

# Selective Bias and Its Avoidance in Comparative Politics Research Based on the Internet Age

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**Abstract:** As an important branch of political science, comparative politics enriches the choice of research methods of political science by introducing and drawing lessons from research methods of other disciplines. In modern society, scientific decision-making depends on obtaining complete information, getting scientific treatment, drawing up different plans and making appropriate choices. With the development of research methods, how to effectively identify and avoid selective bias in comparative politics has become the focus of scholars' attention. The construction of think tanks is a necessary measure for the further development of national economy, politics and culture. Government departments and the public all attach great importance to the construction of think tanks. By analyzing the causes and specific sources of selectivity deviation in the application of different research methods in comparative politics, this paper puts forward two different methods to solve selectivity deviation, which will provide a list of basic methods and tools for scholars' future comparative politics research, and ultimately promote the progress of discipline research methods and enhance the methodological awareness of scholars' comparative research.

## 1. Introduction

In recent years, emerging experimental methods have gradually risen in response to researchers' strong expectations for causal mechanism mining, which is considered to be an important supplement to panel data analysis. It fully demonstrates the methodological value of empirical research to guide theoretical refinement. Since the 21st century, a large number of research results based on experimental methods have been published, which also reflects the affirmation of comparative politics on the value orientation of "causal relationship mining"[1].

Although analogy and classification are the focus of the discipline of comparative politics, the methodological choices involved have always been subordinate to the methods of other disciplines, from the absorption of institutional analysis methods in legal and sociological research to the "behaviorism movement" of social psychology research methods, Then we can learn from the "structural functionalist approach" of anthropological research and continuously absorb the concepts and research tools of rational analysis in economics, which all reflect this subordinate position. This kind of follow-up to the research methods of other disciplines makes the methodological propositions of Comparative Politics in different periods criticized and refuted by scholars because of the lag or applicability caused by the lack of originality. Since the 21st century, the "reform movement" of political science research methods, represented by the American political science community, has set off a new upsurge of reflection on the development of political science research methods since the middle and late 20th century and their impact on research content and discipline positioning[2].

The background of changes in the research methods of comparative politics provides us with a macroscopic vision for understanding this issue, but if we cannot provide microscopic specific reasons, it still cannot make scholars accept, convince, and form a conscious methodological review in research. By analyzing the typical problem of selection bias, which is widely present in the field of social science research but is deliberately ignored, this paper points out that when researchers

borrow research methods from other disciplines, they ignore foreign methods because they are unfamiliar or unskilled.

## 2. Different Research Methods and Sources of Selection Bias

As case selection is closely related to the overall definition of research objectives, data collection and data structure in quantitative analysis, whether it is case study and causal inference, or the interpretation of causal direction and correlation degree among variables, the research practice based on “research result orientation” constitutes a selective deviation, which further affects the scientificity of research conclusions. For example, the case study relies on a basic assumption: the case can represent a broader sample group of the same kind and achieve specific research objectives. If this assumption is wrong or there is room for doubt, the utility of the case study will be affected. Here, the selectivity bias corresponding to different research paths will be described in detail, so as to lay a knowledge foundation for discussing the avoidance of selectivity bias[3].

### 2.1 The Comparative Research Path and Selective Bias of “Abduction from the Result”

Taking the case comparative research method as an example, it belongs to the common qualitative research method in the path of “tracing the cause from the result”. Although the academic achievements of case comparison account for a considerable proportion in the literature of comparative politics, the case study methods are often despised or ignored. The fuzzy research design and unbalanced criteria for selecting the merits of cases often confuse scholars, resulting in the illusion that the threshold of case study methods is very low and can be used by anyone who is not subject to rigorous academic training[4].

In addition, because comparative political researchers mostly select cases based on “research result orientation”, they tend to focus on supporting cases, while ignoring the test of research conclusions by vetoing cases. When making decisions, especially micro-decisions, if we still deal with huge and complicated technical data according to traditional concepts and manual methods, we will spend a lot of manual time, forcing excellent decision makers to stay in low-level data processing. In order to change this situation, the decision-making departments should cooperate with each other, and make necessary technical innovations to the backward diplomatic decision-making methods. For example, in case comparative analysis, we assume that the researcher controls the four possible combinations of independent variables in the case, and then observes the influence on the change of dependent variables (see Table 1). At this time, the scholars' operation path is usually to select the cases with the dependent variable value of 1, that is, to select the supporting cases (samples with Y=1, such as wars, revolutions and economic growth miracles) that are rarely seen, while almost infinite vetoed cases (such as no wars, revolutions and economic growth miracles) are “appropriately” ignored.

Table 1 Variable Combinations And Selection Bias in Case Selection

Y	X1	X2
Y=1	1	1
	0	1
	1	0
	0	0
Y=0	1	1
	0	1
	1	0
	0	0

This ambiguity and extreme tendency in case selection will not only reduce the credibility of the research conclusion, but also further amplify the negative impact of selectivity bias. The above-mentioned problems of comparative analysis method also make some scholars think that it is

more art than science. Although there are many thought-provoking viewpoints and conclusions in the academic achievements of case studies, these conclusions are difficult to give a clear analysis process and be repeatedly tested by other cases[5]. The above characteristics of case comparison research methods bring corresponding selectivity bias, but the problems caused by some case selection strategies also exist in other research methods, such as the preference for “supporting cases” selection strategy is also applicable to “experimental methods or quantitative research on rare events”.

