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Abstract

Numbers increasingly govern public services. Both policymaking activities and administrative control are increasingly structured around calculations such as cost-benefit analyses, estimates of social and financial returns, measurements of performance and risk, benchmarking, quantified impact assessments, ratings and rankings, all of which provide information in the form of a numerical representation. Through quantification, public services have experienced a fundamental transformation from "government by rules" to "governance by numbers", with fundamental implications not just for our understanding of the nature of public service itself, but also for wider debates about the nature of citizenship and democracy. This project scrutinizes the relationships between quantification, administrative capacity and democracy across three policy sectors (health/hospitals, higher education/universities, criminal justice/prisons) and four countries (France, Germany, Netherlands, UK). It offers a cross-national and cross-sectoral study of how managerialist ideas and instruments of quantification have been adopted and how they mattered. More specifically, it examines (i) how quantification has travelled across sectors and states; (ii) relations between quantification and administrative capacity; and (iii) how quantification has redefined relations between public service and liberal democratic understandings of public welfare, notions of citizenship, equity, accountability and legitimacy.

Project Description

1/ Aims and background of the research

The business of government is increasingly run with a calculator to hand. Both policymaking activities and administrative control are increasingly structured around calculations such as cost-benefit analyses, estimates of social and financial returns, measurements of performance and risk, benchmarking, quantified impact assessments, ratings and rankings, all of which provide information in the form of a numerical representation. Through quantification, the public services have experienced a fundamental transformation from "government by rules" to "governance by numbers", with the aim to produce a self-regulating human society (Bröckling 2007; Bröckling et al. 2000; Bruno and Didier 2013; Desrosières 2014; Hood 1991, 1995; Mennicken and Vollmer 2007; Miller 2001; Miller and Rose 1990, 2008; Muniesa 2014; Muniesa and Linhardt 2011; Power 1997, 2007; Supiot 2012).

There are signs everywhere that this "quantitative turn" is making a profound impact on the way essential public services are organized, controlled and delivered. The quantification of control in the public services has fundamental implications not just for our understanding of the nature of public service itself, but also for wider debates about the nature of citizenship, democracy and the state, as well as for understandings of public administration. This project charts and explores those implications.

It scrutinizes the relationship between quantification, administrative capacity and democracy across three well-defined policy sectors (health/hospitals, higher education/universities, criminal justice/prisons) and four countries (France/Germany/Netherlands/UK). **How has quantification altered modalities of governing and control in the public services, and with what consequences for the users of these services and public administration more generally?**

More specifically, it examines:

(i) *How quantification travels*; how different instruments of quantification have spread across these different nation states and public service sectors in Europe;

(ii) *Relations between quantification and administrative capacity*; how different instruments of quantification have impacted on and placed specific demands on administrative capacities; and

(iii) *Relations between quantification and democracy*; how different instruments of quantification have redefined relations between public service and public welfare, notions of citizenship, equity, accountability and legitimacy.

At the centre of the project is a concern with the power of quantification in altering the governance, organization and delivery of public services. For numbers and tools of quantification are not only devices of rational rule and administration. They fundamentally alter understandings of what it means to govern, and they shape and change understandings of the role of public services. This project analyses tools of quantification as "technologies of government" (Miller and Rose 1990; Rose and Miller 1992), which alter the power relations that they are embedded within and enable new ways of acting upon and influencing the actions of individuals (Foucault 1979/1991; Mennicken and Miller 2012, 2014; Miller 1990, 2001; Miller and Rose 2008).

The project pays particular attention to two sets of interconnected issues.

First, it scrutinizes linkages between quantification and economization (Bröckling et al. 2000; Çalışkan and Callon 2009; Linhardt and Muniesa 2011; Miller and Power 2013; Rose 1996). It explores the hypothesis that quantification is a mechanism by which the economization of organizational life becomes elaborated and institutionalized (Miller and Power 2013: 558) (Boltanski and Chiapello 1999). In this context, particular attention is paid to today's "age of austerity" (the pressure to squeeze public spending) (Schäfer and Streeck 2013) on instruments of quantification and administrative capacity, and the control over public services more generally. Tools of quantification are used in the definition and determination of public service success and failure (Kurunmäki and Miller 2013); decisions concerning the rationing of public services (e.g. rationing healthcare or limiting access to study programmes); and the realization of aims of "economy, efficiency and effectiveness". How are boundaries between the public and the private redrawn through processes of quantification and economization? How interlinked are quantification and economization, given that instruments of quantification (e.g. performance ratings) have also been called upon to *mediate between* conflicting values in the public services (e.g. objectives of economy and quality)?

