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Comparing Comparative Research Designs

> 'Without comparisons to make, the mind does not know how to proceed.'
> Alexis de Tocqueville (as quoted in Almond & Brighman Powell, 1993, p. 3)

1.0 Introduction

Comparison is a basic component of enquiring and sense making (Weick, 1995). We tend to identify objects, subjects or ourselves through juxtaposition with something or someone else. This also applies to scientific enquiries (Frendreis, 1983), where the logic of comparing is central to a wide range of studies as well as different research traditions. In this chapter we explore the logic of comparing where comparison is not only an inherent but an explicit part of the construction of the research design. In these cases, the logic of comparing is the most suitable research design (de Vaus 2001:9). It is the best design to answer the question at hand; this means that the choice of using different kinds of comparative research designs is linked to the various (types of) research questions posed.

Put simply, as argued by Mills van de Brunt, and de Bruijn et. al. (2006) the main goal of comparative research is to search for or identify variance or similarity. This goal can however be accomplished in many different ways, among others depending on and this is why comparative research designs cover a multiplicity of research possibilities in terms of what to compare, how to compare, the purpose of comparing and the research tradition – inductive or deductive – in which the comparative research design is embedded. Often the approaches are described separately. The ambition of this article is not to give priority to one tradition in favour of another, but instead to bring the traditions together by comparing and thereby explicate the differences involved in conducting inductive and deductive comparisons in order to improve and inform future choices between the two approaches when conducting comparative research. This may be the reason why the two approaches are often presented separately. The ambition of this article is to provide a systematic comparison of the inductive and deductive approach to comparative research and explicate the differences between the approaches in order to provide a clearer basis for choosing approach to future comparative research.

Although comparative research design are often labelled in accordance with the empirical contexts in which our research subjects are compared – for example a comparative study of new public management reforms in Denmark, Norway and Britain – it is important to keep in mind that these are 'merely' empirical sites in which we investigate scientific problems. As scientific problems vary in scope, detail and character, the answer to the questions of what and how to compare entail a range of scientific reflections and choices. The comparative research design can for example be a strategy for comparing both large and small samples, i.e. it may be both variable and case-orientated (Ragin, 1987). Further these designs may be conducted at the macro, the meso or the micro-level (Burau, 2007), as for example the national bureaucracy, the administrative organization(s) or administrative behaviour (Jreisat, 2005). At all three levels the comparison may be either cross-national or conducted within the same national context.

The variety in terms of what and how to compare is closely linked to the question of the purpose of comparing. The comparative research design can be relevant for all the purposes we traditionally relate to scientific enquiring, and can thus be of descriptive, explanative as well as explorative in nature (Burau, 2007).

Further, comparative research designs cover studies, which find their inspiration from different research traditions. We find comparative studies conducted within realism and social constructivism (Gerring, 2004, p. 345), the comparative research design is advocated as the design for both theoretically deductive studies (King, Keohane & Verba, 1994) as well as inductive studies, such as the constant comparative method, the grounded theory approach (Glaser & Strauss, 1967). This variety is also reflected at the methodological level, where we find comparative studies which use either quantitative or qualitative methodologies (Ragin, 1987; Mills et. al., 2006) or a mix of both (Lieberman, 2005) and which produce diachronic as well as synchronic data.

As reflected in the introductory presentation, the comparative research design is characterised by great flexibility, openness and variety. In addition the comparative design may be the logical choice when answering questions aiming at developing valid theoretical concepts for describing empirical

phenomenon and questions aiming at identifying explanations. However, and in spite of many differences within the comparative research tradition, the logic of comparing can be broadly divided into two approaches – inductive and deductive comparative research designs. The two approaches, we argue, are equally valid when doing research of a descriptive, explanatory and explorative character, but, because of different logics of inquiry, the construction of the two different kinds of comparative designs entails different processes.

In our subsequent discussion we illustrate and elaborate the differences between the two approaches by including examples of different types of comparative studies from public administration and policy studies. Therefore we firstly provide a brief introduction to these studies. This provides a basis for, secondly, assessing more generally how the process of constructing comparative research designs differs, not only according to the type of research question posed, but also, according to whether one employs an inductive or deductive research approach. The different types of comparative studies are also used as illustrations in the subsequent discussions of the key design challenges involved in constructing and developing a comparative research designs following inductive and deductive approaches respectively, and of how internal and external validity is ensured in the two approaches.

2.0 Comparative research designs – examples from small N research designs in public Administration and Policy Studies

The comparative studies from public administration and policy studies respectively chosen are all case orientated comparing small Ns using diachronic data material. However, the studies differ in terms of whether they find their inspiration from either deductive or inductive research traditions, as well as in terms of whether they compare cases across or within national contexts, see figure 1. The studies include a comparison of the policies and politics of community nursing in Britain and Germany, a comparison of the social organization of maternity care systems in North America and Europe, a comparison of the institutionalisation of political advice in the Danish civil service and a comparison of the implementation of a Diabetes National Service Framework in British Primary Care Trusts.

Figure 1: Examples of various types of case-orientated comparative research designs

	Deductive	**Inductive**
Cross country comparison	Comparing the policies and politics of community nursing in Britain and Germany (Burau, 1999a, 1999c, 2005)	Understanding the social organisation of maternity care systems in North America and Europe (Benoit, Wrede, Bourgeault, Sandall, De Vries & van Tejlingen, 2005; Wrede, , Benoit & Sandall, 2006)
Comparative case-studies	Comparing the institutionalisation of political advice in the Danish civil service (Salomonsen, 2003)	Comparing the implementation of Diabetes National Service Framework in British Primary Care Trusts (Baeza, Fitzgerald & McGivern, 2007; Fitzgerald, Lilley, Ferlie, Addicott, McGivern, & Buchanan, 2006)

The studies will be elaborated as empircal illustrations in the subsequent discussions of the differences between the inductive and deductive approach to comparative research.

