LLAKES
CENTRE FOR LEARNING AND LIFE CHANCES IN KNOWLEDGE ECONOMIES AND SOCIETIES

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Using Comparative Methods in Social Science

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What is Comparative Analysis?

Comparative analysis seeks to use systematic comparisons between cases (or variables) to understand causal relations between societal phenomena.

Whether in political science, sociology or historical sociology, it tends to look at large macro issues in order to understand the different structures of societies and how they change.

- It has its origins in the work of the so-called ‘founding fathers of sociology’ (Marx, Durkheim, Comte, Weber, Tönnies etc).

- In the famous studies (Durkheim on *Suicide* and the *Division of Labour*; Weber on *Protestantism and the Spirit of Capitalism*; Barrington Moore on the *Origins of Democracy and Dictatorship*; or Adam Przeworski on Democracy and Development) comparisons are made across countries.

- But comparative analysis can also be conducted across supra-national and sub-national regions, or indeed across institutions.

Typically it deals with what Charles Tilly calls ‘Big Structures, Large Processes and Huge Comparisons.’

The Difference between Comparative and Individual Level Analysis

- Neil Smelser argues that all quantitative social science is comparative in that you are looking at relationships between variables. However there is a fundamental difference between individual level analysis and comparative analysis.

- Durkheim famously said that all social science is comparative but for him social science was about explaining the relationships between 'social facts' – which are societal or collective phenomena.

- As Charles Ragin argues the difference is meta-theoretical. Methodological Individualists (typically classical economists and some psychologists) believe that societal phenomena are merely abstractions – simply aggregations of individual properties. Comparativists believe that societal phenomena are real – ie more than simply the some of their parts.

- Many societal phenomena cannot be understood in terms of individual characteristics - ie social inequality which cannot be understood at the individual level.

Types of Comparative Analysis

- Comparative analysis may use either quantitative or qualitative/logical methods (or a mixed-method combination of both).
- More recently Charles Ragin (1987; 2000) has developed a method of Qualitative Comparative Analysis (QCA) which uses a large number of cases, like quantitative studies, but performs a logical type of analysis (using Boolean Algebra) rather than probabilistic statistical analysis.
- Some comparative analysts (such as Charles Ragin and comparative historians like Theda Skocpol) prefer to restrict the term ‘comparative analysis’ to qualitative or ‘logical’ comparison.
- Todd Landman, a leading political scientist and theorist of comparative methodology, argues that both quantitative and qualitative approaches can qualify as comparative analysis providing that that they focus on societal rather than individual level phenomena and adopt a systematic approach which follows the logics of comparaison.

Landman, T., Issues and Methods in Comparative Politics: An Introduction, 2016.

Quantitative Comparative Analysis

Quantitative comparative analysis uses quantitative (measurable) data based on samples or whole populations and seeks to test the relationships between variables using probabilistic statistical methods.

The object of quantitative analysis is to look for general ‘laws’ in relationships between variables across a wide number of cases (‘Large N’ studies).

But it can only be used where there are comparable data on a large number of cases.

Logical Comparative Analysis

Qualitative or ‘logical’ comparative analysis uses logical techniques to understand the relationships between factors and contexts. Typically it uses a limited number of relevant and ‘comparable’ cases rather than representative samples and does not seek to generalise beyond these cases. The methods of the logical approach include:

- Systematic comparison of similarities and differences
- Tracing processes
- Explaining deviant cases

Logical comparative analysis does not seek wide generalisability in its explanations but rather to provide more complex explanations of relationships in a smaller family of cases. It is good for:

- Analysing phenomena where quantitative data variables for a large number of cases does not exist
- Understanding cases ‘holistically’
- Dealing with complex configurations of conditions
- Understanding processes

The Logics of Comparison

First clearly laid out in 1843 in John Stuart Mill's: *A System of Logic*.

Mill isolated three logics of comparison for understanding cause and effect relationships:

- Method of Agreement
- Method of Difference
- Indirect Method

The Method of Agreement compares different instances in which a phenomenon (or outcome) occurs. The Method of Difference compares instances in which it occurs with instances where it doesn't occur. The Indirect Method is a combination of both.

Method of Agreement (Most Different Systems Design)

J. S. Mill:

'If two or more instances of the phenomenon under investigation have only one circumstance in common, that one circumstance is the cause (or effect) of the given phenomenon.'

- Takes a range of cases with the same outcome. They must differ in all circumstances except one. If they have only one common circumstance this must be the cause.

Problems

- There may be several circumstances which are present in the positive cases and you don’t know which is the cause or if they are jointly the cause.
- The common circumstance may be accidentally present in all cases but not the actual cause. It could be the effect of something else which is the cause (third causes).
- You may not have observed all the relevant circumstances and missed the actual cause.
- There may be other conditions which must be present as well.

Method of Difference (Most Similar Systems Design)

If an instance where the phenomenon y under investigation occurs and an instance where it doesn't occur have every circumstance in common except for one (x) that occurs only in the former, x is the effect or the cause or an indispensable part of the cause of y.