Second, the project investigates cross-sectoral and cross-national similarities and differences (i.e. the implication of quantification in different "governmentalities"). Despite the spread and growing influence of calculative infrastructures across public services (Moynihan 2005; Moynihan and Pandey 2010; Pollitt 1993), relatively little systematic attention (in the form of cross-sectoral and cross-national comparative analysis) has been devoted to the ways in which tools and practices of quantification and calculation have travelled across different sectors and countries, and how they have altered modalities of governing in the organisation and delivery of public services in this process (but see Rothstein et al. 2013). To paraphrase Power (2009), we need to be less focused on "constraints" of national context and more sensitive to the dynamics evolving between and across different states and public service sectors, triggered e.g. by the adoption of similar new public management instruments (such as benchmarking, performance measurement, quality management, rankings, ratings, and impact assessments).

Research activities most often are either nationally focused (e.g. Bevan and Hood 2006; Broadbent et al. 2010; Bruno and Didier 2013; Eyraud 2013; Hood 2006; Kelman 2006; Kurunmäki 1999; Lapsley 1994; Muniesa and Linhardt 2011) or concentrated on one particular public sector (such as healthcare, higher education or the prison service) (e.g. Akrich and Callon 2004; Bastow 2013; Boin 2001; C. Huber 2009; M. Huber 2012; M. Huber and Rothstein 2013; Juven 2013a; Karsten et al. 2010; Kurunmäki et al. 2003; Liebling 2004; Meister-Scheytt and Scheytt 2005; Mennicken 2013; Schimank 2008). This study offers a unique contribution by bringing together and confronting different strands in the literature on public sector reform and "New Public Management" that have, as yet, mostly received siloed attention in the literatures in political science/public administration, accounting, sociology and law.

The project brings together leading scholars in the fields of Public Administration (New Public Management) and quantification from different academic disciplines (accounting, public administration, sociology, science and technology studies) and four different countries (France, Germany, Netherlands, UK) to develop a novel, joined-up approach to the study of quantification in public sector governance.

Instruments of quantification, such as the balanced scorecard, performance ratings and rankings, have travelled the public sector (and the world) as standardized, universalized tool (Davis et al. 2012; Qu and Cooper 2011), yet their day-to-day operation, uses and effects depend on the institutional structures, administrative capacities (e.g. analytical capacities and enforcement capacities) and the cultural specificity of the contexts within which they are put to use (Higgins and Larner 2010; Scheytt and Soin 2005). At the same time the quantification instruments themselves affect the contexts they pass through. New (accounting) entities are created via quantification (e.g. cost centres) (Kurunmäki 1999; Mennicken 2013). New infrastructures are built around quantification instruments, which challenge and change existing organizational structures, working arrangements and political visions (Muniesa and Linhardt 2011; Shaoul et al. 2012). New calculative expertise enters the public services (via accountants, financial advisers (Cooper and Taylor 2005; Shaoul et al. 2007)), which redefine existing working routines and understandings, including concepts of quality and associated notions of professionalism. Moreover, increasing cooperation among public management experts across national borders, and standardization at supra-national level, question specificities of national public management styles.

Yet, the degree to which quantification has challenged and changed public services is an open empirical question. This project investigates the extent to which quantification and calculation have penetrated the control over public services, and with what effects. In this context, attention is also paid to what happens when quantification is absent. What realms in the sectors we study remain excluded from quantification and why? Why are many countries/sectors still embracing quantification even when there are no observable benefits to date? Why does quantification not take hold in contexts where it would promise benefits?

The project traces different registers of quantification employed in public sector governance, their emergence and change, particularly in the context of the financial crisis, and consequences for the delivery, organisation and governance of public services across Europe. In so doing, the project will deliver:

- A cross-disciplinary, international research infrastructure for the study of control over public services.
- A database that allows for the cross-sectoral and cross-national comparison of quantification of control over public services.
- Research and practitioner-related outputs that address the quantification of control over public services. These outputs will not only be of relevance for academics concerned with causes and consequences of New Public Management, but also for policy makers and the users of public services.