3.0 The purpose of comparing

The differences between inductive and deductive comparative studies approaches becomes evident both when considering the basis of explanation, the role of theory in the research, the challenges involved in designing the comparative studies as well as in the way different types of research questions are addressed. These differences are illustrated in figure 2. The figure reflects the ideal types of the two approaches. The distinctions between the two approaches become more blurred in the practical research process. The ideal type representation is however chosen as it is of value illustrating the differences

between the two approaches, which we argue is crucial to consider when making the initial choice on how to approach comparative research.

Figure 2: An overview of the differences between inductive and deductive comparative research

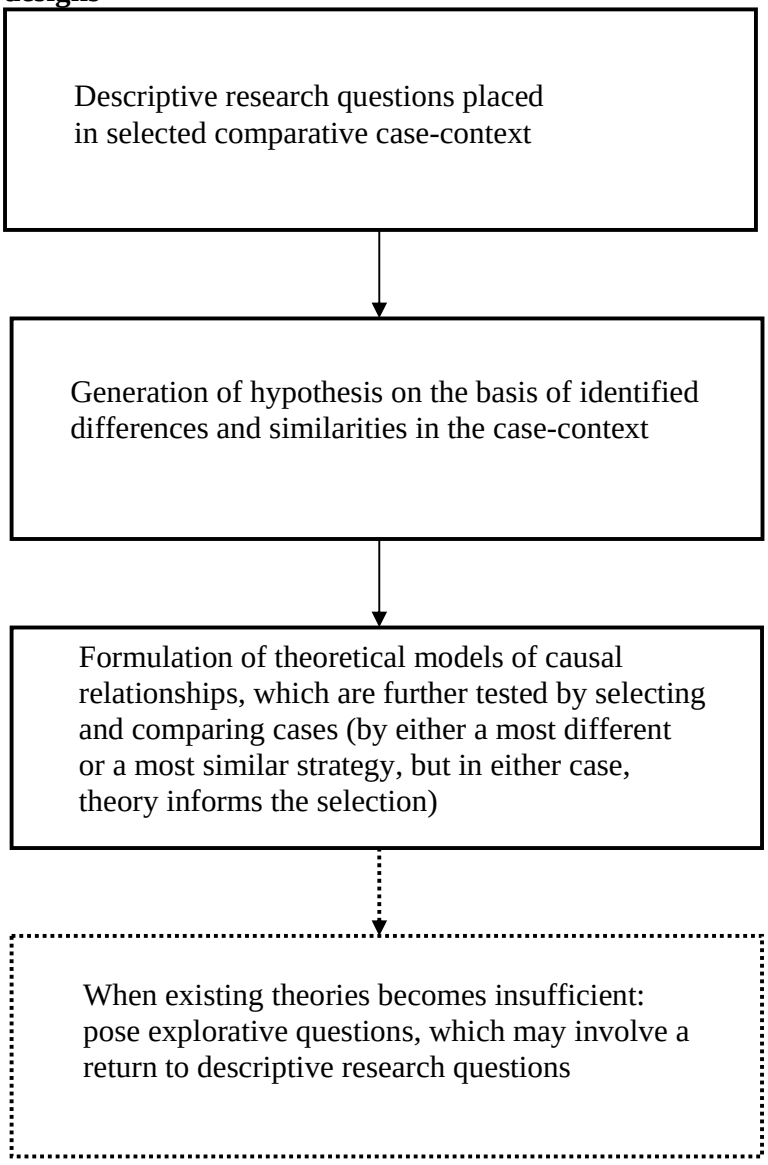
	Deductive comparative research designs	*Inductive comparative research designs*
Basis of explanation	***Causal relationship between dependent and independent variable***	***Understanding case in its complexity and how case relates to its contexts***
Role of theory	***Theory used to develop hypotheses which comparative research design tests***	***Ongoing dialogue between theory and case to identify research questions, case and units of analysis***
Challenges	***Simplifying context:*** Clearly identifying which independent variable(s) affect(s) the dependent variable and holding control variables constant	***Embracing the complexity of context:*** Understanding cultural meanings and managing complex relations between case and context
Research questions	***If no theory available: uses descriptive questions to generate hypotheses*** If theory available: uses explanatory questions to uncover causal relations If existing theory insufficient: uses explorative research questions	***Uses descriptive questions for thick account of case*** Less clear distinction between explanatory and exploratory research questions as research process builds on dialogue between case and theory

In what follows we elaborate the differences summarized in figure 2, starting by a discussion of the deductive approach.

3.1 A Deductive Approach to Comparative Designs

The logic of inquiry in deductive approaches to comparative research designs entails, at least ideally, a linear vision of the process of generating scientific knowledge. The linearity shows itself as the ability to move: 1) from descriptions which reveal differences and similarities across the cases being compared and which may point to causal mechanisms and relations 2) towards the generating and testing of theoretical models reflecting causal relation and further 3) towards the recognition of the limits of the theoretical models leading to more explorative research designs. The ideal type process is illustrated in figure 3.

Figure 3: A deductive approach to generating scientific knowledge by comparative research designs



In practice, the process may be as dynamic and interrelated as in relation to the inductive approach. However, in the subsequent discussion the progression from description towards explanation and eventually exploration is the structuring principle.