## 2.2 Research Path and Selective Bias

In order to ensure the validity of causal inferences and the comparability between cases, qualitative researchers also generally delimit the scope of their theories so that the inferences are only applicable to limited cases, that is, the analyzed cases represent the application of the generated theory. scope. At the same time, within-group differences of cases are often controlled by typological methods[6]. Qualitative researchers are convinced that “too large populations” must produce causal heterogeneity, and the probability of missing theories or misspecifying major causal relationships increases dramatically, even at a slower pace, as the size of the population under study increases. After completing the above work, the researchers also need to overcome the endogeneity problem through the methods of in-case analysis and process tracking.

In addition, in the sampling design and sampling process of quantitative research, on the one hand, it is easy to ignore the influence of omitted variables; Selectivity bias results from this. Figure 1 below shows the overall distribution of citizens' evaluations of the country's current economy with a full range of values for the dependent variable.

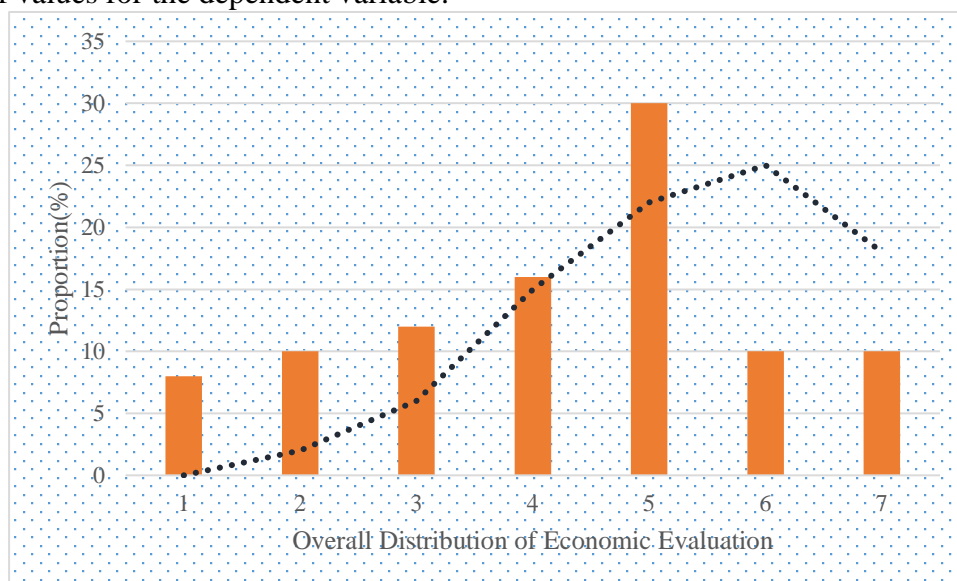


Fig.1 Schematic Diagram of the Overall Distribution of the Current Economic Evaluation under the Condition That the Value Range of the Dependent Variable is Complete

Through the above analysis, the reasons for the selection bias in different research methods can be summarized as follows, as shown in Figure 2: First, the sampling bias caused by non-random sampling weakens the external effects of the research results; second, the time interval (time interval), such as the early termination of the research design due to ethical issues and other factors, or the termination of the remaining data analysis when the research analysis is in the middle of the process, and the remaining data analysis has already appeared; the third is caused by the data analysis process. Such as the elimination of specific data, the elimination of outliers, etc. the fourth is the unscientific nature of the analysis process; the fifth is the researcher's subjective choice and data filtering[7].

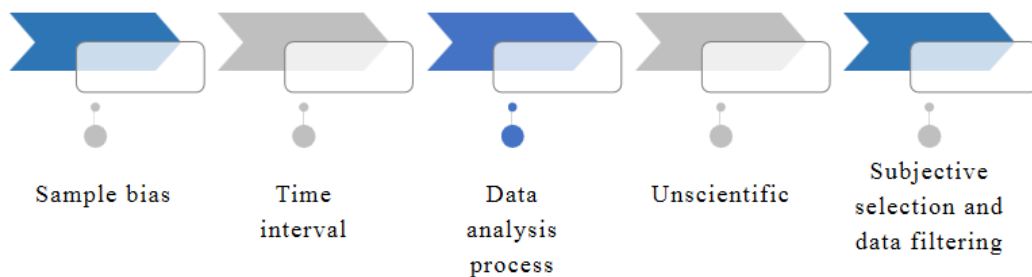


Fig.2 Causes of Selectivity Bias

The research process we summarized also found that although different scholars found several selective bias problems in sporadic analysis, they also tried to avoid the selective bias problems one after another. However, this research field has not developed smoothly in recent years[8]. For example, even though we are aware of the various impacts of historical records on research, it is difficult to put forward solutions in subsequent research due to the cognitive limitations of methodology.

