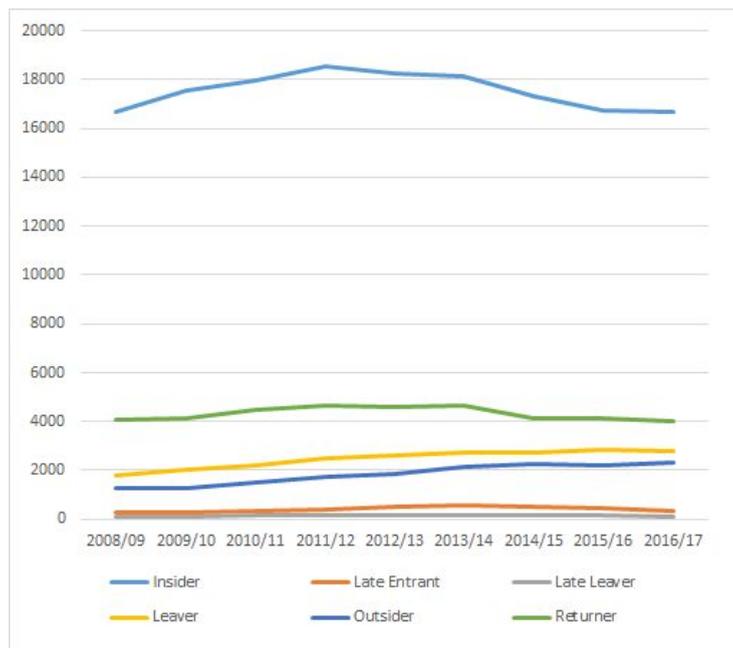


Figure 3.3. Proportion of Enrolled Social Science Doctoral Students by HEI Type, 2008/09-2016/17



These may be coincidences, and without sufficient detail of precise funding sources in the data, it is not possible to determine what the relationship between DTC policy and doctoral completions and populations might be. However, those 3000 ESRC-funded students within a national social science doctoral population of around 24,000 are likely to have had some effect, particularly as they make up proportionally more of the doctoral student bodies in the Insider institutions. These findings raise a number of questions, about both doctorates in general and in relation to DTC policy, and we return to these in conclusions.

D. The Organisational View: Staff Responses

Staff Sample Overview

Staff participants were drawn from 30 separate universities in all four member countries of the UK. They represented eight DTCs, ten non-DTC Pre-92 institutions, and ten post-92 institutions (see Appendix 1 for a breakdown). As might be expected, the majority of participants - all bar three - were engaged within the three largest university types:

- Insiders (in-in-in) - institutions with ESRC funding before, during, and after the DTC policy;
- Returners (in-out-in) - with ESRC funding before and after (but not during) the DTC policy period;
- Outsiders (out-out-out) - entirely ineligible for ESRC funding before, during, and after.

The interviews were semi-structured and explored participants' understanding of doctoral funding in the UK, where their organisation sat in relation of ESRC DTC policy, and how they then experienced this context. They took place in two tranches over a calendar year, the first of which was in May-June 2016, the second in early 2017, which was due to the release of funding in two separate blocks. The first tranche coincided with the period when the bids for DTPs were being submitted, and the second with when the DTPs had been awarded and were being established. This meant that DTCs were a very live topic, and also, that overlapping DTC and DTP issues emerged in the conversations.

DTC Rationales

In terms of the justifications of the DTC policy, there was more or less unanimity across the staff sample in terms of their understanding and acceptance of what led the ESRC to its implementation. These rationales could be divided into three main categories: administration, research, and doctoral.

Administration

- It was widely acknowledged that the ESRC had been compelled to transfer much of its PGR administration and doctoral scholarship allocation to universities as a result of government-imposed budget cuts;
- A second administrative driver frequently cited was a process of steady alignment of practices between the research councils.

Research

- Most participants recognised that DTCs sat within the broader direction of policy travel in relation to research funding, with awards increasingly being made in large grants that promoted interdisciplinarity and collaboration between universities;
- From the Insider group, there was a perception that DTCs represented a conscious coupling of research quality and doctoral production with the development of regional relationships. For the Returners and Outsiders, however, this was rather interpreted as a conscious and concerted concentration of research funding away from those with less well-developed/or relatively weaker research profiles.

Doctoral

- Most participants identified that DTCs had the potential to enhance doctoral provision in two key ways:
 - The development of an interdisciplinary cohort could encourage students to interact outside their subject boundaries, broadening both their knowledge and networks;
 - Variations in the forms and manner of doctoral training and supervision could potentially be reduced through the development of shared practices and processes, ensuring that the quality of provision was consistent and of good quality.
- For universities in organisational terms, DTCs were seen to afford a number of advantages:
 - Universities and departments could pool resources and expertise;
 - The ESRC 'badge' enhanced universities' status, enabling them to attract strong domestic and international applicants;
 - A number of participants also considered DTC consortia to lend critical mass and greater credibility to leveraging external partnerships and internships than universities could individually;
 - Insider participants particularly highlighted the changing nature of the doctorate away from the lone scholar model towards a more broadly research-literate and employable one. They also saw DTCs as being part of a wider move to encourage timely doctoral completions.