2/ Position in the context of existing research

This project offers a timely cross-national and cross-sectoral study of how managerialist ideas and instruments of quantification, contractualization, privatized or quasi-market forms of service delivery and performance pay, performance and quality measurement, impact assessments and rankings, have been adopted and how they have mattered and are mattering across Europe. Public services are said to have been fundamentally transformed by over thirty years of exposure to managerialist thinking, often labelled "New Public Management" (Broadbent and Guthrie 1992, 2008). Over a decade ago, Hood et al. (2004) diagnosed considerable variety of experiences across seven countries (Hood 1995, 2007). However, since then many countries have witnessed considerable changes in the way they govern their public sectors. The significance of spending watchdogs, quality checkers and league tables has arguably become even more important, as noticed particularly in the area of higher education but also in hospitals and prisons (see e.g. the hospital ratings and prison ratings in the UK, hospital ratings in Germany, and the introduction of activity-based costing in French public hospitals).

In addition, public services across Europe have witnessed considerable challenges over the past decade. One challenge has been the diagnosed trend towards "post-NPM" (Christensen and Laegreid 2011), namely the argument that there has been a growing emphasis on outcome rather than output measurement since the 2000s; and we have seen a growing emphasis on ethics and collaboration. Collaborative governance is often seen as adding to democratic legitimacy (Sørensen and Torfing 2014). Whether such changes have actually taken place has only rarely been explored (Lodge and Gill 2011). Importantly, the financial crisis has placed extensive, still on-going and possibly even strengthening, financial pressure on states, and therefore also on how public services are governed (Lodge and Hood 2012).

Furthermore, public sector governance can no longer be treated as a distinctively national affair. There has been a growing evolution of internationally operating private providers in the public services, especially in the area of prisons but also healthcare, and with mixed results. In higher education and the governance of science, national systems are said to be increasingly evolving into a European-wide, if not international competition for students, research staff and funding. Globalization, EU harmonization attempts, and international standardization (ISO quality standards; international public sector accounting standards; transnational corporate governance codes) have enabled and conditioned debates about, and practices of, public sector governance. This has been evident in particular in the rise of international ranking exercises (Espeland and Sauder 2007; Hood and Dixon 2008).

There has been considerable debate about the shift towards "governance by numbers" (Lascoumes and Le Galès 2005; Miller 2001; Supiot 2012). According to Supiot (2012) governance by numbers relies on acts of quantification (the subsuming of different beings and situations under the same unit of account) and on programming behaviour (e.g. through techniques of benchmarking and ranking), which *replaces* human judgement, and relies on a cybernetic dream of putting human affairs on autopilot, where governments are no longer expected to act in accordance with European laws, but to react in real time to quantified signals. This project contests Supiot's claim that quantification (in the form of performance measurement, benchmarking and ratings) *replaces* judgement, and the entirely pessimistic view about the effects that accounting and quantification more generally have on the world. Although performance measurement, ratings, rankings and other devices of quantification can have undesirable effects on the governance of public services – see Espeland and Sauder (2007; 2009) on the effects of law school ratings, Bruno and Didier (2013) on benchmarking in the French public sector, Pontille and Torny (2010) on bibliometric ratings, and the conclusions of The Mid Staffordshire NHS Foundation Trust Public Inquiry in Great Britain (Francis QC 2013) – numbers can also be invested with hope. Espeland and Stevens (1998) have argued that quantification can offer "a rigorous method for democratizing decisions and sharing power", particularly in situations "characterized by disparate values, diverse forms of knowledge, and the wish to incorporate people's preferences" (see also Bruno et al. 2014; Desrosières 2002; Porter 1995). This raises the question of the extent to which numbers, such as prison performance measures, university rankings, or quantified hospital assessments, can be called upon as a "mediating instrument" (Miller and O'Leary 2007; Morrison and Morgan 1999) where different, potentially conflicting values are at stake. To what extent can quantification be appealed to as a link connecting a multitude of actors and domains, mediating between disparate values and rationalities, such as those of security, economy, decency and rehabilitation in the case of prisons; economy, care and quality in the case of hospitals; or excellence, efficiency and innovativeness in the case of universities? This is a question that we cannot answer a priori; our empirical investigation will, however, help to answer it.

Once it has been established how far quantification in the form of economization has penetrated the control over public services, fundamental challenges for the understanding of democracy (in terms of participation and citizenship) can be discussed: (i) the relationship between responsibility and accountability and the role of individual responsibility in quantified accountability regimes; (ii) questions about power and consequences of shifts in power and sovereignty through quantification; and (iii) questions about legitimacy and different sources of legitimation and their societal consequences. In addition, quantification represents a challenge for bureaucracy, namely (iv) how administrative capacities are enhanced through such instruments, and (v) what administrative capacities are presumed and required to make instruments of quantification operable. This project seeks to produce sound input for debates on the mounting societal critique of neoliberal government in Europe and on the critical consequences of societal reaction to what Michel Foucault termed "politics of economization" (Linhardt and Muniesa 2011).