### 3. Countermeasures for Selective Bias Avoidance in Comparative Politics Research in the Internet Age

Based on the above discussion, this paper believes that under the background of the network era, the following selective deviation avoidance strategies should be considered:

(1) Improve citizens' practical political participation skills by enriching their political practice activities. Conscientiously implement citizens' political rights, such as the right to vote and supervise, so that citizens can enhance their inner experience of exercising political rights and participating in the management of state and social public affairs in voting and election, thus improving their corresponding political skills. Thirdly, the realistic expression ways of citizens' political will should be unblocked. Citizens' expression of political will through realistic ways can deepen their understanding of political roles, improve their political skills, accumulate political experience and promote their political participation[9]. In addition, society should provide citizens with smooth channels and convenient conditions to join political parties, political associations and solve social and political problems in groups or organizations.

(2) Strengthen citizens' ability of political analysis and identification by improving the effectiveness of ideological and political education. The ultimate goal of strengthening the propaganda of citizens' Marxist world outlook is to make them master the correct and scientific methods of analyzing political phenomena and problems. The world outlook and methodology of dialectical materialism and historical materialism are the basic methods to analyze political problems, which require dialectical, historical and class viewpoints and methods to understand and analyze political phenomena.

(3) Strengthen the monitoring and management of political information on the Internet. Closely monitor internet political information[10]. It is of great significance to closely monitor the trend of political information on the Internet to find and control bad political information sources on the Internet, cut off their transmission channels and reduce their influence range.

(4) Relying on the command and ability of a single person or a single leading group can no longer adapt to the increasingly complex decision-making activities. On the basis of the official information collection system, we should actively develop the non-governmental information collection system, and actively promote the construction of think tanks, public opinion survey institutions, data statistics institutions and network information sharing systems. In order to promote the scientific decision-making, we must strive to establish a comprehensive research institution of high-level consulting nature that specializes in serving decision-making bodies or decision-makers.

#### 4. Conclusions

To sum up, it can be seen from the appearance and identification of selectivity deviation that how to avoid the influence of selectivity deviation on the research results in the research is particularly important, because once selectivity deviation occurs, it is very difficult to eliminate or correct its influence. Therefore, it is necessary to evaluate the potential or possible selectivity deviation at the starting point of research design, so as to avoid and reduce the occurrence of selectivity deviation as much as possible. At present, more and more scholars have proposed several improvements in research methods based on active avoidance, such as reducing the proportion of no answer in sample collection, conducting multiple rounds of tracking research on research objects, conducting hierarchical design and variable hierarchical control for specific research propositions, and increasing control variables.

The development of the Internet has opened the door to the Internet era. As for the selective deviation, some scholars pointed out that the tendency value method is used to correct it by weighting, that is, two samples are required in the survey: one is a random sample for calibration, and the other is a calibrated sample. For example, Harris Interactive uses the method of propensity value, or replaces propensity weighting with matching. Second, with the help of the test of selectivity bias, appropriate methodological improvements are introduced to enhance the rationality of causal effect, especially in the sensitivity analysis of the impact of microscopic changes of parameters on the model. It can be seen that the driving force for the development of comparative political methods is always generated in the collision of problems, and the final result of this collision is also to solve the new research problems of comparative politics.

#### References

- [1] Zang Leizhen, Chen Peng. Selective Bias and Its Avoidance in Comparative Political Science Research [J]. Political Science Research, 2018(1):13.
- [2] Zang Leizhen, Chen Peng. The problem of selection bias and its identification [J]. World Economics and Politics, 2019(4):17.
- [3] JerkerDenrell, Wang Fangfang. Selection bias and the dangers of benchmarking [J]. Management Zhihui, 2020(10):6.
- [4] Lin Rongqi, Li Chengran, Zhang Shoufen, et al. Research on the behavioral characteristics of college students reading political information in the new media environment such as the Internet: Taking Quanzhou as an example [J]. Journal of Jilin Institute of Chemical Technology, 2018, 33(4):6.
- [5] Wen Xin. Political Science in the Internet Age [J]. Microcomputer World, 2020(15):2.
- [6] Guan Qingxia, Li Wei. The phenomenon of “surrounding politics” in the Internet age [J]. News Enthusiasts, 2019(12):1.
- [7] Qian Zhenming. Politics and Network Politics in the Internet Age [J]. Jianghai Journal, 2020(4):4.
- [8] ZHANG Shiwei. Horizon Differences and Conceptual Transformation: An Analysis of “Politics of Merit” from the Perspective of Comparative Politics [J]. Administrative Forum, 2019, 26(1):8.
- [9] Cheng Shan, Yu Shuang, Jiao Ziqiu. A brief analysis of “Introduction to Comparative Politics” [J]. Zhifu Times, 2018(6X):1.
- [10] Zhang Shaoshan. Countermeasures to avoid the negative impact of the Internet on the political socialization of Chinese college students [J]. Academic Theory, 2017(21):2.