(Overcoming) DTC Challenges

In spite of the widely-recognised potential benefits of the DTCs cited above, a broad range of actual problems associated with them were also cited, and a number of the benefits were difficult to achieve for various reasons. Some of these related to the sector as a whole, while others were specific to the type of institution. In each section, the issues reported and solutions - either proposed in principle or implement in practice - are described.

Sectoral Issues and Solutions

Issue/s

- Participants from across all university types were very aware of the exclusionary effects that the DTC policy had on 'pockets and excellence' and pre-92 universities, as well as on the broader development and healthy functioning of the sector as a whole. In reference to this, the eligibility criteria for DTPs - of REF scores (known as 'REF returns') at 3* across the all three categories of Outputs, Impact, and Environment - were frequently mentioned as a stumbling block;
- There was also widespread recognition and concern for the potential negative effects in relation to widening participation that concentrating ESRC funding into universities which tended to recruit from more affluent social groups might exacerbate;
- A number of participants across the sample questioned the appropriateness of the DTC policy in excluding alternative routes to doctoral status such as the professional doctorate. For some universities, particularly if they suffered from a lack of access to external funding for PhDs, this represented their principle source of doctoral students;

- Concerns were also raised around the selective nature of DTCs (and research funding in general) which heightened sectoral competition between and within universities. This in itself had the potential to stifle collaboration between universities in different DTCs and between DTC and non-DTC institutions.

Solution/s

- One of the most commonly-cited suggested improvements for the DTC policy in relation to the sector was a way of fostering the growth of doctoral capacity in what we have called Outsider institutions. This was suggested across the sample, in almost every interview. While the number of institutions under the DTP phase has increased, those Outsider institutions face funding challenges in developing their doctoral provision, as reported below;
- In one Returner participant interview it was mentioned that the static nature of DTCs meant that universities/departments who met the REF thresholds could not join a DTC consortium. This is now a feature of DTPs.

Organisational Issues and Strategies

By and large, the difficulties faced by universities - and the steps taken to address them - often depended on their position in relation to the DTC policy, i.e. whether they had, had lost, or had always been unable to access, ESRC doctoral funding. These fell into the following categories:

- Resource Intensity;
- Horizontal Tensions;
- Vertical Tensions;
- Loss/Absence of ESRC Funding and Status;
- Issues Relating to Students.

Resource Intensity of DTCs

Issue/s

- It is difficult to overemphasise the extent to which the Insider participants felt that the establishment and running of a DTC represented a not insignificant burden (see also Deem et al. 2015). These running costs in both an effort and financial sense were borne entirely by the institutions themselves. They would invariably consist of a proportion of senior/professorial staff time, additional staff required to conduct day-to-day administration and reporting, and time commitments from other academic and administrative staff for management group meetings and monitoring/reporting. This was particularly marked when the DTCs were first awarded and set up, in that participants commented on having relatively little time to set up and operationalise - and recruit students to - what were entirely new and often complicated organisational entities. In a small number of cases, it was clear that the costs incurred in the hosting of a DTC had knock-on effects across Insider universities, resulting in strategic changes to other levels of degree provision and student recruitment;
- All of the Insider institutions did, though, feel that the benefits of holding a DTC - in terms of status and funding - outweighed the time and other resource costs. However, some questioned where the 'tipping point' might be, where the number of doctorates allocated no longer justified the outlay and wider benefits of possessing an ESRC 'kite mark'. Some Insider participants reported that the number of awards under the DTP phase had been reduced,

and this loss was heightened by the imposition of mandatory match-funding, where a proportion of all ESRC doctorates had to be co-funded by the host institutions.

Solution/s

- Both Insiders and Returners found that the experience of operating other doctoral training entities - particularly AHRC DTPs, which were seen as similar in shape and structure - provided good opportunities for organisational learning. They also provided credibility to ESRC DTP bids as evidence of a track record of inter-university doctoral collaboration. Some DTC Directors also reported sporadic events for practice-sharing with other DTC Directors that proved useful;
- A number of Insider participants thought that funding should be made available to DTC institutions to assist with their initial creation. The Welsh and Scottish DTCs received financial and other support from their national higher education funding councils, and this helped enormously as they set up and developed their DTCs. It seems that this funding was not going to be continued under the DTP phase, but at this stage its withdrawal was less of a problem since the consortia were operating relatively well by then.

