The Production of Official Statistics in Britain and Germany 1975 – 2010: Measures and Public Knowledge of Poverty

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Introduction

Since the birth of sociology the analysis of quantitative data has been a characteristic part of the discipline's method. More recently, statistical practices have themselves been taken as objects of sociological enquiry. A pre-eminent reason for this is that states produce, procure, consume and represent statistical data in the pursuit of policy and politics. Statistical practices have been, with increasing intensity and sophistication, integral to state power and state policy from the early modern period onwards. What began with the counting of people and of flows of goods now encompasses complex measurement of the population's health, welfare and beliefs, and of movements of capital. Propositions which are derived from such public statistics are central to the formulation of policy across every field of late-modern state activity.

Here proposed is a comparative study of the state's production and procuring of statistics from 1975 to 2010 in Germany and Great Britain. As its example the study takes public statistics relating to poverty and the distribution of income among individuals and households in the two countries. The study's primary investigations concern the measures, classifications and representations used in official income statistics during the period. Thus, for example: how exactly were income and poverty conceived and measured; how were households, families and persons classified; what geographical codings were employed; what aspects of distribution – over space, between classes or groups – were reported? From these follow questions about how states generate statistical knowledge for the administration of policy, and about the dual scientific and official character of public statistics. Thus, for example: where do statistical schema and techniques originate, and how do they come to dominate in public representations of a specific social question; what kind of institutions are engaged in the production of public statistics, and where are they located; how have states employed statistical knowledge in the service of power? The first phase of empirical work thus involves a close reading, abstraction and comparison of official statistical digests; the

second, interviews with participants and archival work on selected topics to address questions of institutional structure and history.

In this exposé, the current state of research is first discussed (p2). Research questions are derived from these (p7) and rationales for the study's design are given (p8). The proposed methods are then detailed (p9), together with an outline thesis structure and project plan (p10).

The State of Research

As well as providing knowledge of the social world, statistics can be themselves investigated as social phenomena, and analysed in relation to their historical, spatial and social context. This review looks first at work, mostly outside of sociology, that has looked at the connected development of statistical technique and modern states. There is a relative dearth of comparable research on statistics in late capitalist societies. The second part of the review considers sociological theory and research – on networked technology, on governance, and on scientific autonomy – that provoke questions about contemporary government statistical practice.

The history of statistics and the development of the State

The study of statistics is an established sub-field of the history of science. It lies there as part of the study of numerical thought, as developed by, for example, Hacking[1]. Desrosières' work is probably the most significant recent work specifically on statistics. In his major work, he shows how scientific procedures that now seem routine emerged through the coincident application of existing techniques to social problems salient in particular eras; a compelling example is the development of linear regression to give answers about the public relief of poverty in late-nineteenth century Britain[2]. He describes distinct national intellectual traditions of statistics, such as *political arithmetic* in Britain and *Statistik* in Germany; he shows also how these, as well as national statistical institutions, are tied to countries' histories and social forms[3]. He also draws out the importance of statistical classifications and taxonomies, such as of industrial activity, employment or class, in the self-understanding of states[4].

This observed closeness between statistical knowledge and state power goes back earlier, at least as far as Foucault's comment in the 1970s that "the sovereign's necessary knowledge (*savoir*) will be a knowledge (*connaissance*) of things rather than a knowledge of the law, and this knowledge of the things that comprise the very reality of the state is precisely what at the time was called

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1   Hacking, *The Emergence of Probability*; Hacking, *The Taming of Chance*.
2   Desrosières, *The Politics of Large Numbers: a History of Statistical Reasoning*, 133–139.
3   Ibid., 22–3, 179–184.
4   Ibid., 254ff, 313.

'statistics'"[5]. In his account of the early modern state, the earliest things to be known to the state as statistics included population, the disposition of natural resources, wealth in circulation and the balance of trade, and so on. Others have taken up his theme, such Scott's description of states "making legible" the activities of their subjects[6], or in Köhler's term, the production of visibility (*Sichtbarkeit*)[7]. Fruitful research has addressed cognate knowledge practices such as surveying, cartography and standardisation of measures. Such practices were central to states' historic accumulation of 'symbolic power'[8], as well to the development of a 'proto-sociology'[9].