- Takes cases which have every aspect in common except the outcomes and one circumstance which is present when the outcome of interest occurs and absent when it doesn't.
- This is the method of scientific (controlled) experiments and is more robust.
- Used most effectively in qualitative studies within regions (where countries are very similar in cultural and geographic conditions).

Problems

- Outside of the laboratory it is very hard to find a range of cases which are identical in all respects except the putative cause and effect.

- Even when you do it is possible that the real cause has been missed and the apparent cause is present but not causative, ie when it is an ancillary effect of another circumstance which is the actual cause which you have not observed.

Indirect Method of Joint Agreement and Difference

In the joint method the investigator examines multiple instances where a particular phenomenon occurs, noting whatever conditions they have in common, and compares these with a range of instances where the phenomenon does not occur. If a certain condition(s) is common to the first set and is absent in the second set, and especially if the cases are otherwise quite similar, you can assume that this condition(s) represents cause of the phenomenon in question *in these cases*.

If two or more instances in which the phenomenon occurs have only one circumstance x in common, while two or more instances in which it doesn't occur have nothing in common except the absence of x, then x is the effect, or the cause or an indispensable part of the cause, of the phenomenon.

- Takes two or more instances where the outcomes does and does not occur. One circumstance must be present in all cases where the outcomes occurs and absent in all cases where it doesn't. The other circumstances must all differ. Can be considered as a double application of the Method of Agreement.

Not as rigorous as method of difference.

What is the Appropriate Level of Analysis in Comparative Research?

- The unit of analysis can refer to the level at which data is collected *or* the level at which the explanation is offered (Ragin)
- Comparative analysis offers explanations at the level of the group or society. Some, like Prezeworski, would argue it should be multi-level
- Societal explanations can be at the level of the group, the area, the country or system or at the regional level
- Level of observation: data is preferably society-level – measuring the inherent characteristics of the society (degrees of industrialisation or democracy; Gini coefficients).
- However, comparativists will often use aggregated individual level data as a proxy (ie levels of trust proxied by aggregates of individual measures of trust)
- It is important that levels of analyses and units of data correspond (ie avoiding cross-level or 'ecological' fallacies)

Selection of Cases

- The selection of cases is very important in qualitative comparison. Quantitative comparison utilises all relevant cases where data are available and explores the effects of different variables on the outcomes by imposing statistical controls on other variables. Qualitative comparison imposes controls through the selection of cases.

- Cases are chosen so that some basic characteristics are the same across cases so as to eliminate these from the enquiry.

- Cases are selected so that they exhibit some contrasts both in terms of the outcomes of interest (development of NES) and the likely causes (say religion).

- A small number of cases are chosen so that they can be examined in depth.

- A wider set of cases may be considered as part of background to the study.

Education and State Formation

In my book *Education and State Formation* I sought to use a 'macro-causal' comparative historical analysis to understand why some countries in the West developed state education systems much earlier than others. The logical approach is basically that of Mill's Indirect method.

Four main cases were chosen including France, Prussia, England and the USA. The revised version of the book (Green, 2013) includes East Asia.

The original cases were all western and relatively advanced countries for their time (control) but differed in the outcome of interest (ie rapidity of developing state education):

- Northern USA, Prussia and France developed structures of state education relatively rapidly;

- England was very late developing state education.

The USA was taken as a 'deviant' case because it developed NES early despite weak central state which challenges the hypothesis that the state was the main actor in developing NES.

- The study also used a number of other European cases in the background as additional evidence (eg other German states which developed state education early and Italy which also developed state education late.

The Inadequacy of Existing Theories

The books examines all the existing theories as to the causes of the rise of state education, including:

- Liberal theory on religion and the rise of democracy
- Industrialisation
- Urbanisation and proletarianisation

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t finds that none of these factors can explain why some countries in the west developed state education faster than others.

Modalities of State Formation

The book argues that the differential timing of the development of national education systems can only be explained by the variation in the process of state formation in different countries.

National education systems developed slowly in countries which were not undergoing a rapid process of state formation (England and Italy) during the nineteenth century. However, where there was a rapid and intensive process of state formation (as in France, Prussia and the USA) state education systems developed more rapidly).

An accelerated and intensive process of state formation most likely in new or reconstituted states as a result of :

- Nationalistic response to external military threats or incursions (Prussia)
- Re-building state after revolutions and civil wars (France and USA)
- Countries trying to catch up economically with more advanced neighbours (France and Prussia relative to England).

Comparative Education in a Global World

Critiques of comparative methods argue that globalisation makes comparative research obsolete:

- We live in a global village and the internationalisation of knowledge makes comparative professional specialism obsolete

- Nation states and systems are loosing their significance and should no longer be preferred units of analysis (Beck)

Comparative analysis still important

- States and systems still important
- Global convergence uneven: system and state differences still significant.
- A role for those with specialist knowledge of different countries and of comparative method
- Comparative analysis should be conducted at various levels including:
- Area
- State
- region