Horizontal Tensions within HEIs/DTCs

Issue/s

- There were several internal tensions common to all of the doctoral training centres represented in this study. These in part related the fact that DTCs crossed established and embedded disciplinary and departmental boundaries, as well as institutional ones in the case of multi-HEI consortia. As such, involvement in a DTC resulted in a degree of loss of autonomy at each of those levels. There were also questions around the potential for applied subjects to be marginalised in DTCs where individual disciplines held sway;
- There were reports of resistance in disciplines that were almost entirely quantitative or qualitative in approach to the increasingly forceful stipulation by the ESRC that research training had to consist of a broad methodological base;
- Horizontal tensions, though, were most apparent at the point of the annual selection and allocation of what was commonly seen as a limited number of studentships. Which partners - at either the university or departmental/disciplinary level - were (and were not) receiving students over time featured as an ongoing and sensitive topic in all of the Insider interviews.

Solution/s

- A history of collaboration, either between individual academics, or within pre-existing university groups made establishing and running DTC consortia easier and politically less strained;
- One potential solution to internal tensions was provided, by chance, by the existence of an overarching graduate school or doctoral college, a relatively new development in many UK universities (Smith-McGloin & Wynn, 2015). It transpired that these could mediate tensions by providing avenues and mechanisms for cross-disciplinary or other interdepartmental interactions and collaborations. However other participants reported that in their own institutions, the specific arrangement and remit of doctoral colleges had in fact exacerbated these tensions.

- Some of the internal tensions between partners could be eased, it seemed, by locating the DTC hub (the 'lead' institution) strategically, for example, away from potentially dominant institution/s, i.e. not at one of the larger partner universities;
- The allocation of studentships at the beginning of the DTC policy was initially left to the discretion of individual DTCs, and a range of approaches were applied, such as pre-agreed ratios between partners. The ESRC, however, began to insist that studentships were awarded on absolute merit alone. This raised the possibility that, in extreme cases, one university or even department could have been allocated all of a single year's ESRC scholarship students. The ongoing danger of this allocation model was that, over time, some partner universities or departments could have contributed significantly to the running of a DTC but received nothing in return in terms of doctoral students. One solution here was to internally agree a 'stabiliser' which ensured that all partners at some stage received scholarship students.

Vertical Tensions - ESRC-HEI

Issue/s

- A number of Insider participants felt that the relationship between the ESRC and the DTC was difficult at times, particularly in that the DTC policy was too prescriptive. This was characterised by a framework of excessive oversight and bureaucracy, alongside the imposition of what many saw as an unduly inflexible model of doctoral training. Some participants spoke of instances where ESRC staff, appreciative of these constraints, did try to provide constructive assistance. However, as a whole, the Insider staff considered that the operation and effectiveness of DTCs was actually hampered by the presence of what were overly heavy administrative and reporting structures imposed by the ESRC.

Solution/s

- It was felt that a lighter touch, reduced micro-management system that allowed DTCs/DTPs more autonomy around decision-making on partners, scholarship allocations, and reporting, would allow resources to be reallocated towards better achieving some of DTCs' purported benefits. This is mentioned by Bartholomew (2015), but related more to some DTCs requiring ESRC approval for certain decisions, rather than to their internal operational structures and processes.

Loss/Absence of ESRC Funding and Status

Issue/s

- The loss of ESRC eligibility by universities that had previously received it was perceived as a significant blow by Returner universities. It represented to them a loss of status and had the subsequent effect of reducing their ability to attract strong doctoral applicants. This was exacerbated, in their perceptions, by the fact that those students would naturally be drawn away from them and towards those that had a DTC;
- Several Returner universities which were temporarily excluded from receiving ESRC funding (i.e. during the DTC period) experienced difficulties in maintaining their research Master's degrees without an externally-funded doctorate for it to feed into. Some of this was related to questions from their senior management around the cost-effectiveness of a course that

now might attract relatively few students, particularly as ESRC funding for that course (i.e. the 1 of the 1+3) was no longer available. These Master's courses were, though, seen as an important piece of the puzzle when applying for inclusion at the point of DTCs being renewed or replaced by DTPs, and their preservation was a challenge but proved essential further down the line;

- Both Returners and Outsiders saw that not holding ESRC doctoral funding eligibility in turn excluded them from applying for and receiving larger grants, particularly when they included a doctoral studentship as part of the project. This imposed a secondary barrier in that it made it more difficult to collaborate on research bids/projects with other universities that had a DTC;
- Returners and Outsiders who wanted to grow their PGR provision reported feeling hamstrung in that there were little to no external resources or support to enable them to do so. This was more pronounced for Outsiders, who on the whole had a less well-developed doctoral programme and culture than the Returners, and were less able to draw on non-ESRC or other Research Council funding sources. Some Outsiders considered themselves to have - or be close to having - the ambition and doctoral culture (and administrative structures etc) to permit a relatively straightforward entry into a DTC/DTP, while others reported having little capacity in this regard. Some Outsider participants reported little institutional appetite in this regard, while others were hindered by the fact that their academic body consisted of largely early career researchers; as such there was limited experience of, or opportunity for, doctoral supervision.