3.1.1 Description and exploration in deductive comparison

In the deductive approach the purpose of posing descriptive research questions is to begin the process of theorising as the generation of hypotheses and the identification of possible causal relations and

mechanisms. Therefore, the descriptive research questions are posed, when there are no theories available. Often descriptive case studies are labelled exploratory comparative designs, as they identify the limits and shortcomings of existing theories. It has been argued, that case orientated comparison that use qualitative methodologies, involves the juxtapositioning of various aspects of the cases compared, why the researcher often ends up with new, more explorative concepts. Therefore, explanatory research questions may also be the starting point for research, which is in the process of theorising, as existing theories for some (most often empirical) reason seem inadequate to capture, describe and explain an (new) empirical phenomenon (Mahoney, 2007, p. 125).

In deductive comparative research descriptive questions may also be related to a process of 'empirical puzzling'. For example, the ways in which two countries have handled a similar policy challenge may appear to be counterintuitive and instead raises questions about the policy-making capacity of the two countries or the nature of the policy problem at hand. Similarly, descriptive research questions may reflect an empirical blind spot in a particular strand of the literature. For example for Burau, her initial interest in her study of governing community nursing arose from the following puzzle. Although nursing is the single largest occupation in most health systems in Europe, relatively little is known about nursing comparatively. Instead the otherwise extensive comparative literature on the policies and politics of health care is notable for its silence about nursing. Therefore, the initial research question of the study is descriptive in nature and asks: What are the different policies of governing nursing as an occupation and what are the specific strategies used?

It has been argued, that descriptive case orientated research designs are always implicitly comparative (Gerring, 2004, p. 347). When descriptions are contextualised within a deductive comparative research design, however, the context is made explicit, allowing for a more systematic and a more focused reference point of comparing as the starting point of the research process. Taking an explicit point of comparison puts limits on the perspective in which the researcher makes sense of the research findings, and helps focussing the description. As such, this marks the beginning of the process of systematically identifying similarities and differences between the cases compared, which in turn forms the basis of the subsequent formulation of hypotheses. It may, however, also add new perspectives and highlight aspects of the cases, which may not otherwise have been subject to the researcher's inquiry. Description is not

only depending on the researcher's past experiences of the phenomena under investigation, but is also informed by the way the cases are similar and different from each other. As Eisenhardt points to when describing the strengths of generating theories from small N (case) studies:

> "Creative insight often arises from the juxtaposition of contradictory or paradoxical evidence…Building theory from case studies centers directly on this kind of juxtaposition. That is, attempt to reconcile evidence across cases, types of data, and different investigators, and between cases and literature increase the likelihood of creative reframing into a new theoretical vision. Although a myth surrounding theory building from case studies is that the process is limited by investigators' preconceptions, in fact just the opposite is true. This constant juxtaposition of conflicting realities tends to "unfreeze" thinking, and so the process has the potential to generate theory with less researcher bias than theory built from incremental studies or armchair, axiomatic deduction." (Eisenhardt, 1989, pp. 546-547).

By placing descriptive research questions in a comparative research design researchers are therefore able to take the first step towards the process of theorising (Weick, 1995a); comparison often enables conclusive reflections not only on the identified differences and similarities but also on indications of possible explanations of why cases may differ or show similarities. For example, in her study of governing community nursing Burau uses the initial descriptive research question about the policies of governing and the specific strategies used as a spring board to ask further explanatory research questions, notably about how the differences between Britain and Germany can be explained. Thus descriptive case-studies them selves often represent rich and thick descriptions which can be the out set for a careful case-selection aiming at identifying or testing causal relations in future deductive comparative studies, which have an explanatory ambition.

3.1.2 Explanation in deductive comparison – the identification of causal relationships

As illustrated in figure 2 explanation is the prime ambition when conducting research within in the deductive approach. The comparative research design is of great importance when having an explanatory research question. Although some point to the way causal relations and mechanisms may be identified in idiographic research design as for example single case and within case designs (Tsoukas,

1989), the comparative research design is the ‘conventional’ when aiming at explanation from a deductive approach.

The basis of explanation in the deductive approach is the identification of causal relationship between dependent and independent variables. The identification of a causal relationship takes it point of departure in the identification of covariation between the dependent variable and the independent variables we expect being causally related. This is the case for both small and large N research designs (Fredries, 1983; Gerring, 2004). Although covariation is not a sufficient condition for identifying a causal relationship, it is a necessary condition (Frendries, 1983, p. 257).

By conceptualising the units of comparison in the case-contexts as variables the design aims at simplifying the complexities of the cases. The simplification is ideally informed by theory, enabling the formulation of hypotheses regarding the causal relationships, which in turn forms the basis of explanation. For example in her comparative study of governing community nursing Burau using institutionalist theories to conceptualise the specific context community nursing as an occupation is embedded in. Here, theories point to the importance of formal and informal rules backed by coercion and power as well as norms and values. In relation to the first type of institutions the study for example the study uses a typology to health systems to capture the organisation of health care together with the role of the state in health care. On that basis the institutional context in Britain is characterised by a tax funded health service, where the provision of services is predominantly in public hands. Together with a highly centralised political system this gives the state a central role in the organisation of health care and potentially important levers in relation to the occupational governance of nursing. In contrast, the institutional context in Germany is characterised by a health system, which is funded by social insurance contributions and the provision of health services is mixed. This forms the basis for a relatively extensive joint self-governance by providers and insurance funds. Together with the federalist structure of the political systems this means that the role of the state in the organisation of health care and by extension the occupational governance of nursing is limited.

Having simplified the part of the case context to be included in the comparison the next challenge is to select cases. The identification of co-variation begins by carefully selecting cases, which allow controlling of the potential impact of external variables.

