



# Encyclopedia of Law & Society: American and Global Perspectives

## Empirical Research Strategies

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Social science researchers, and especially economists, had brought the theoretical tools of economics to bear on legal scholarship as early as the 1960s. However, the consistent use of sophisticated empirical tools to study law lagged behind economics scholarship by decades. No doubt, part of this failing owes to the fact that early law and economics scholars were more interested in theoretical and institutional issues than in designing powerful econometric tests.

### **Econometrics and Law**

Compounding this idiosyncratic bias in favor of theory, the expense of computing resources and a dearth of useful datasets limited the widespread use of econometric methods to examine the effects of law on the behavior of individuals. However, as personal computers allow scholars to collect and examine larger datasets at relatively low expense, and as econometric theory itself provides methods more amenable to analyzing topics in microeconomics, law and economics in particular has become an increasingly empirical field.

Econometrics is the application of statistical methods to test the implications of economic theory or to measure the effects of changes in a host of independent variables on a given variable of interest. In law and economics, scholars often use econometric methods to evaluate the welfare effects of changes in law or public policy by examining how changes in legal incentives and constraints affect the behavior of an individual. Because the use of randomized controlled trials is generally not possible in evaluating the effects of legal changes, econometric studies use statistical methods to attempt to identify causal relationships using nonexperimental (that is, real world) data. To mitigate the problems created by this lack of a randomly chosen control group, researchers attempt to exploit controls that exist in the data themselves.

### **Time-Series Studies of Law**

Time-series studies generally examine the experience of one “subject” over the course of many periods. In legal applications, the subject may be an individual, a firm, or some political aggregate such as a state or a nation. In these studies, researchers examine revealed changes in the behavior of the subject as the external environment changes over time. Often, the applications of time-series methods in legal scholarship focus on “event studies.” That is, researchers examine the window around a legal change and quantify how the behavior of the subject changes after the legal change relative to the subject's prechange behavior. In essence, the prechange baseline is used as the control group in the study, and any change in behavior is attributed to the legal change. To mitigate the effect of confounding factors, researchers attempt to control for any observable environmental changes that also occur during the period studied. The primary shortcoming of these event studies, however, is their inability to control for unobservable or unquantifiable changes occurring in the environment, limiting a researcher's confidence in drawing causal conclusions.

### **Cross-Sectional Studies of Law**

Cross-sectional studies examine numerous subjects exhibiting different characteristics and facing disparate environments during the same period to discern the effect of a given characteristic of the subject or the environment on the subject's behavior. In legal applications, this will often involve studying the effects of differing legal regimes or public policies on behavior. Effectively, the subjects who are not governed by a particular law or policy are used as the control group against which the effects of the law or policy are judged.

To mitigate the effects of confounding factors, researchers control for any observable differences that exist among the subjects; however, the failure to control for unobservable heterogeneity among the subjects limits confidence in drawing causal inferences about the effects of the law or policy. Of particular concern in this context is self-selection bias, which conflates the effects of a policy with the effects of other characteristics that determine whether the subject is affected by the policy. For example, if areas with high crime tend to hire more police officers, the estimated effect of police on crime might indicate that more police are associated with a crime increase.

## Panel Data Studies of Law

In an attempt to remedy the shortcomings of both time-series and cross-sectional studies, some researchers rely on panel or longitudinal datasets that follow many individuals over a given period. The intuition of these panel studies is similar to that of randomized controlled studies in medicine. That is, a researcher can define baselines for each of the subjects in the dataset and can examine the relative changes to that baseline that occur when a law or policy is applied to some, but not all, of the subjects. The baseline presumably controls for any unobservable idiosyncratic differences that exist among the subjects, while the behavior of the group that is not affected by the law or policy serves as a control for any unobservable change in the external environment.

These so-called natural experiments or “difference-in-differences” studies provide greater confidence in causal inferences drawn about the effects of legal changes. They serve as a second best option when randomized controlled studies are not possible. Unfortunately, they do suffer from the possibility that the assignment between “treatment” and “control” groups is not random, implying that self-selection bias could still limit a researcher’s ability to draw causal inferences. The quality of these studies depends on the likelihood that the law’s introduction is exogenous. That is, the legal variable should not be related to characteristics of the subject that also influence behavior.

## Conclusion

As with some social science and with economics generally, law and economics has become increasingly empirical as researchers use econometric tools to test the theoretical predictions of law and economics and to evaluate the welfare aspects of given legal and policy changes. The quality of these studies depends on a researcher’s ability to control for confounding factors that influence behavior in addition to the legal or policy instrument under study. Modern econometric techniques aim to define suitable controls for influences that are not observable or quantifiable when dealing with nonexperimental data.

- economics and law
- law and policy
- causal inference
- baseline
- selection bias
- economics
- control groups

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See also

- [Causal Inference](#)
- [Databases](#)
- [Economics, Law and](#)
- [Longitudinal Research](#)
- [Mathematical Modeling](#)
- [Multivariate Analysis](#)
- [Statistical Inference](#)

## Further Readings

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