Solutions

- The inability to attract ESRC funding meant that Returners and Outsiders who wanted to maintain or grow their doctoral provision had to draw on alternative PGR funding sources and doctoral models to do so. This involved, depending on the institution, a combination of:
 - Recruiting self-funded - often part-time - students onto PhDs or professional doctorates;
 - Obtaining EU-funded grants with embedded doctoral positions. There was real concern across many institutions, but particularly those that had come to rely heavily in this approach, that Brexit thus presented an enormous risk;
 - Sizable recruitment of international students;
 - Significant investments in internal scholarships;
 - Progressing their own staff through doctoral programmes;
 - Seeking additional doctoral support from niche funders;
 - Developing alternative doctoral partnership arrangements - notably the Universities Alliance (UA) Doctoral Training Alliance;
- One Outsider strategy was to identify where pockets of excellence could be created and focus institutional resources on those; developing research and doctoral quality to ESRC-eligible levels across the board was considered to be beyond the capacity of the university.

Relating to Students

Issues

- As mentioned earlier, Insider institutions accepted the beneficial effects to students of belonging to an interdisciplinary cohort, but reported that this was difficult for DTC consortia in that there was no funding to enable travel between partner institutions, some of which could be geographically quite distant. This was also an issue in relation to joint supervision across partner universities;
- It was observed that interdisciplinary students ran the danger of being 'disciplinarily homeless' in departments/DTCs that were organised around strict disciplinary lines;
- Insider institutions also reported worries around a difference in the quality of the doctoral experience between ESRC-funded, and other, students in that the resources available to the former in terms of research grants and access to advanced training and other events were greater. This features in the literature (Deem et al, 2015; Smith-McGloin et al, 2016);
- Participants across all groups noted that changes in the nature of the doctorate placed an increasing load onto students as they were expected to develop a broad range of skills as well as accumulate teaching and other experience. This was generally considered to be a positive step, although this was also acknowledged as creating problems for students in that the research councils were still strongly encouraging doctorates to be completed within the requisite time;
- Broader policy issues also became evident around student visa issues for all kinds of institutions. Some of this was connected to problems in obtaining visas for international students. Brexit also posed a danger here in that there were potential problems around tuition fee status for EU students as well as those from Northern Ireland, a major source of students for some institutions.

Solutions

- The allocation of funding to support the necessary mobility of staff and students between partner institutions was offered by some participants as a proposed solution;
- Some DTCs reported moderate success in making training and other events (such as doctoral conferences) widely accessible to non-ESRC students.

E. The Doctoral View: Student Responses

Student Sample Overview

The doctoral student participants represented 30 universities from across the UK and were at different stages of PhD progress, in subjects ranging from Sociology and Policy Studies to Education and Linguistics. None were taking professional doctorates. Their profiles in terms of domicile, funding status, and organisational affiliation is detailed in Appendix 1, but in summary:

- 19 were UK domiciled, 7 were international, 4 were EU;
- 15 were studying at Insider institutions, 10 in other pre-92s, 5 at post-92s;
- 9 of the Insider students were Research Council-funded (6 by the ESRC). The remainder - bar one - were institutionally-funded, at least in part, with three being part-time;
- 11 of the non-Insider group had scholarships while the other four were partly or entirely self-funded; three of this group were also part-time.

Participants were asked, in semi-structured interviews, about their pre-doctoral 'journey' in terms of academic background and doctoral application history, as well as their understanding of national and local doctoral funding policies in the UK, and their own doctoral experiences.

Pathway to the Doctorate

Pre-/Post-92 Histories

- Almost all of the students who had completed a postgraduate taught (PGT) degree in the UK had done so at a pre-92 HEI. Only one of the Insider students had an undergraduate degree from a post-92, one Returner student had done both of their undergraduate and PGT degrees at a post-92 institution, as had two of those at Outsider institutions. This is consistent with research by Pasztor and Wakeling (2018), who found little movement between pre-and post-92 institutions between degree levels and leading up to the doctorate.

Applications

- Insider students were often strategic in their applications, consulting academic staff/potential supervisors in advance, as well as choosing topics that they knew were 'hot' in the field. Some were able to obtain assistance in formulating their applications, while in other institutions this seemed to be prohibited. These students felt that their successful applications were helped by strong academic histories and, in some cases, previous research experience, but particularly through aligning with funder/departmental research interests;
- There were less discernible patterns for those at Returner and Outsider institutions, other than the role of serendipity rather than strategy. Some took Master's degrees and were invited to progress onto a doctorate, as were a handful who worked as researchers or interns at the universities they studied at. Others contacted, or met academics at conferences, and were subsequently encouraged to apply, while the remainder looked for locations and/or scholarships that suited their needs,