Contemporary public statistics: Technology & Networked Rule

Desrosières' historical survey finishes in 1945, and most other existing empirical work has looked at early modern, colonial or imperial states, calls for research into the contemporary "sociology of statistics"[10] notwithstanding. Late capitalist states retain and have expanded their statistical functions. However, critical appraisal of contemporary public statistics most often concerns their representational adequacy (whether they accurately measure the relevant phenomenon) rather than their historical evolution or sociological meaning. Two broad grounds for an interest in contemporary public statistics are now set out: firstly, the implications of technological development for them, and their function as a technology of governing, and secondly, the institutional organisation of their production.

In the 1980s, statistical professionals within government already foresaw the immense processing power in desktop computers, massive increases in storage capacities, and networked technologies for the near-instantaneous distribution of data[11]. These bear upon public statistics in several ways. Firstly, access to public statistics and the material means to analyse them widened. This is not only a change of degree; Köhler cites several sources that show that accessibility is a grounding principle of contemporary German public statistics[12]. Secondly, it became increasingly easy to process large volumes of data, promising knowledge of the national economic and social state with greater spatial and temporal refinement[13]. Statistical tools, which can be taken as mathematical theories formalised as things in hardware and software[14], have experienced rapid development.

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5   Foucault, *Security, Territory, Population*, 274.
6   Scott, *Seeing Like a State*, 25ff.
7   Köhler, 'Amtliche Statistik, Sichtbarkeit Und Die Herstellung von Verfügbarkeit'.
8   Loveman, 'The Modern State and the Primitive Accumulation of Symbolic Power'.
9   Bayatrizi, 'Counting the Dead and Regulating the Living'.
10   Camargo, 'The Sociology of Statistics'.
11   Duncan, 'Technology, Costs and the New Economics of Statistics'.
12   Köhler, 'Amtliche Statistik, Sichtbarkeit Und Die Herstellung von Verfügbarkeit'.
13   Harris, Sleight, and Webber, *Geodemographics*.
14   Bourdieu, *Science of Science and Reflexivity*, 40; Sedransk, 'Statistical Careers in United States Government Science Agencies', 445.

This enabled the fitting of complex models and the derivation thereby of new statistics, as in, for example, small-area estimation[15]. Thirdly, the graphic representation of the statistics became both more complex and more routine. From the 1990s well-established views of spatial data, such as chloropleth maps, and more esoteric representations, such as cartograms[16] became commonplace as a method of portraying and viewing national and regional statistics. However, such representations have mainly been evaluated by criteria derived from either statistical mathematics, information theory, or aesthetics[17]. Taken together, these technological developments suggest that the production and meaning of official statistics have changed in a way that merits socio-historical investigation.

Statistics as social technology

Public statistics are themselves also a social technology of governing. By this is meant, the established propensity of state activity to become statistical data, but also the more novel integration of statistical practices into states' operations. These depend upon the technological (in the commonplace sense) changes just outlined, but the specific course of adoption of statistics into governing is a historical and local process.

From the 1970s onwards clerical procedures and records were progressively computerised, and everyday moments of public administration, such as welfare or taxation, became tractable as data. For government statisticians, state activities could thus be worked as statistical knowledge; since the 1990s such "data mining" has become 'all the rage'[18]. The representation of persons and places in such statistics are prescribed by the functional and ideological nature of the programmes and functions they record, rather than being subject to more autonomous social-scientific discourse on categories and measurement. The prolonged and political conflict over official unemployment statistics in Britain in the 1980s and 1990s[19] are just one example of the crucial public role of administrative data. In Britain and Germany there have also been conflicts over the state's ability to compel citizens to yield data, which in turn affected public statistical representations of society[20].

The appraisal of administrative data as statistics is fairly well developed in sociology, but recent literature has also drawn attention to novel uses of statistics in public management and economic governance. Ozga, for example, starts by observing that "the 1980s and … 1990s encompassed the

15   Anderson, *Creating Small Area Income Estimates for England: Spatial Microsimulation Modelling*.
16   Tobler, 'Thirty Five Years of Computer Cartograms'.
17   e.g. Tufte, *The Visual Display of Quantitative Information*.
18   Sedransk, 'Statistical Careers in United States Government Science Agencies', 445–6.
19   see e.g. Gregg, *Out for the Count Again?*.
20   Hannah, 'Calculable Territory and the West German Census Boycott Movements of the 1980s'; Simpson and Dorling, 'Those Missing Millions'.

redesign of public services and welfare provision across the developed economies and produced a shift towards decentralisation, devolution and deregulation"[21]. Taking the example of school education in England, she suggests that the move away from centralised and hierarchical forms of regulation "depends on the availability of data and its rapid flows"[22]. She documents how a succession of policy programmes of school improvement were accompanied by the proliferation of "apparently objective" official data on educational attainment and school performance. Poverty and income statistics have in Britain been used in the formal wording of laws[23]; this invites analysis of how this changes the construction and governance of social problems in the public sphere.