Within the literature on comparative research design the most conventional designs for accomplishing this is the use of either a most different or a most similar design (Frendries, 1989; Lijphart, 1971). Both design rest on careful case selection aiming at eliminating 'irrelevant' variables, which do not co-vary with the dependent variable and identifying 'relevant' variables which, do (Frendries, 1983 p. 262). As will be evident below, the two designs differ in their prime ambition and in the way this is accomplished.

Most different case-designs

The most different design is the appropriate choice, when the prime ambition is to identify which independent variable causes a given outcome. The strategy involves choosing cases which have the same outcome (shows the same 'value' on the dependent variable) and then, through comparison, eliminate independent variables on which the cases differ. I.e. the comparative analysis involves the identification of the independent variables in which there is no covariation between the dependent and the independent variables in the cases compared. As Frendries describes it: "By maximizing the number of variables on which the systems differ (making them "most different") the number of nuisance variables eliminated is maximized." (Frendries, 1983, p. 260). This type of design are sometimes presented as involving a more inductive approach, when identifying the relevant independent variables, but the process of 'discovering' these variables can indeed also be subject to theoretical reflections (Anckar, 2008, p. 395).

Most similar case-designs

The most similar design is the appropriate choice, when the prime ambition is to investigate whether an expected causal relationship exists. This strategy involves a choice of cases which first insures variance of the independent variables, which one expects are causally related to the dependent variable. And second insures similarities of the control variables which one do not expect are causally related. If the cases "…differ with respect to the dependent variable but not with respect to any of the controlled variables on which they are matched, these matched variables cannot be causally related to the

dependent variable." (Frendries, 1983, p. 260). I.e. one has increased the likeliness that the independent variables which one expected are in fact causally related to the dependent variable (for a more elaborate discussion of the challenges in designing most-similar systems comparative research designs see Anckar, 2007).

To illustrate how to construct a most similar design we turn to the comparison of the institutionalization of political advice in the Danish civil service. The ministries included in the comparison were chosen from a sample of strongly politicized ministries, and within that, two ministries, which exhibited heterogeneity on the independent variables, which were expected to affect the institutionalisation of political advice. More specifically, the two ministries were different in relation to the organization of advice, the cultural aspects of the ministries and the institutional history of political advice in the respective ministry. Ideally, in the most similar design the ministries should be similar in all other respects. However, this was not possible empirically possible (as it seldom is). According to the most similar design the expected outcome was a difference in the institutionalization of political advice. The empirical analysis supported the theoretically expected difference. The comparison revealed, however, also some similarities in the outcome and this is why an important part of the conclusion includes reflections on which extraneous variables could be likely to account for this unexpected outcome.

3.1.3 Explanation in deductive comparison – the identification of causal mechanisms

Explanatory research using qualitative methodologies involve, however, not only the identification of a causal relationship between an independent and dependent variable as reflected in co-variation among the variables. It may also involve the identification of the causal mechanism, which establishes and forms the relationship. It has been argued, that the small N design produces more valid information of such causal mechanisms. Research designs characterised by a large N may enable statistical estimation of a causal effect. In contrast, designs characterised by small N enables identifying the way or the mechanisms by which the independent variable affects the dependent variable (Andersen, 2005, p. 137; Eisenhardt, 1989, p. 542, Gerring, 2004, p. 348: Tsoukas, 1989). As Gerring describes it:

> "…causal arguments depend not only on measuring causal effects. They also presuppose the identification of a causal mechanism…X must be connected to Y in a plausible fashion;

> otherwise, it is unclear whether a pattern of covariation is truly causal in nature. The identification of causal mechanisms happens when one puts together general knowledge of the world with empirical knowledge of how X and Y interrelate. It is in the latter task that case studies enjoy a comparative advantage. Case studies, if well constructed, allow one to peer into the box of causality to the intermediate causes lying between some cause and its purported effect. Ideally, they allow one to "see" X and Y interact…" (Gerring, 2004, p. 348).

In the comparison of the ministries in the Danish civil service, apart from identifying an expected co-variation between the cases, the way X and Y interacted was especially evident in one of the ministries. Hence, both the documentary and the interview material reflected how the civil servants institutionalised political advice using formal structures, the culture of the ministries as well as the institutional history of providing political advice in the ministry as a cognitive and normative frame from which they extracted both meaning and legitimacy when providing, institutionalizing and accounting for political advice.

The identification of causal mechanisms and relations by simplifying complex case context through identifying variables is however not the only basis of explanation in scientific comparative inquiries. As will be illustrated in the subsequent section, there are also designs, which explicitly aim at embracing the complexity of the case contexts to be compared.

3.2 An Inductive Approach to Comparative-designs

Inductive approaches to undertaking research are often equated with social constructivist research, as this ontology emphasises how the construction of the reality is an ongoing, complex process in the empirical contexts we study. There is, however, no reason why a question posed from realist ontology, could not be answered in the context of a comparative research design based on an inductive approach.

The logic of comparing is, as previously argued, as central to inductive research designs as it is to deductive designs. This is for example evident in one of the most refereed perspectives on the logic of doing inductive inquiry: the constant comparative method, the grounded theory approach (Glaser & Strauss, 1967). Whether the inductive approach is applied as constant comparison of units within a single case or across cases, one of the main characteristics of this approach is the dynamic and circular