Choice of HEI

- Insider students cited research reputation and global/national league table status, along with the specific expertise of particular academics/universities, as the primary criteria for their choice of university. There was a widespread acceptance/awareness in this group that university status - along with a funded PhD place - on their CVs represented favourable signals for future employers. However, other factors such as the university's location/city, the presence of friends or academic contacts, as well as a history of having studied there previously, also influenced them;
- For those students at Returner and Outsider institutions, most were happy with their doctoral provision. A handful would have preferred to be at a more prestigious institution largely because of the perceived value on their CVs, rather than because of any perceived benefit in terms of doctoral provision;
- Approximately half of the non-Insider participants identified as being mid-career or in career transition. In such cases, part-time study and employer funding subsidies were significant considerations in being able to maintain an income and fulfil caring responsibilities. The accessibility of the university was a more apparent factor in university choice for this group, who were often less mobile than Insider students.
- The presence or absence of funding was also reported by some as a chief determinant of university choice. A handful of students cited being offered funding as preferable to studying at a high/higher status institution without financial support;
- A number of students from Returner universities stated that having a built-in Master's and PhD (i.e. 1+3) track was part of what attracted them to their institution, which interestingly overlaps with the finding that some of those universities struggled to maintain those courses over the DTC policy period;
- International students reported several reasons for wanting to study in the UK, which included prohibitive costs in their own country, simpler entrance criteria and application processes, as well as often shorter completion times, than in the US, for example.

Doctoral Experience

Support and Training

- Supervision was almost uniformly described as good, with regular and supportive meetings being the norm, and participants felt valued and supported by academics in their institutions;
- Students across all groups, though, described common problems around the availability of working spaces in terms of desks and computers, and participants who described this aspect of their provision in positive terms were in the minority;
- Most students stated that research training in their institutions was widely available on a university-wide and/or departmental basis, particularly in the first year of their doctorates. This came through strongly for those who had undertaken a Master's in research training at Insider or Returner institutions, for example. Some reported good training provision on a needs-analysis, rather than on a generic basis. Across the sample - i.e. in different kinds of institutions - it seems that the quality and availability of training (and information about availability) varied widely; one student at an Outsider university stated that there was no

doctoral training programme at all. There were also regular reports across the groups of training as representing little more than 'tick box exercises' rather than being genuinely useful;

- There was some awareness among the Insider students of training opportunities (and other events) which were limited to ESRC students, as well as others that were more open, but students found it difficult to discern where the boundaries between DTCs and their own universities lay;
- A number of students found that research seminars within departments or groups could be inclusive for doctoral students, but others made less of an effort;
- In the case of DTC consortia, students' host universities seemed to be more inward-looking in terms of training or other (e.g. networking) opportunities. Access to partner universities, where they knew it existed, was not seen as particularly relevant, attractive, or necessarily accessible;
- In all groups there was an awareness - often through the nature of the funding - that students were under pressure to complete their doctorates in three or four years. In some cases training and other cohort-based activities such as conferences or poster presentations were seen as 'time away from the thesis', providing some evidence that accommodating the research project and career development aspects within the given time frame was problematic;
- International students also observed that there were potential visa restrictions in terms of being able to obtain the teaching experience they were expected to accumulate for the post-doctoral labour market.

Cohort Effects

- For the ESRC students, there was little to no sense that DTCs were a visible or tangible entity to which students belonged. Rather, they represented an administrative structure through which funding was channelled and some training opportunities or other events were available. They did not feel that they belonged to an interdisciplinary DTC community, for example, either within their own institution or more broadly in the case of DTC consortia. Overall, institutional or group affiliation, where it was expressed, was to their university, and particularly the departmental or disciplinary community within it, rather than to a DTC or DTC cohort;
- Many students considered there to be a limited to non-existent doctoral community in their institution. Where it did exist, it was often driven by students themselves, and some reported that their offers to help develop one were undervalued or unsupported by staff. Students who had designated work spaces and shared offices reported that that this contributed to the sense a shared doctoral experience and journey, but - as indicated earlier - personal working spaces were not available for many;
- Part-time and distance students in particular reported feeling little notion of belonging to a doctoral community or network. Apparent in their accounts, as well as for a few others, was that the use of social media, particularly Facebook for in-university groups, and Twitter for external networks. These were often reported to be inclusive and helpful, although this was less the case for mature/older students;
- For students who were mid-career, developing networks within their university's doctoral community was potentially less relevant, particularly if they had well-developed contacts through work, scholarly bodies, and so on;

- Students at Returner institutions reported that their PGR cohorts were predominantly international; this perhaps reflects how their universities addressed their loss of access to ESRC funding.