3/ Theoretical foundations and methodology of the research

Numbers have a distinctive capacity for acting on the actions of others. Through their ability to produce certain forms of visibility and transparency, accounting and other numbers both create and constrain subjectivity (Miller 1992, 2001). They configure persons, domains, and actions as objective and comparable. This, in turn, renders them governable. To get to grips with these inner workings of "governmentality" (Foucault 1979/1991, 2008), this project examines how quantification has been utilized in projects of social "welfare" from the early years after World War II until the 1970s, and, more importantly, how the role of quantification has changed in the context of neoliberal, market-oriented governmental reform from the 1980s onwards. It explores whether and how quantification has changed demands on administrative capacities (Lodge and Wegrich 2014); and how instruments of quantification are involved in the production of new subjectivities and forms of personhood (Miller and Rose 1995, 2008; Rose 1989, 1991). In so doing, specific attention is placed on the relations and dynamics between quantification and economization. Economization is characterized by an increased focus on objectives of profit maximization/cost minimization, competition and calculation, which can, but must not always, imply marketization and privatization (Schimank and Volkmann 2008) or financialization (Froud et al. 2000; Froud and Williams 2001). Instruments of quantification, we hypothesize, do not simply inform economic decision-making, but in many cases constitute the domain of economic activity itself (by defining new accounting entities, cost/profit centres, and configuring calculating and calculable minds) (Boltanski and Chiapello 1999; Çalışkan and Callon 2009, 2010; Callon 1998; Kalthoff 2005; Miller 1992; Miller and Power 2013; Rose 1988; Vormbusch 2012).

These concerns are explored through three core themes of the project:

(i) ***How quantification travels.*** Whereas some authors have emphasized the universal and homogenizing force of quantification across sectors and countries, studies have also pointed to institutional differences in dynamics and trajectories of reform of control over public services (Hood et al. 2004). This project offers a focused exploration of how quantification has travelled across sectors, jurisdictions and time. It pays particular attention to changes since the mid-1980s and the impact of the 2008 financial crisis. One of the key arguments in the historical institutional literature has been that regardless of international, standardized reform language (facilitated by settings such as the OECD), actual reforms have continued to be shaped by distinct national/local/regional patterns. To what extent do different "state traditions" matter due to the importance of particular legal doctrines, assumptions about the "appropriate" role of public services, and the ability of reform-minded politicians and bureaucrats to execute change? It has been argued that contemporary reforms in the control over public services are largely characterized by the distinctiveness of particular sectors. The rise of international markets in education, for example, can be said to have had a greater homogenizing effect on how higher education is being controlled than other sectors. At the same time, the internationalization of service providers might similarly be said to provide for a source of diffusion of ways in which public services are being controlled.

(ii) ***Quantification and Administrative Capacity.*** Changes to the control over public services have commonly been associated with a shift within government from production/delivery to more regulatory functions. This project explores whether and how quantification has given rise to a shift in demands on administrative capacities (e.g. expectations regarding analytical skills, regulatory capabilities, legal, staff or financial resources) (Lodge and Wegrich 2014). To what extent do tools of quantification advance the capacities of public administrations across sectors and states in terms of being able to monitor and steer? What are the administrative pre-requisites for such instruments to have their intended effects? How have instruments of quantification been adapted to depleting public budgets in the aftermath of the 2008 financial crisis? Has there been a trend towards (deepening) economization? Have there been signs of resistance to, and disappointment in, the tools of quantification, and are there signs of a wider crisis of instruments of control, given scandals and failures in the domains under investigation, or the regulation of public services more generally?

(iii) ***Quantification and Democracy.*** Instruments of quantification are integral to the ways in which democracy is justified and operationalized as a particular set of mechanisms of rule (Desrosières 2002; Miller and Rose 2008; Porter 1995; Rose 1989, 1991). What, then, is the relationship between tools of quantification and questions concerning democracy, especially in terms of issues of quality, societal equity and fairness in the delivery of public services? To what extent can instruments of quantification (such as ratings, rankings and other performance measures) be called upon to mediate between conflicting values and rationalities engrained in public service governance (mediating between objectives of economy and values of fairness, equity, and public welfare)? What roles do they play in processes of inclusion and exclusion, political deliberation and participation?