process of moving between empirical data and the generation of more general descriptions and relations identified in the empirical material. Hence inductive studies both in practice as well as in 'theory' often involve moving between description, explanation and exploration. This has some consequences for the design, which inevitably must be flexible. An example of this type of 'constant comparison' is the 'decentred approach', which the research collective involved in the comparative study of the social organisation of maternity care systems develops. This approach challenges the implicit ethnocentrism of mainstream cross-country comparative research, where often an individual researcher or group of researchers from one (national) research tradition decide on the analytical concepts and develops the research questions. In contrast, in the decentred approach all and every context becomes problematic (and in need of explanation) and research becomes a truly collaborative process. This builds on a notion of knowledge as distributed among different researchers; thereby the formation of knowledge presents itself as a social situated process embedded in the collaboration among researchers from different countries. This process entails exploring the differences in meanings of concepts in different national contexts and thereby accommodating the problem of 'non-transferability' of concepts in cross-national comparisons as well as validating the concepts developed to conceptualise the findings of the comparative research process (Carmel, 1999, pp. 149-150). In terms of the research design, for example, the decentred approach meant the following: all researchers from the different countries included in the study engaged in an iterative process of presenting their own analytical concepts and research questions, while at the same time responding to the analytical concepts and research questions presented by colleagues from the other countries. As such, the final research design was more than the sum of its parts, precisely because the collaborative process allowed testing how well concepts and theories travel across countries, culture and languages. This meant to take the social construction of concepts and theories seriously. Through such an iterative process the research team also developed the dynamic distinction between civil society and state centred maternity care systems and thereby also offered fresh histories of national cases. In terms of individual women's choice of birthplace for example, in the one system the demand for choice has emerged largely from the market, whereas in other system the demand for choice is directed towards the state.

3.2.1 Description, explanation and exploration in inductive comparison

Descriptions are a central part of inductive research designs, and the prime ambition of the scientific inquiry is often to use descriptive questions to generate thick accounts of the cases being compared is.

For example, one of the central aims of the comparative study of the social organisation of maternity care systems was to describe in more detail the differences between systems and their dynamics across different countries. This descriptive ambition arises from the fact that the international literature on maternity care services and policies often suggests that high-income countries are characterised by similar development trajectories. The underlying argument is that in line with developments in health services at large, maternity care services became increasingly medicalised, whereas midwife-led services lost in importance. In contrast, the partial resurgence of midwife-led services reflects, according to the literature, social movements of women demanding the exercise of personal choice. This suggests convergence based on a soft version of functional determinism, whereby the medicalisation of maternity health services naturally follows on from the medicalisation of health services. The research collective contrast this narrative of a teleological development and the notion of a shared culture of maternity care with the observation of the de facto diversity of maternity care systems across high income countries. This includes differences in the social organisation of maternity care services as well as in the relationship between health practices and social experiences.

When the description takes an inductive point of departure, the cases as well as the entities to be compared are often chosen as the study evolves. Hence the process of performing inductive inquiries may, as indicated in figure 2, instead of linearity more properly be described as a process of iteration between the various steps in the research process; this takes the forms of an ongoing dialogue between theory and case to identify research questions, cases to be compared and units of analysis.

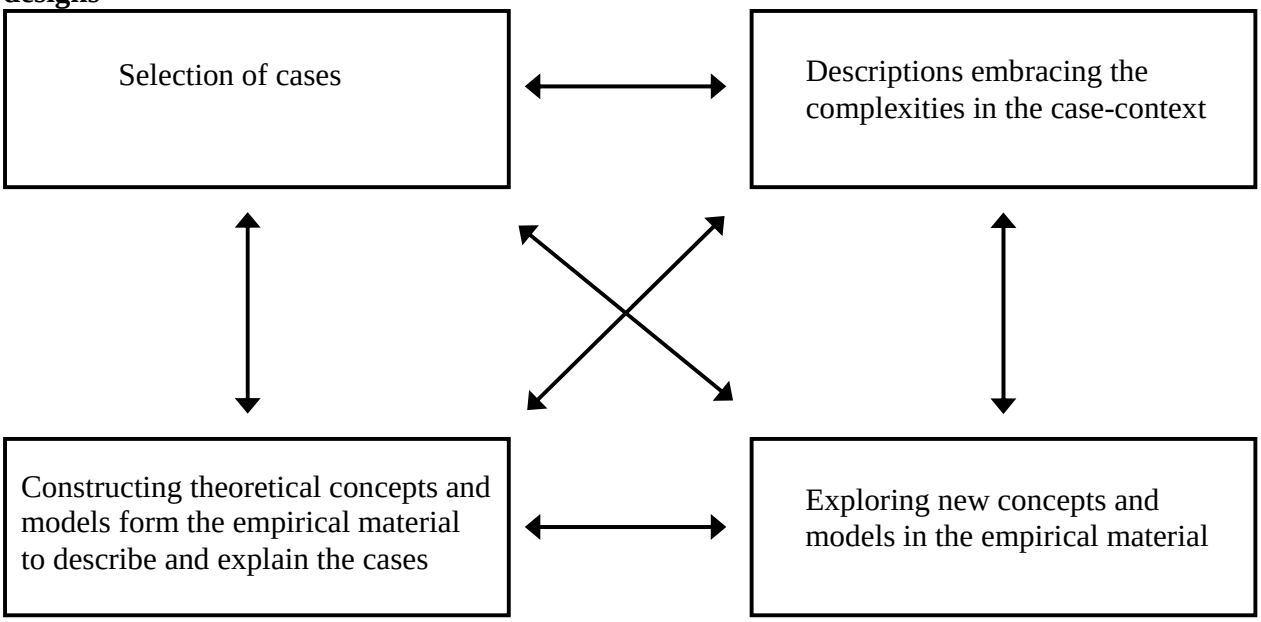
Thus the explication of the context of comparison and hence the possibility of generalising the conclusions are of a dynamic and process orientated character. This process has been described by Strauss as follows:

> “You take the phenomenon under study and turn it around as if it’s a sphere: Look at if from above, below, from many sides. In other words, you think comparatively along any of its dimensions. Think in terms of variation along the given dimensions, say size, intensity, or flexibility. What is, perhaps, its opposite? Or extremely different? Or somewhat different? Or just a little different? Or what other dimensions might possibly be relevant other than the one you

have already thought of, that you may have overlooked." (Strauus, 1987, p. 276, quoted in Andersen, 2005, p. 133).