Statistical Institutions, Scientific Autonomy and Legitimacy

Public statistics are, nonetheless, not pure objects of bureaucratic rationality or political will; they derive authority from intellectual fields, mathematical statistics and social science, that assert their scientific status and the universal validity of their methods. What began as the state's gathering of self-knowledge later emerged as a scientific discipline, in part through the synthesis of probabilistic theories[24]. Statistics has a formalised body of theory and methodology upon which its practice rests: mathematical theories of probabilities and distributions, as well as techniques of measurement, observation and sampling. It also has, in many places, the institutional concomitants of scientific status, such as learned societies and disciplinary identity within universities.

Schwarzman thus argues that "[s]tatistical information is of particular interest to the scientific sociologist, as it is produced by institutions that are, simultaneously, centers of research – thereby involving scientific values and technologies, as well as the perspectives and approaches typical to their fields of investigation – and public or official institutions, subject to the rules, values and restrictions of public service"[25]. Barlösius looks at German departmental research agencies (*Ressorts*) to explore questions that arise from such dual-field membership (*zweifache Zugehörigkeit*)[26]. Her paper sets out parameters that are highly relevant here: the formal governance structures and degrees of ministerial access to (*Zugriff*) and control of (*Durchgriff*) research institutions, but also the capacity of institutions to anticipate ministerial needs and to produce consensually acceptable results that support public decisions (*Entscheidungshilfebedarf unterstützen*)[27]. Barlösius also points out cross-national variability in the constitution of research

21 Ozga, 'Governing Education through Data in England', 151.
22 Ibid., 157.
23 Brewer et al., *Child and Working-age Poverty from 2010 to 2020*.
24 Krüger, Daston, and Heidelberger, *The Probabilistic Revolution - Vol. 1*.
25 Schwarzman, 'As Estatíticas Públicas e a Medição Da Pobreza', 69; cited in Camargo, 'The Sociology of Statistics'.
26 Barlösius, *Zwischen Wissenschaft Und Staat?*, 10.
27 Ibid., 13; 15–16.

bodies and the boundaries between State and Science. The term *Wissenschaft* is a good example; though often translated as 'science', it has in German a much stronger concrete sense of a set of institutions and a social force.

Barlösius remarks that academics have an interest in the dual character of government research in part because it is bound up with a scientific struggle for autonomy (*wissenschaftspolitisches Ringen um Autonomie*)[28]. Bourdieu likewise observes that the scientific autonomy of intellectual fields is a social accomplishment: "autonomy is not a given, but a historical conquest"[29]. He argues that the trained dispositions of scientists, and the closure of professional membership by the degree and extent of mastery required for entry are foundations of such autonomy. For the case of statistics, it follows that the size and composition of government statistical services, and routes of entry into and advancement within them are a matter of sociological importance. Of equal import is the achieved autonomy of public statistics at particular historical and local moments; the vicissitudes thereof in Britain since 1975 have been addressed by several authors. Levitas, for example, describes the shrinking of the remit of public statistics in the early 1980s to meet narrowly the perceived interests of the state[30]. Such shrinkage is now seemingly reprised under the austerity of the 2010s[31]. Levitas reflects that in retrospect, the 1970s may appear as a 'golden era' of independence and open enquiry in British official statistics. Such a perception accords with Rose's view, that an important feature of recent developments in liberal states is the erosion of expert 'enclosures', spaces within the state where the opinions and decisions of external experts (for example, about the level of welfare benefits) formerly held sway[32]. A tension can thus be identified in the production and use of official statistics between serving the instrumental ends of states – the calculation of risk, the governing of distant things, the management of sentiment or the amelioration of economic problems – and statistics as part of a public sphere, where both means and ends of public policy are debated by multiple non-state participants: research institutions, interest groups, enterprises and so on.