By exploring these questions, the research will respond to key claims in the literature, namely (i) whether quantification is a universal, converging trend, (ii) whether quantification is leading to homogenizing pressure on public administration in the form of administrative capacities, and (ii) whether quantification is associated with changes in understandings of subjectivities, personhood and citizenship. More specifically, our project offers first systematic, comparative insight into emerging responses to the post-2008 financial crisis world.

Research design

This study utilizes a cross-sectoral, cross-national research design. The study builds in part on the earlier study by Hood et al. (2004), so as to compare change over the past decade or so. However, the study deepens the scope of the earlier study by concentrating on three sectors and by focusing primarily on control instruments of quantification (Lascoumes and Le Galès 2005) and processes of economization.

The three sectors, higher education/universities, healthcare/hospitals and criminal justice/prisons have been chosen as they have been particularly exposed to managerialist thinking over the past three decades and present ideal cases to explore tensions between "government by rules" and "governance by numbers". All three of them pose particular challenges for quantification. One is that the measurement of outputs and outcomes is problematic. Arguably, all three sectors are able to produce some form of output data. Yet, how they contribute to overall outcomes is highly problematic. Furthermore, there are inherent conflicts regarding the outputs that are being measured, highlighting not just tensions between different values (efficiency vs. equity vs. redundancy), but also potential dynamics towards prioritizing quantifiable over, potentially more important, non-quantifiable matters. Moreover, all three sectors have been, to different degrees, exposed to ideas of economization and marketization. While in the Germanic area the higher education sector has seen fewer changes in legal form and ownership than the correctional services or healthcare sector, the higher education sector still has experienced quantification in the form of output measurement, and excellence initiatives that have transformed budget allocations and governance arrangements (Meister-Scheytt and Scheytt 2005; Schimank 2008). Also in France scientific research conducted in higher-education institutions has been subjected to controversial performance measures (Muniesa and Linhardt 2011). Similarly, prisons have experienced considerable change over the past decade, with ideas of outsourcing and "private public partnerships" gaining increasing currency (Akrich and Callon 2004; Bastow 2013; Lodge and Wegrich 2005).

Across nations there has been an emphasis on growing "hybridization" (Ferlie et al. 2013; Kurunmäki 2004) in terms of health professionals having to accommodate managerialist as well as professional role understandings (Broadbent et al. 1997; Juven 2013a, 2013b). This tendency may vary according to different strategies to privatize public services in different countries. In Germany the private ownership of hospitals has grown over the last decade from 14.8% to 34.8% (Statistisches Bundesamt 2013). On the other hand, the vast majority of German prisons are state-run and owned. In contrast, the UK has Europe's most privatized prison system with 15 completely privatized prison establishments and various public-private partnerships in the remaining 111 public institutions.

Further, there are differences in degrees of internationalization – higher education is arguably shaped by an increasingly internationalizing recruitment and student market base and by international scientific competition; prisons are characterized by the presence of internationally active private service providers; whereas hospitals remain mostly entrenched in national contexts. The three sectors have witnessed varied degrees of attention in scholarship on public sector governance. While there has been considerable attention to the effects of managerial reforms in the health sector, and, to a lesser extent, higher education and prisons, attention has largely focused on sectoral and single country studies. This study offers rare comparative insight into cross-sectoral dynamics that will point to those aspects that remain "sui generis" and those that are shared between sectors.

The cross-national research design seeks to maximize variation. According to Politt and Bouckaert (2011), public management reforms in Germany and France have been far less extensive than those in the UK, and, to a lesser extent, the Netherlands, but the Netherlands is rapidly catching up. The different jurisdictions are said to belong to different state traditions, which are said to matter for openness to managerialist ideas (Hood et al. 2001). At the same time, both Germany and the UK offer examples of federal, or devolved jurisdictions.

This raises particular challenges for the study of the three domains in these two states. In the UK, the research will encompass the three countries of Great Britain (excluding Northern Ireland); in Germany, the research will select, after an initial scanning across the 16 Länder, a smaller number of Länder for closer investigation, based on the principle of maximizing variation in terms of party-political, economic and geographical (east/west) composition. For France, the research will balance the centrality of Paris with research in other regions.