On DTCs

- All of the ESRC-funded students in the study bar one (who had started their doctorate before 2011) were attached to a DTC, having applied to it through an individual university. They were cognisant of the DTC-centred selection procedures, as well as that strong applications which failed to gain an ESRC scholarship might be funded internally by the university;
- There was some awareness among the Insider students, often through their supervisors, of some aspects of DTCs. These included the budget and staffing cuts at the ESRC had preceded and framed the DTC policy, that a heavy administrative burden was attached to DTC membership, and how the policy was exclusive towards some institutions;
- In principle, the ESRC students felt that DTCs were a good idea in terms of broader collaboration and other opportunities. They, and a few other Insider students, knew they existed and reported receiving emails from them about training opportunities, and had attended some of them, usually within their own institution. In practice, through, their presence and function was not clear;
- For other students, both at Insider and non-Insider institutions, there was very little knowledge of DTCs; some Insider students were unaware that their university was even involved in one. Some of the Returner students reported, though, that announcements at their university had highlighted their successful admission within a DTP;
- A number of students identified that ESRC funding was not available to international students (although we interviewed one international, ESRC-funded student), or part-time students, and that research council funding for EU students only covered course costs, not living costs. One student in our sample was from the EU and had a supplementary scholarship from her own country;
- There was a widespread perception across the sample that research-council funded doctorates were the preferable form of doctoral funding, although there were other options such as universities' own funding schemes, niche funders, and being attached to larger research project. Within this, though, it was commonly considered that research council funding carried additional prestige compared to other funding routes. It was, though, nevertheless accepted by students with - and without - ESRC or other Research Council funding, that obtaining such a scholarship was in part down to luck as much as judgement, and that those students without scholarships unlikely to be weaker students;
- A minority of students perceived that support in smaller (i.e. less research-intensive) universities could provide a better doctoral experience since they were more interested in fostering and worked harder to attract doctoral students than the prestigious institutions.

F. Conclusions: DTCs as a Policy Solution?

This report opened by questioning the extent to which policies solve problems, and therefore in which ways ESRC DTCs might represent a policy solution - or not. The majority of our staff participants, across the sector, indeed saw the DTCs as an appropriate - and potentially ideal - way of supporting doctoral training in the UK, at least in principle. In practice, though, it is evident that DTCs produced discomfort for universities across the sector. For Insiders, who continued to benefit from ESRC patronage, the centres were both administratively unwieldy and politically awkward. For Returners, the loss of ESRC recognition/accreditation for six years was felt both financially and in terms of status - they reported having to work hard to ensure that they maintained their doctoral provision and later regained access for the DTP phase. Most did so, but not all. For Outsiders, particularly those who have ambitions to develop their doctoral provision, their continuous inability to draw on ESRC support to do so is a source of ongoing frustration.

Breaking our analysis down into the justifications of the policy and themes that emerged in the analysis, we can see the DTC policy could be considered relatively unsuccessful in meeting its goals, at least according to our sample. It may be that, as a relatively major departure from previous practice, the ambitions of the policy were too lofty, but at the same time it is evident that - perhaps foreseeably - administrative and political issues certainly curtailed progress towards the achievement of those ambitions.

Sectoral Effects

We can see that the DTC policy has created ripples across UK higher education. There is a national trend of increasing doctoral production, but the relationship between DTC policy and national statistics on doctorates is unclear. It does seem, though, that Insider universities are increasing their doctoral completions while their PGR student numbers appear to be in marginal decline, both in absolute numbers and relative to the main other university types (Returner, Late Entrant, and Outsider). This decline coincides with the start of the DTCs, which is intriguing. Returner universities weathered the loss of ESRC funding and status, managing to increase their doctoral numbers, while Outsider universities appear to have been relatively unaffected and are also growing their doctoral provision. For them it has perhaps been business as usual, soldiering on outside the 'golden circle' as Rosemary described it in the foreword.

Cost Saving

In one sense, the problem of government cuts to ESRC funding was solved by offloading much of the administration associated with doctoral training and scholarships to universities. However, it seems that this in itself may have hampered some of the other benefits that DTCs could have offered, at least according to this study, in that administrative concerns drew energy and attention away from other activities. It also raises a question as to whether the overall costs of administering doctorates have increased given that each individual DTC - and now DTP - must be replicating some of the functions which were previously undertaken by the ESRC.

Research Collaboration

The view from staff at Insider universities was that the creation of DTCs resulted in very little research collaboration between academics. Pre-existing cultural and competitive divisions between disciplines and universities over what was perceived to be a limited, precious resource - doctoral scholarships - could not be overcome solely through the creation of what was largely an administrative structure.

Cohort Effects

Equally, the DTC influence on doctoral students - either funded by the ESRC or not - appears to have been relatively weak. DTC students reported little sense of allegiance to, association with, or even knowledge of, their local ESRC centre or cohort. Where there was a cohort effect, i.e. a sense of a doctoral community, this was independent of/unrelated to the presence of a DTC. This experience was echoed by students across the sample, too, and a general lack of institutional support for PGR students was evident in the majority of the student interviews, although supervision was routinely described as good.