The dynamic process of induction is illustrated in figure 4.

Figure 4: An inductive approach to generating scientific knowledge by comparative research designs



Against this background, the process of identifying valid explanation in inductive approaches to comparative research-designs can generally be described as a process of reducing and narrowing down the complexities reflected in the data collected across cases. This process entails the identification of similarities and variance across both the cases included in the design as well as in existing theories relevant to the subject matter. In the case of explanation the primary difference between the deductive and inductive approaches to comparative research designs is therefore not whether general knowledge in form of typologies, hypotheses and theories are used in the process of generating explanations. Instead, the crucial difference relates to whether this process takes its point of departure in theories or in the data collected. Hence the deductive approach begins the process of explaining a given outcome by looking for theoretically expected variance or similarity, whereas the inductive approach begins this

process by mapping the empirical differences evident in the cases, and then looks for answers, among others in existing theories**.**

4.0 Key design challenges in comparative research design

In this section we discuss key design challenges in inductive and deductive comparative designs respectively. The discussion includes reflections on the populations from which cases are selected and the question of how to ensure equivalence.

4.1 What to compare? Populations and sampling

Reflections on the population to which the cases to be compared belongs, are central to both deductive and inductive research designs. However, the strategy by which the population is defined is quite different.

When doing small N research within a deductive approach 'the illusion of random sampling' (Ebbinghaus, 2005, p. 135) is replaced by a careful case selection. Contrary to inductive research designs the process of selecting cases to compare takes its point of departure from identifying the population from which the sample for comparison is chosen. Populations may either be given or constructed (Ragin, 2006, p. 635). The former may be adequate when the purpose is of a descriptive or explorative character, but when the purpose is explanation a constructed population is preferable.

The construction of a population implies an active role of the researcher and often involves preliminary analysis of the potential cases to be included in the population. According to Ragin (2006) there are two strategies. In one, the population consists of cases which are most relevant to the theories informing the research and the researcher may gradually expand the population of 'best cases' to illustrate, explore or investigate the research question. The other takes a more empirical point of departure and the researcher identifies the relevant population of cases according to an evaluation on whether they are plausible or even 'best' or 'positive' case candidates for the outcome to be investigated. In the former the construction of population is made on the basis of theoretically informed choices on the independent variables whereas in the latter the construction of population is made on the basis of empirically informed choices on the dependent variable.

The selection of ministries in the comparison of political advice in the Danish civil service illustrates how these strategies may be combined in a research design. The first step in selecting the cases to be compared was made from a given population, which included the entire group of ministries in the Danish civil service. Within this sample, two ministries were identified, which are to be characterised as best cases to study political advice. In the second step, the population was constructed using a combination of the strategies suggested by Ragin. The first step takes a more empirical point of departure where empirical data defined the population of best cases to investigate political advice. In the second step, theory informed the choice and the cases chosen in the final sample showed differences according to the before mentioned independent variables of the study.

As already indicated, the answer to the question as to what the cases are to be compared is often part of the results of inductive research. Therefore, considerations as to which population the case belongs to are addressed in the course of the analysis and the process of comparing. For example, in their comparative study of the social organisation of maternity care systems the ‘decentred approach’ to comparing meant two things: first, the choice of cases was part of the ‘comparison by dialogue’ and emerged gradually through the ongoing discussions among the research collective; second, to maximise the potential for ‘decentered’ case choice, the research collective included researchers with a wide range of disciplinary backgrounds and countries. However, the individual parts of the study have in common that they use the meso level of the organisation of maternity care services and its professional groups as a touchstone for a cross-country comparative analysis; this includes the macro level of policy making as well as the micro level of the practice of individual midwives and the experience of individual women.

The question of what to compare also implicitly touches upon the question of how many cases to compare. Even within small N comparisons, this question is relevant. Ideally, the choice depends on the degree of sensitivity to the complexities involved in the comparison required to fully answer the research question. I.e. the more cases, the simpler the definition of the variable needs to be. Thus it is difficult to formulate general advice on how many cases to include in a comparison. In reality, the question as to the number of cases often involves considerations regarding the resources available, the institutional setting in which the research takes place. When conducting a cross-national comparison,

the question of which countries to include may also be depending on the availability of data (see for example Ebbinghaus, 2005).

4.2 Equivalence

To consider equivalence when conducting comparative research is to ensure that the units chosen for comparison are in fact comparable. This involves considerations regarding whether the units are not only formally, but also functionally equivalent. The potential gap between a unit's formal and functional meaning is caused by the fact that formal definitions of units may contain different cultural meanings and that functional meanings may change as actors interpret and act according to the formal definitions. As argued by Burau: "…units that have similar cultural meanings (and functions) may have different names; conversely, units with the same name may have very different meanings (and functions)." (Burau, 2007, p. 373). Further, it has been argued, that the need to consider and construct equivalence is of vital importance when doing cross-national comparison (Mills et. al., 2006, p. 622). Cross national comparison often involves dealing with a considerable level of complexity especially when trying to ensure the internal validity of the concepts used for identifying the entities to be compared in the national contexts include in the comparison. For example, as part of her comparative study of governing community nursing Burau conducted a local case study, which examined the specific strategies of occupational governance of nursing. The process of identifying the units of comparison was complex and required dealing with issues of equivalence. Considering the considerable political emphasis in both countries focusing on nurses providing care outside hospitals was particularly interesting, that is: what in the British context are called 'primary' or 'community care' settings. Primary care settings quickly turn into a cul-de-sac: the role of 'practice nurses' in health centres in Britain has been expanding rapidly in the 1990s, whereas in Germany nurses simply do not work in primary care settings, which continue to be highly medically-oriented. However, in both countries home-based nursing services exist, although the service is organised in different ways. In Britain, specialist so-called 'district nurses' together with general nurses and health care assistants deliver care to patients in their homes. This contrasts with Germany, where such specialist nurses do not exist and where general nurses, geriatric carers ('Altenpfleger') and a high share of care assistants deliver home-based care. Significantly, there is also no specific term for nurses delivering this type of care. For the present study, the differences in the division of labour mean two things. First, to ensure functional equivalence the study focuses on the occupational field of home-based (nursing) care rather