The project will follow a unified approach across the different sites for exploration. It combines both quantitative as well as qualitative information. In terms of quantitative information, we will trace changes in control over time (expenditure, staff, reporting). In terms of qualitative research, we will utilize documentary material, interview material and notes from participant observations (Spradley 1980). Qualitative research is an appropriate methodology for this project, because of the exploratory nature of our questions. Our research design focuses on the different layers of public sector governance (macro, meso, micro; Schimank and Volkmann 2008), from the political level (regulators, ministry officials), to representatives of individual organizations (senior managers, public and private) to those who "consume" public services, to gain an in-depth understanding of localized practices (Eisenhardt 1989). The selection of interviewees will follow a process of theoretical sampling (Glaser and Strauss 2012) and the identification of paradigmatic cases (Flyvbjerg 2006). Interview-based fieldwork will be conducted in two waves, one focusing primarily on sector-specific dynamics. The second wave of interviews will explore the impact of particular tools of quantification across sectors and jurisdictions.

Common tools for analysing, coding and evaluating the empirical materials are employed to map cross-sectoral and cross-national commonalities and differences. This will allow for a comparative database on the different quantification instruments that have been utilized in the different sectors, what kind of quantification has taken place and how. Interviews and participant observations will be required to explore in greater depth the consequences of "governance by numbers" (and/or their absence).

Such a research design leads to a number of risks. One key risk is access, especially in highly sensitive domains such as prisons. This risk is minimized, first, by relying in the first instance on publicly available information about the spread and utilization of quantification and economization in the different domains. Second, the researchers combine considerable experience in the different domains, and therefore have experience in negotiating access to the different sectors (Boin, Mennicken, Lodge in prisons; Muniesa, M. Huber, Scheytt in higher education; Kurunmäki, Miller, C. Huber, Scheytt in hospitals).

4/ Work plan

The project builds on existing collaborative research relationships (between Kurunmäki/Mennicken/Miller; Boin/Lodge; C. Huber/Mennicken) and it establishes new ties and research co-operations across all teams. To facilitate joint working, a joint website will be created to promote the sharing of documents and other information (hosted by CARR/LSE). There will be biannual project meetings involving all national research teams. Meetings will rotate across the different institutions. We will also institute a cross-institutional visitor scheme to facilitate collaborative research. While each PI is responsible for their specific team and activities, Mennicken will be responsible for the overall management of the project and chair the management board of all the chief PIs in the project.

The project will compare three public service sectors (hospitals, prisons, higher education) across four national settings (France, Germany, Netherlands, UK) on which collectively the PI-s and Co-Is have experience and expertise.

As a first step, teams will conduct **desk-based reviews of the quantification instruments** used in the three sectors in the four countries. The reviews will be supplemented with an analysis of key policy documents detailing regulatory programmes and practices, legal frameworks, and accountability structures to contextualize quantification trends. A historical perspective will be applied (main focus 1980-now, with limited study of the period 1945-1979 for comparative purposes), to identify differences/similarities across the different sectors and countries and to trace dynamics of change within and between them over time.

The desk-based reviews will be complemented with **secondary literature reviews** of the application and spread of quantification instruments in the public services internationally. The UK team will take responsibility for the conduct of these and will upload results onto the project's website/server.

Four project meetings will be held at the beginning, mid- and endpoints of these reviews to share findings and identify/discuss hypotheses about patterns and drivers of quantification in the different sectors and countries. To minimize travel costs two of these meetings will be held via Skype.

As a second step, specific quantification instruments (e.g. weighted performance ratings and rankings, quantified impact assessments) will be selected for **comparative in-depth case studies**. Selection will be based on the results of the reviews above (selection rationale: prominence of the quantification instruments in the different sectors/countries; degree of diffusion). The case studies will examine how these specific instruments have travelled across the four countries and three sectors and with what effects. The case studies will involve **in-depth interviews, documentary analysis, and participant observations**. It is planned to conduct 20-30 interviews per sector, per country (approx. 240-360 interviews in total). A small number of additional interviews will be held in Brussels to cover EU dimensions of quantification.

Interviews will be held with government officials, line managers, street level workers, and key stakeholders in each sector (including interest group representatives, e.g. from prison interest groups, patient interest groups). Interviews will be recorded and transcribed. Where participant observations are conducted, detailed field notes will be taken. Fieldwork will be conducted in the native languages of the selected countries. A short English summary will be written for interviews not conducted in English. Interviews of specific importance will be translated into English.