Doctoral Training

Doctoral student participants at Insider and Returner universities reported a stronger provision of generic and targeted support than those at Outsider universities, some of whom seem to have little access to research development at all. There were, though, few glowing reports from participants at any university. The broader/better provision of training at some universities may be related to the DTCs, but may also pre-date it; staff at Returner institutions we spoke to had developed and maintained much of their doctoral training before losing ESRC support, but also took care to imitate ESRC-recommended provision in places. This could signify a longer legacy of the ESRC's influence over training, coupled with universities' own development of doctoral provision.

G. Further Questions/Research Recommendations

As with any early research into new areas, this project raises as many questions as it answers, if not more. These appear to us to fall within three main categories: ESRC doctoral training policy, doctoral training entities more generally, and the potential relationships between them and the Research Excellence Framework.

ESRC DTCs et al

For the ESRC DTCs (and now DTPs and CDTs) in particular, the findings in this report suggest that there are three main aspects around which the policy could be improved, at least from the institutions' and sectors' perspectives:

Bureaucracy:

It is clear that operational issues associated with the running of a DTC attracted a great deal of staff effort and attention. It seems likely that a review of the administrative structures and processes around and within DTCs/DTPs could find ways of reducing staff workloads, while still ensuring that the ESRC is able to undertake monitoring and periodic reviews as required. This should then free up space to dedicate more time and energy towards achieving the rich collaborative and training gains that Doctoral training centres and partnerships seem to promise. For example, individual applications for doctoral study seem to be considered in depth by several staff members, which is appropriate, but this can entail a multiplication of workload when students apply to (and are accepted by) several DTCs at the same time.

Quality across the Sector

Secondly, and this is an ongoing debate in higher education more generally, we wonder how 'excellence' and inclusion can more realistically cohabit than they do at present. The DTC policy was based, in the ESRC's own words, on supporting the 'long-term health and strength of the social sciences', (ESRC, 2009,p.3). The almost complete exclusion of pre-92 universities from the DTC phase has been remedied to some extent by the expansion into DTPs, but for those Outsiders who want to develop their doctoral training, they report being less able to do so. This is, arguably, not in the best interests of social sciences in the UK.

Widening Participation

The final point, which relates to the pre- and post-92 'divides' in ESRC funding eligibility, concerns broadening access to funded doctorates. There are well-founded suggestions in the literature that the more research intensive universities are socially selective in their undergraduate intakes and that this trend continues through to the doctoral level. We would suggest that, provided the data are available, a review of the social background characteristics of ESRC students over time is needed. If, as the broader evidence implies, there is underlying discrimination in the system, then steps need to be taken to ensure that post-doctoral academic and non-academic careers in the social sciences are not the preserve of the more affluent. The ESRC also currently excludes non-PhD routes from funding, and we wonder whether this might be worth reviewing, particularly as professional doctorates are more inclusive towards mature or mid-career individuals.

CDT/DTC/DTPs et al

Beyond the ESRC itself, as noted earlier, there is a limited research base on CDTs, DTCs, and DTPs. The work undertaken by Harrison et al (2015, 2016) represents the only focused attempt to date to get to grips with the shape and nature of doctoral training entities on a national basis. There are now over 230 DTPs and CDTs funded (or part-funded) by the Research Councils, and despite their extensive application, it could be argued that we are by and large in the dark as to how they work, and whether they work. Other funders such as Leverhulme, as well as the University Alliance, have developed their own collaborative doctoral cohort models in various guises; each formulation will offer its own varying challenges and merits, and these require further investigation. With these issues in mind, the findings of this research project seem to suggest two chief avenues for further research around doctoral training entities as an object of enquiry, relating to their internal tensions and the doctoral experience and outcomes.

Internal Tensions

There are important questions around how doctoral centres/partnerships as administrative and interdisciplinary - as well as inter-institutional - centres function, and could function better. We saw widespread evidence of tensions created by/within DTCs, which perhaps offer a microcosm of the uneasy balance between competition and collaboration that exists in UK HE. How these are negotiated requires considerable skill, particularly in the early stages of a centre, and an exploration of ways in which this can be facilitated would no doubt be of benefit. Furthermore, the parallel emergence of doctoral schools/colleges in the UK seems to have helped ESRC DTCs in some institutions and impeded them in others, and this merits further investigation.

Doctoral Experience/Outcomes

In terms of doctoral students, a number of staff participants questioned, at least in relation to ESRC-funded students, whether the current DTC 'products' are any better or have a better experience, in terms of training, scholarship, networks, and interdisciplinary orientation, than their predecessors. This is an essential question, both in general and also considering the claims made about this being an enhanced doctoral training model. Furthermore, outside their supervision and immediate peer relationships, the experience of most of our doctoral participants was not altogether positive, and most students reported not feeling particularly valued by their institution. This is clearly troubling.