Finally, the specific history of official statistics is also connected to wider themes in current social thought. Marquez terms these "empirical and normative problems concerning the capacities and legitimacy of modern states"[33]. As to capacities, an obvious remark is that the nation-state's dominance in statistics is challenged both by the statistical capacities of non-state actors (such as

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28   Ibid., 8.
29   Bourdieu, *Science of Science and Reflexivity*, 47.
30   Levitas, 'The Legacy of Rayner', 7–8, 13.
31   Simpson et al., *The Effect of the Cuts on Government Statistics and Their Use*.
32   Rose and Miller, *Governing the Present*, 209, 212.
33   Marquez, 'Technologies of State', 2.

large enterprises), and by the increasing involvement of super-state actors (such as the European Union) in classification and measurement. As to legitimacy, Desrosières in his concluding remarks suggests there was a "crisis of this dually legitimised [by state and science] space of statistics"[34] from the 1970s onwards, arising from conflicts over the validity of the measures and classifications used in official statistics. The period proposed thus appears fertile ground for new research.

Research Questions, Rationale and Aims

Given the broad field opened by the literature, the exposé now sets out clearly the specific questions, the stand-point, and the research material and methods for the research and explains the choice of case-study countries, period and topic. The central hypothesis is that there are systematic differences in official statistical measurement of the 'same' phenomenon over time and between countries, and that such differences arise within and reflect specific historical and local configurations of institutions and thought. The research question therefore comprises two parts:

- What classifications, measures, geographical systems and graphic representations of poverty and income distribution were used in official statistical publications in Britain and Germany from 1975 to 2010?

- Where did these schemata originate, and how were they transmitted and why were they incorporated into the publications by the statistical offices responsible?

The first part thus asks about the statistical construction of official statistics of poverty and the income distribution. Hereunder fall the instruments of measurement (such as sample surveys or tax records); the units of observation chosen (people, families, households); the definitions of income applied; the use of thresholds (such as poverty lines) and other summarising measures; the nature and definition of parts comprising the social whole (such as income quintiles, family types or ethnic groups); the geographical systems used to break down the statistics (such as urban/rural comparisons or regions); and lastly the textual and graphical representation of these.

The second part of the question concerns how official statistics came to have these properties at particular times each country. It thus concerns the emergence and transmission of classifications, measures and techniques of representation; the availability of administrative or scientific survey sources; the internal structure of statistical agencies that published the statistics; the agencies' relations to and autonomy from other interested institutions; and the integration of statistical measures with policy programmes. The literature review points to a complex structure of

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34   Desrosières, *The Politics of Large Numbers: a History of Statistical Reasoning*, 334.

institutions and interests involved in the production of official statistics. The standpoint from which the research question is posed is that of the statistical agencies who publish the statistics described. Inter-institutional relations will be investigated from this standpoint. Secondary perspectives that thus arise include: that of data providers and consumers in the scientific and academic sector; ministries responsible for formulating and directing policy; supra-national bodies, such as the European Union; bodies, such as trade unions or think-tanks, that comprise a wider interested public sphere.

Rationale for the case study topic

It is proposed to focus the study on official statistics of poverty and the distribution of income among private households. This is chosen first as a topic which had continued salience as a 'social problem' and was an essential part of the description of the social whole in both countries through the period. Poverty comprises a readily recognisable domain of knowledge, but also a domain in which measurement and interpretation are central and continually disputed problems. It is also a field in which the proposer has substantial prior expertise and published work[35].

Rationale for the comparator countries

Germany (West Germany only until 1990) and Britain are proposed as comparator countries. They are of comparable size and prosperity, but have markedly different economic trajectories from 1945 to the present[36]. They have important differences in the balance of regional and central political power, and in forms of economic organisation and control. Both are members of the EU, but their stance and their involvement therein are unalike. They have strikingly dissimilar political histories, and thus have interesting differences in the configuration and status of the civil service and research infrastructure. They are also dissimilar in the present and historic distribution of income, and the extent to and means by which the state intervenes to adjust this. The proposer is a native English speaker with professional working proficiency in German and reading proficiency in French.