In terms of **team specific responsibilities**, each team will support research in their national jurisdiction. To promote integrated analysis, responsibility per sector will be shared between two teams (with some scope for flexibility). In addition, post-doctoral researchers (RAs) will be recruited who each will be in charge of one particular sector. Each RA will be based in a different team and country. Case and country responsibilities will be finalized in the first two months of the project to best fit linguistic, sector-specific and other competencies of the recruited RAs and teams. The bulk of interviews will be conducted by the RAs. Relevant country teams will support the RAs logistically. PI-s and CO-Is will support the RAs in their fieldwork (provide guidance, help with access), and they will be directly involved in the conduct of interviews and/or participant observations, where their expertise will be valuable.

For the **data analysis** and **data storage**, we will use a joint software package (NVivo). We will store all data on a server in Bielefeld. This facilitates collaboration across borders and the creation of one single dataset. Teams will collaborate in the coding of the interview and other documentary materials (through application of shared and iterative coding techniques). NVivo will be used for systematic archiving purposes and systematized qualitative data analysis.

Altogether, six joint project meetings will be held (2/London, 1/Paris, 1/The Hague, 1/Hamburg, 1/Bielefeld). Monthly Skype conference calls between all PIs will be held to monitor overall progress. In addition, monthly sector-specific project meetings will be held via Skype to analyse sector-specific findings and progress. Two dissemination conferences will be held for engagement with key stakeholders (policy makers and users of public services), and one public end-of-project conference.

Table 1: Project schedule

Months 1-2: Joint project meeting to fine-tune research questions, establish joint ethics statement and dissemination strategy, and allocate tasks to research officers recruited for this project.
Months 3-11: Desk-based research to establish database of quantification attempts/instruments across three public services (shared by all teams).
Month 7: Joint project meeting to discuss interim findings.
Month 11: Joint project meeting to further process findings and finalize research framework for sectoral studies.
Month 12-18: First wave of Interviews.
Month 17: Joint project meeting to discuss findings and agree on areas for further exploration.
Months 19-24: Second wave of interviews.

Month 24: Joint project meeting to draw up preliminary findings.

Months 25-33: Follow-on research, writing up of research and policy papers.

Month 30: Joint project meeting to discuss and provide feedback on project write-ups.

Months 34-36: Completing of working documents. Two dissemination workshops with relevant stakeholders and concluding conference.

Table 2: Project schedule with work packages

		2016				2017				2018				
	quarter	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	*Q1*	*Q2*	*Q3*	*Q4*	
work packages	*month*	*1*	*4*	*7*	*10*	*13*	*16*	*19*	*22*	*25*	*28*	*31*	*34*	*explanations*
1 first step: preparatory analysis														
desk-based reviews of the quantification instruments		■	■	■	■									key policy documents detailing regulatory programmes/practices, legal frameworks, accountability structures to contextualise quantification trends
secondary literature reviews		■	■	■	■									application and spread of quantification instruments in the public services internationally
design and development of the database				■	■									database of quantification attempts/instruments across three public services (shared by all teams)
2 second step: comparative in-depth case studies														
interview design				■	■									
in-depth interviews														
- first wave of Interviews	12-18				■	■	■							work in three public services
- second wave of interviews	19-24							■	■					selective case studies to trace impact of instruments (including conduct of participant observations)
documentary analysis				■	■	■	■	■	■					
participant observations					■	■	■	■	■					
3 project coordination														
establishment of project infrastructure		■												e.g. joint internal website, communication infrastructure
joint team meetings														six project meetings: 2 in London, 1 in Paris, 1 in The Hague, 1 in Hamburg, 1 in Bielefeld
- first joint team meeting	1-2	■	■											to fine-tune research questions, to establish joint ethics statement and dissemination strategy, and to allocate tasks to research officers recruited for this project
- second joint project meeting	7			■										to discuss interim findings
- third joint project meeting	11				■									to further process findings and finalise research framework for sectoral studies
- fourth joint project meeting	17						■							to discuss findings and agree on areas for further exploration
- fifth joint project meeting	24								■					to draw up preliminary findings
- sixth joint project meeting	28										■			to discuss and provide feedback on project write-ups
monthly skype conference calls between all Pis		■	■	■	■	■	■	■	■	■	■	■	■	in order to monitor overall progress of the project
monthly sector-specific skype project meetings		■	■	■	■	■	■	■	■	■	■	■	■	in order to discuss and analyse sector-specific findings and progress
4 publication of findings and knowledge exchange														
follow-on research	25-33									■	■	■		
writing up of research and policy papers	25-33									■	■	■		
completing of working documents	34-36												■	
dissemination and knowledge exchange workshops	35-36												■	engagement with key stakeholders, including policy makers and users of public services
concluding conference	36												■	one end-of-project conference, also open to the public

5/ Expected output / Impact and dissemination (both academic and non-academic)

The project will deliver leading international research on one of the most pressing questions in the world of research and practice, namely the future of the control of public services. Apart from academic papers, a joint research volume and policy briefings, this project will deliver (i) a comprehensive cross-sectoral and cross-national database to indicate the spread of quantification in the three sectors and four countries, (ii) a comprehensive record of the consequences of quantification and economization on the public services, and (iii) a framework to assess administrative capacities in an age of quantification and economization.