REF et al

In this study we were able to discern, in the participants' accounts, ways in which other policies - and particularly the Research Excellence Framework (REF) - interacted with DTCs (and DTPs) in potentially complementary and obstructing ways, and there are some nuanced interdependencies in this that need teasing out. Four key questions emerge here:

DTP Eligibility

Is REF 3* in all categories appropriate as an eligibility threshold for ESRC DTPs? A number of institutions - which we have described as 'Leavers' - had access to ESRC funding prior to the DTC phase and have not recovered it since. This may be because they did not attain a 3* score across all

three categories in their 2014 REF return, rendering them ineligible for inclusion within a DTP. However, if the quality of their research and doctoral training has not declined, rather they have remained constant (or improved) while the metrics around them have shifted, this calls into the question the appropriateness of the eligibility criteria. Is this adherence to 3* appropriate, robust and/or open to review, and could individual DTPs include 'weaker' institutions or departments at their own discretion, particularly in the interests of the development of the sector as a whole? Adding new members to the DTP community will also depend on their potential contribution to a individual DTP and its alignment with existing subject pathways, as well as on the in-/exclusive orientation of its leadership.

REF Cycles and Centre/Partnership Renewal

How do the timing of the REF and CDT/DTC/DTP cycles work together, or against each other? The DTP phase was launched soon after the REF 2014 results. If the ESRC DTP policy runs for five years, then institutions currently ineligible to join at DTP would be again able to have their REF 2021 results before the new DTP phase is launched. However, if the timing does not align, there this could further exclude some suitable institutions. Equally, will currently eligible institutions who fail to retain their current REF status become ineligible, as happened around the DTP call? The same question may extend to the other funders' doctoral training entities, too.

Priorities, Pathways and UoAs

To what extent do the REF Units of Assessment (UoA), the ESRC's (or other funders') research priorities, and DTC/DTP/CDT pathways dovetail - or not? We saw evidence of tensions within DTCs resulting from their interdisciplinary nature, and the UoAs are founded around disciplinary boundaries, which may in themselves reinforce those boundaries. In some of the Insider staff interviews we saw that bid writing for DTPs in particular involved a strategic alignment with the ESRC's research priorities, while others took a different route. Does this create problems for doctoral training entities, and for the intellectual identity and career trajectories of interdisciplinary doctoral students? It would also perhaps be valuable to investigate the steering effects of the REF and research councils - and other funders - on the shape and configuration of knowledge production across and within disciplines.

Doctoral/Research Policy and REF Returns

What effect might CDTs/DTCs/DTPs have on REF returns and institutions' subsequent in-/eligibility for inclusion in doctoral training entities? Given that the Environment category is partly dependent on doctoral numbers, then having - or not having - access to research council doctoral funding might negatively affect an institution's REF performance. This, to some extent, may depend on the extent to which doctoral provision is embedded within broader research strategies. Connected with this, staff at Returner institutions stated that having a non-ESRC doctoral training centre/partnership served as institutional capital when applying for involvement with a DTP. They fared relatively well - at least in terms of doctoral numbers - while outside the ESRC funding circle, but they were only outside it for a relatively short period and were involved in other doctoral partnerships. It may be that DTPs et al represent a Catch-22 in that you have to be a member of the group in one broad disciplinary area to be able to access others. If this is the case, there is a danger that (even more of) a 'closed shop' develops in that the number of institutions with external doctoral funding remains static over time.

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Appendix 1: Sample - Insider Institutions

DTC	University/HEI #	Staff/Role	Student - Status
Single DTC A	1	Academic	-
Single DTC C	2	-	International - HEI
Single DTC B	3	Academic	-
Joint DTC A	4	Academic	UK - ESRC
Joint DTC B	5	Academic	UK - ESRC
Joint DTC C	6	Academic	UK - EPSRC
			EU - AHRC/Own Country
	7	Academic	UK - ESRC
			International - HEI
	8	Academic	-
	9	Academic	-
10	-	-	EU - HEI
			UK - HEI/Self
Joint DTC D	11	Academic	-
	12	Academic	EU - ESRC/Self
			UK - Self
13	-	UK - AHRC	
Joint DTC E	14	Academic	-
	15	Academic	-
	16	-	UK - Employer
Joint DTC F	17	-	UK - ESRC
Joint DTC G	18	-	International - ESRC

Appendix 2: Sample - Non-Insider Institutions

Pre-/Post-92	University/HEI #	Staff/Role	Student - Status
Pre-92	19	Academic	-
	20	Academic	UK - HEI
			UK - HEI
	21	Academic	UK - HEI
	22	Academic	International - Self
			UK - HEI
			UK - HEI
	23	Academic	-
	24	Non-academic	-
	25	Academic	International - Own Country
	26	-	UK - HEI
	27	-	UK - HEI
28	-	International - Own Country	
Post-92	29	Academic	-
	30	Academic	-
	31	Academic	-
	32	Academic	-
	33	Academic	-
	34	Academic	UK - HEI/Self
	35	Academic	-
	36	Non-Academic	International - HEI
	37	Non-Academic	UK- Self
	38	Non-Academic	-
	39	Academic	-
	40	-	EU - HEI
	41	-	UK - HEI/Self