than individual occupational groups. Second, to take account of the different meanings of home-based (nursing) care, the study uses the term ‘district nurses’ only in the British context. Where Germany or both countries are concerned the study uses the more neutral term ‘community nurses’ or ‘community nursing staff’.

The inductive and deductive approach, have different ways to ensure comparability in terms of equivalence. An inductive approach begin comparing between formally equivalent entities, and then move on to explore how the functional equivalence differs across cases as part of a dynamic process of identifying similarities and differences among the empirical data collected. A deductive approach may, however, choose a mixed strategy, where the comparison ensures both formal and functional equivalence. This may for example be fruitful when comparing formal organizations, as the difference between the formally and functionally equivalent entities may reveal important insights. In fact, some theories (for example new institutional theories) may explicitly be concerned with investigating the difference between the formal and functional entities.

The comparison of political advice in the Danish civil service may serve as an example of such a mixed strategy of choosing units for comparison. The Danish civil service is organized in hierarchical bureaucracies, which are both highly formalised and institutionalised. This has some consequences for ensuring the formal and functional equivalence of the units analysed; especially when choosing respondents for interviews. The highly formalised nature of the ministerial bureaucracy prescribes that those civil servants should be respondents, who formally are required to give advice. This includes the top civil service in general and the permanent secretary in particular. At the same time, the institutionalised nature of the ministerial bureaucracy prescribes, that the advisory roles may additionally be structured according to a more structural logic. In order to ensure both formal and functional equivalence respondents from all hierarchical positions within the ministries were chosen.

5.0 The question of validity – in comparative designs including small N’s and qualitative methodologies

As will be illustrated in this section, the differences between the deductive and inductive approach to comparative designs are also evident in the processes and reflections regarding ensuring validity. Again, examples of different comparative studies will illustrate key points.

Inspired by Yin (1994) we differentiate between construct, internal and external validity. Figure 5 illustrates the differences between the approaches in relation to all three kinds of validity.

Figure 5: An overview of the differences between inductive and deductive comparative research regarding various aspects of validity

	Deductive comparative research designs	**Inductive comparative research designs**
Basis of construct validity	Theory	Empirical findings
Basis of internal validity	Data analysis informed by theory	Data analysis based on empirical findings
Basis of external validity	Expansion of the initial, constructed population from which the cases were selected	Retrospective reflections on which population the cases could be generalized to

When ensuring construct validity the challenges facing researchers conducting deductive or inductive inspired study respectively are quite different. In the former, the construct validity depends on the ability to define operational measures for the theoretical concepts and variables to be studied. Hence, the basis of construct validity in the deductive approach is theory, and, in principle, ensured a priori the collection of data. In practices, ensuring construct validity is as much a process, whereby the researcher constantly revises the initial operational criteria and dimensions in the course of the data collection. This is especially the case when the design entails qualitative methods, which allow for validation as the data is being collected. Contrary to this the basis of construct validity in the inductive approach is the empirical findings and ensuring the construction of valid operational concepts of the empirical findings is more properly conceptualised as a process. Hence, whereas the construct validity in the deductive approach is ensured through a movement from theory to operational criteria, in the inductive approach construct validity is ensured through an iterative process. This process moves from empirical findings generated in the course of data collection to the formulation, the choice and the development of proper analytical tools, which capture the data in a more abstract and operational way. The difference between the two approaches is illustrated in figure 6.

Figure 6: The process of insuring construct validity in deductive and inductive comparative research

In relation to construct validity, cross-country comparative studies involve, as previously argued, the additional challenge of ensuring equivalence. Writing in the deductive research tradition, Burau in her study of governing community nursing takes institutionalist theories as her starting point; she then sets out to explain to what extent differences in institutional context help to explain the choice of governing strategies. This requires identifying occupational fields that are functionally equivalent in two countries, which organise home care nursing services in very different ways. In contrast, in studies following the inductive research tradition, the process of ensuring equivalence is embedded in the empirical material. For example, as part of their study of maternity care systems the research collective developed the notion of maternity care systems. This as well as the specific process of ensuring equivalence was part of a continuous process among researchers from different countries who presented the research material from their individual countries, while at the same time responding to the research material by colleagues from the other countries.

When considering internal validity we again find differences between the deductive and inductive approach. Traditionally, internal validity has been discussed in relation to deductive, explanatory research designs (see for example Yin, 1994, p. 33), as it concerns the question of whether the design and data analysis show evidence of a valid causal relationship. However, and as will be evident in the subsequent discussion, we find it equally important to address this question in relation to inductive research designs.

When ensuring internal validity in deductive comparative research designs the process of data analysis is central. How do we analyse whether the expected outcome is evident in the cases we have chosen? However, internal validity also depends on the initial choice of cases according to the chosen design, i.e. the choice of cases suitable for either a most similar or a most different design. Having chosen the cases, the question becomes how to analyse the data collected in order to be able to explore and eventually

identify either the expected differences between the outcome (the dependent variable in the most similar design) or the similarities between the independent variables (causing the similarities of the dependent variables in the most different design). When this process is conducted within a comparative design, the process combines the strategies of pattern-matching and explanation-building (Yin, 1994); this means to combines the process of comparing empirically identified patterns and co-variations with theoretically predicted or expected patterns with the process of repeating this comparison across cases.