There are three beneficiaries from this study:

- *Academic researchers and students:* The study will produce a range of research outputs for high-level international publications, a joint volume with an international press, and working papers contributing to the international and cross-disciplinary literature on the governance of public services. The outputs will be of particular relevance given the novel approach of this study, namely its bringing together of different disciplinary concerns, its cross-sectoral and cross-national perspective, and its direct relevance to contemporary debates on the governance of public services.
- *Opinion-shapers:* The study will directly engage and interact with opinion-shapers. The study's research, and its outputs are of direct relevance to debates about the future shape of public services, and the ways in which new forms of delivery can be controlled and regulated. The project will produce special practice-oriented outputs, such as policy briefs, and hold practice-oriented seminars to engage directly with opinion-shapers across all four jurisdictions. Particular emphasis will be on bringing together the different opinion-shapers in the different sectors to expose them to similarities and differences *across* sectors and jurisdictions.
- *Practitioners:* The study is of direct relevance to those involved in the control of public services as it offers a much-needed comparative analysis of an important trend in contemporary governance. To maximize the impact in the world of practice, the research will be initiated, conducted and finalized in close interaction with the world of practice, e.g. by using CARR's visiting fellows and policy advisory group, as well as other international experts to comment on and discuss emerging findings. We will integrate practitioner

contributions during group research meetings, and hold practitioner-related seminars as well as publish policy briefs throughout the project. We will co-operate with LSE's Institute for Public Affairs to maximize impact. We will work with the Leiden University Campus in The Hague to connect directly with top-level public administrators in the national government in the Netherlands.

To facilitate knowledge exchange and engagement, we will further establish an advisory committee consisting of members from all three beneficiary groups. Initial members (invited) are Kai Wegrich (Hertie School of Governance Berlin), Jeremy Lonsdale (RAND Corporation UK), Philippe Bezes (CNRS-CERSA), Sandra Resodihardjo (Radboud, Netherlands) and Christiane Arndt (OECD).

To support the dissemination of findings the project's website makes publicly available all working papers, policy briefings, and short web-video films.

6/ Ethics

The research will be guided by our institutional and national codes of ethical conduct and national legislation. The interviews will be conducted on the principle of "informed consent": interviewees will be contacted and informed about the academic conventions guiding this research (especially "non-attributability"). The research does engage with "users", and in particular in the hospital and prison sectors also "vulnerable" individuals. We will ensure that participation is on the basis of consent, and agreed with the responsible authorities so as to minimize risks to researcher and research population. Furthermore, our research is not interested in individual-level data per se, and where such data is being provided, it will be anonymized.

The research raises issues regarding "incidental findings". Partly this aspect will be governed by national legislation (i.e. the incidental discovery of illegality or potential threat); partly this will be governed by professional codes of conduct to ensure that there are no additional risks to researchers and research participants. The research focus offers only limited scope for incidental findings; at most these are likely to arise in the case of the study of impacts/consequences. Here the research will restrict itself on concentrating solely on findings that were generated under conditions of informed consent, offering participants the opportunity to comment on the factual accuracy of our research.

7/ Data management plan

Data will be drawn from interviews and participant observations, public and other documents, and the wider academic and practitioner literature. Attention will be on exploring cross-sectoral and cross-national dynamics of quantification by focusing on "the numbers" (the quantification instruments) and their consequences.

The team will establish a joint research framework to input the information for the database, and create a joint framework for the qualitative research into the different national public services. Selection of cases will follow the principle of maximizing insight into variation. The study will utilize a project-internal website (managed by the UK team) to share information. We will store all data on a server in Bielefeld. This will provide for backup and security provisions and minimize risk of data loss. The biannual team meetings and monthly Skype conference calls will be utilized to ensure data consistency and quality. The storage of information in the national research teams is governed by national legislation. Outside access to data will be granted after the completion of the project, once the information has been checked so as to ensure anonymity. Non-confidential data will be transferred to a publically accessible data archive.

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