Rationale for the period

As discussed, the period 1975 to 2010 saw rapid change in the technology for producing and disseminating official statistics, as well as socio-political changes in 'liberal' states. More concretely, the period is chosen to start with the founding of long-running, publicly funded, specialised social surveys, such as the Sozio-oekonomisches Panel (SOEP) and the General Household Survey (GHS). It is also a period in which poverty rates and the inter-class and regional

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35   e.g. Fenton, *Small-area Measures of Income Poverty*; Fenton, *How Will Changes to Local Housing Allowance Affect Low-income Tenants in Private Rented Housing?*; Lupton et al., *Using and Developing Place Typologies for Policy Purposes*.
36   Nützenadel, 'Consumerism, Material Culture and Economic Reconstruction in Cold War Germany', 392.

distribution of incomes changed in both countries, through, for example, rapid de-industrialisation and deregulation in Britain, and the long-run consequences of re-unification in Germany.

Aims and Expected Results of the Study

The study is intended above all to make an original contribution to scholarship, by being an empirically grounded reflection on the production of official statistics. It is also hoped that the study's findings can enliven contemporary public debate on poverty and on public statistics, by providing new understanding of how poverty statistics have been and are constructed.

Research Methods and Project Structure

Development of the Theoretical Framework

There is scope for original insights in the field of study to be made by re-appraisal of the existing literature, and through the synthesis of work in disciplinary traditions that have heretofore rarely been brought together. In particular, this will come from addressing problems in the sociology of the State in late capitalism, by applying approaches and results from the history of science. Considerable emphasis is therefore given in the project plan to developing the theoretical framework: Foucauldian, Marxist and other theories of the State; the history of statistics and statistical institutions; the sociology of knowledge and bureaucracy. The study also requires reading on the post-war social, economic and political history of the two countries.

Empirical Methods

The empirical methods proposed correspond to the two parts of the research question described above (p7). The first phase is a summarising and comparison of official statistical publications on poverty and the income distribution in the two countries. The primary sources for this are *Social Trends* and *Regional Trends*, published by the Office of National Statistics annually since 1970, the *Statistisches Jahrbuch*, published by the Statistisches Bundesamt since 1990, and the corresponding pre-reunification digest. The analysis is a structured abstraction of the measures, sources, thresholds, classifications, geographical systems and graphic representations used in these publications from 1975. The aim is to identify both changes in the structure of official statistics within each country, and long-running differences and similarities between them.

The findings from the first phase will orient the selection of two detailed topic studies, which comprise the second research phase. These will investigate the historical and social circumstances of particular findings through interviews with participants and archival research. An example case study comparison topic might be: the development and control of income measurement in the 1980s in two selected sample surveys run by academics and used in official statistics, such as

SOEP in Germany. Interviews would then be sought with leaders and members of the research team, with civil servants who managed the funding or who used the results, and with external interested parties such as academics and non-state users of the statistical results. The material to be discussed necessarily depend on the topic under investigation, but likely include historical recollections and reflections on the production of the statistics. The interviews are anticipated to be of considerable detail, and around 12 to 15 would in total be conducted. These interviews will be supplemented by archival research, including in political archives now open to researchers.

Interim Publications

The early phase will be complemented by submitting two scholarly articles in the field currently in preparation by the proposer, "Austerity Statistics: the scale and meaning of cuts to official statistics in Britain from 2010" (with L Simpson) and "The poor neighbourhood as object of welfare policy: theories, interventions and expertise in the UK 1997 to 2010" (with R Lupton). The intention is, with the supervisor's guidance, to submit at least one further paper for publication during the doctoral work; this might report the results of the first empirical phase.

Outline Thesis Structure

1. The history of statistics and public statistical institutions (literature review)

2. Official statistics in the late capitalist state: legitimacy, technology &c (literature review)

3. Poverty and income measures in official statistics Britain & Germany 1975-2010 (findings)

4. State & Wissenschaft: the production and procuring of poverty statistics (findings)

5. Second detailed topic chapter, possibly geographic systems or graphic representation

6. Conclusions

Project Work & Time Plan

	Theoretical Framework	**Empirical Work**	**Writing / Publications**
10.13 – 03.14	History of statistics Theory of the State Post-war history		Articles: austerity statistics; poor neighbourhoods
04.14 – 09.14	"	Publications comparison	First literature review
10.14 – 03.15	"	Publications comparison	Article: poverty measures
04.15 – 09.15	Bureaucracy, public institutions	Interviews / archival research	Empirical chapters
10.15 – 03.16		Final Interviews	Draft Thesis
04.16 – 09.16			Final Submission