In the study of political advice in the Danish civil service, theoretically operational criteria make explicit how to identify variance between the variables, as different possible outcomes. This makes it possible to empirically identify variation on the dependent variable, as well as to explicate how to identify whether the expected independent variable is regarded as the explanatory factor. Thus the construct and internal validity is ensured by careful construction of operational measurements of the theoretical hypothesis concerning the expected variance in the institutionalization of political advice together with the selection of cases. However, as the ministries are not similar in all other respects, it is not possible to exclude that other factors may (also) be causing the difference in the outcome. Yet, it is possible to conclude whether the independent variables investigated are in fact explanatory factors, to identify causal mechanisms as well as to discuss causal complexities. As the case study includes a small N, the empirical findings are not internally validated according to a quantitative logic, but according to the theoretical frame, which informed the selection of cases as well as the formulation of the expected outcome.

In inductive approaches, the process of ensuring internal validity is closely related to the process of ensuring construct validity. What becomes central in this part of the process of gathering data and finding proper analytical tools the patterns identifiable across the cases. The comparative study of the implementation of the Diabetes National Service Framework in British Primary Care Trusts is an example of such a strategy. The analysis of data reflects a somehow more structured approach than normally found in this approach as the data was coded (using an electronic coding system) on the basis of pre-formulated codes. The codes originated from the research questions, but were also internally validated; the coding framework was revisited as part of a collaborative discussion among the researchers involved after the data had been gathered.

> "The structured approach utilised here, based on Miles and Huberman's (1994) approach to qualitative data analysis, was deliberately chosen to assist in demonstrating transparent data analysis and extracting valid findings and proposals from a large volume of data. This was especially important in assuring a structured approach to data analysis between different researchers. Although there is a danger with such a structured approach of 'loosing' data which does not fit with the pre-formulated codes, the researchers who were coding the data remained open to emergent themes which where immediately discussed between the two researchers and the principle investigators and added to the coding framework." (Fitzgerald et al, 2006, p. 48).

Thus, the internal validity is ensured by matching patterns in the empirical data across the cases, by revising predetermined coded issues and themes in the empirical data material as well as by exploring how contextual factors differ between the cases. In contrast to pattern matching in the deductive approach, the matching in this case takes it point of departure both in theory and predetermined coded issues as well as in the empirical material.

When considering the external validity, one looks at the question of whether the conclusions drawn from the cases at hand are generalizable to other cases. Again, we find differences between the deductive and the inductive approach. As the designs considered in this chapter are all small N case-studies there are however also similarities in the strategies chosen.

The main difference between the two approaches is evident in the initial step when considering the external validity. In both cases, the question of which population the cases belong to becomes central. If the approach is deductive, one starts by considering the initial construction of the population from which the cases are sampled. If the approach is of an inductive character one starts by (conclusive) reflections of what the cases compared are in fact cases of. Answering this enables the researcher to subsequently identify and delimit the population relevant for the discussion of generalizability. Hence in the deductive approach the strategic selection of cases makes possible to instantly address the question of how to expand the initial population from which the cases were selected. For example in the study of political advice in the Danish civil service, as the cases in the first place were chosen as

best cases as both ministries where operating in highly politicized environments. Hence, it seemed valid to generalize the conclusion to the population of ministries operating in the same kind of environments that the civil service provides political advice and that the institutionalisation of the advice depends on a number of factors. The second step involved considerations about whether the conclusions are generalizable to the entire population of Danish ministries. In this part of the process Salomonsen turns to other studies of political advice. As these studies support the conclusion based on the Danish civil service, this part of the conclusion seems valid as well. As the Danish ministries are a very heterogenic group, the question becomes more speculative as to whether the independent variables which all are attached to the ministries can explain the character of the political advice and the way it becomes institutionalised.

In the inductive approach, the question of what the comparative case study is in fact a case-study of (in a more theoretical or general vein) is often answered as a part of the research process. I.e. the external validation begins by retrospective reflections of which population the cases could be seen as being a part of and hence be generalized to in the first place.

Having identified the initial population, the further process of ensuring validity is in fact quite similar in the two approaches. The strategy of considering and expanding the generalizablity may either include reflections on theory or include additional empirical case studies. In the former, one relies on analytical generalizability and reviews external validity by comparing the conclusions drawn with established theory. The latter involves including additional empirical case studies, where the researcher chooses critical cases which help to expand the initial population.

6.0 Conclusions

We started off by suggesting that at its core comparison is concerned with analysing similarities and differences. Thereby comparison explicitly uses and exploits more fully an otherwise universal mode of enquiry that is implicit in all kinds of social enquiry. We then went on to argue that beyond this basic core comparison is a highly versatile research strategy which lends itself to analyses with both large and small samples, to studies located at the micro, meso or macro levels, as well as to different types of research questions (descriptive, explanatory and evaluative) and within that both the deductive and

inductive approach to conducting research. As such, comparison emerges as a research strategy that is of universal interest and indeed relevance.

Considering this versatility it is crucial, however, to be very clear about the initial choice of approach to ones comparative research. The ambition of this article has been to make explicit the differences between the inductive and deductive approach to comparative research. First, as these are reflected in the purpose of comparison in relation to the concrete study at hand, the function of the comparative research design in the context of the study and the challenges meeting the researcher in the process of comparing. Second, as these differences are reflected in the way researchers need to document the concrete process of comparison to ensure the validity a given study.

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