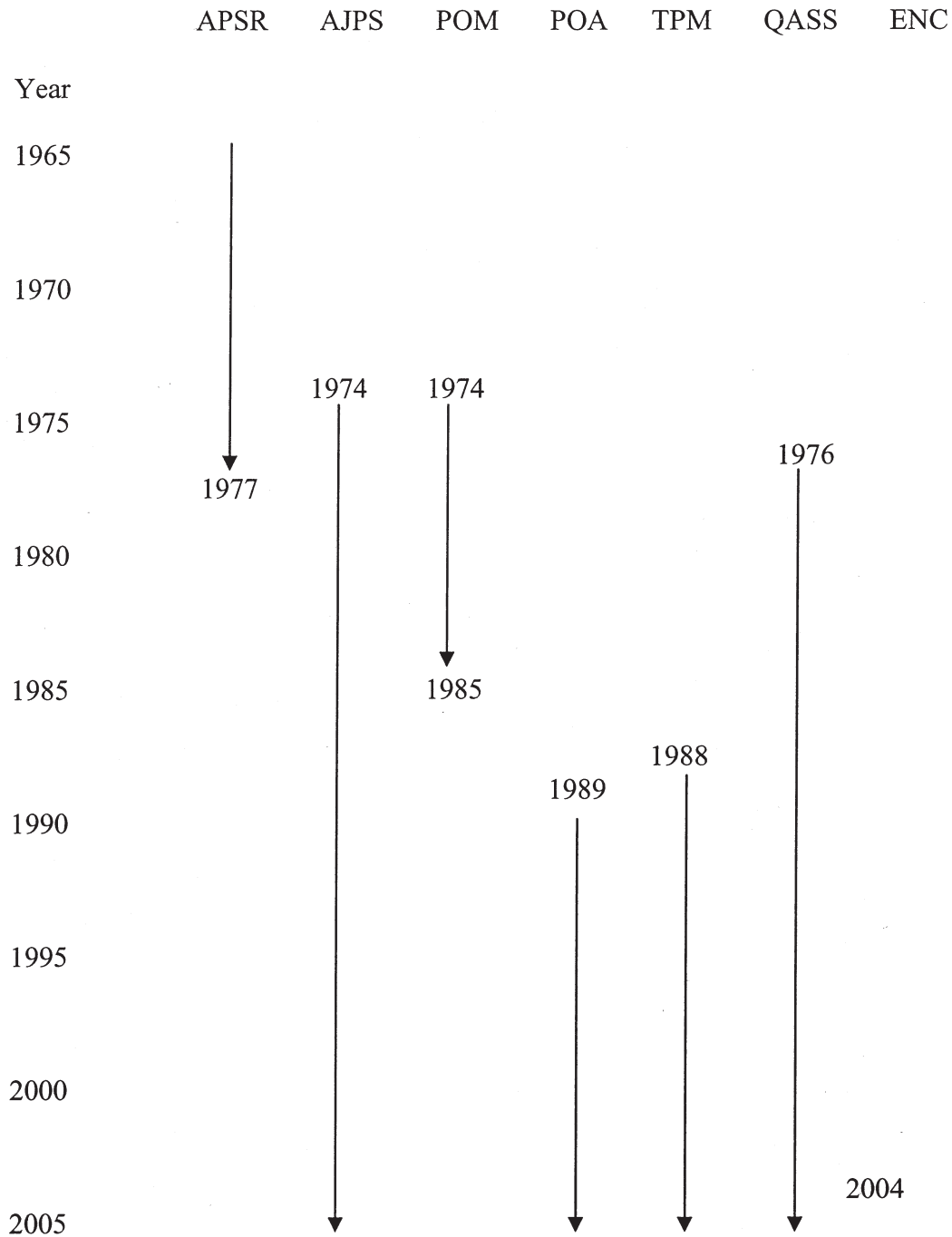


# **Data Analysis: Evolution & Issues**

Table 1. Time Lines for Publication Outlets in Quantitative Political Science, 1965-2005.



Note: APSR = the American Political Science Review, AJPS = the American Journal of Political Science, POM = Political Methodology, POA = Political Analysis, TPM = the Political Methodologist, QASS = the Sage Quantitative Analysis in the Social Sciences green monograph series, ENC = the Sage Encyclopedia of Social Science Research Methods, and the Encyclopedia of Social Measurement.

# Quantitative Applications in the Social Sciences

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ISBN 0-7619-3068-X



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# Reader's Guide

## ANALYSIS OF VARIANCE

Analysis of Covariance (ANCOVA)  
Analysis of Variance (ANOVA)  
Main Effect  
Model I ANOVA  
Model II ANOVA  
Model III ANOVA  
One-Way ANOVA  
Two-Way ANOVA

## ASSOCIATION AND CORRELATION

Association  
Association Model  
Asymmetric Measures  
Biserial Correlation  
Canonical Correlation Analysis  
Correlation  
Correspondence Analysis  
Intraclass Correlation  
Multiple Correlation  
Part Correlation  
Partial Correlation  
Pearson's Correlation  
Coefficient  
Semipartial Correlation  
Simple Correlation (Regression)  
Spearman Correlation Coefficient  
Strength of Association  
Symmetric Measures

## BASIC QUALITATIVE RESEARCH

Autobiography  
Life History Method  
Life Story Interview  
Qualitative Content Analysis  
Qualitative Data Management  
Qualitative Research

Quantitative and Qualitative Research,  
Debate About  
Secondary Analysis of Qualitative Data

## BASIC STATISTICS

Alternative Hypothesis  
Average  
Bar Graph  
Bell-Shaped Curve  
Bimodal  
Case  
Causal Modeling  
Cell  
Covariance  
Cumulative Frequency Polygon  
Data  
Dependent Variable  
Dispersion  
Exploratory Data Analysis  
 $F$  Ratio  
Frequency Distribution  
Histogram  
Hypothesis  
Independent Variable  
Median  
Measures of Central Tendency  
 $N(n)$   
Null Hypothesis  
Pie Chart  
Regression  
Standard Deviation  
Statistic  
 $t$ -Test  
 $\bar{X}$   
 $Y$  Variable  
 $z$ -Test

## CAUSAL MODELING

Causality  
Dependent Variable

Effects Coefficient  
 Endogenous Variable  
 Exogenous Variable  
 Independent Variable  
 Path Analysis  
 Structural Equation Modeling

### DISCOURSE/CONVERSATION ANALYSIS

Accounts  
 Conversation Analysis  
 Critical Discourse Analysis  
 Deviant Case Analysis  
 Discourse Analysis  
 Foucauldian Discourse Analysis  
 Interpretative Repertoire  
 Proof Procedure

### ECONOMETRICS

ARIMA  
 Cointegration  
 Durbin-Watson Statistic  
 Econometrics  
 Fixed Effects Model  
 Mixed-Effects Model  
 Panel  
 Panel Data Analysis  
 Random-Effects Model  
 Selection Bias  
 Serial Correlation (Regression)  
 Time-Series Cross-Section (TSCS) Models  
 Time-Series Data (Analysis/Design)  
 Tobit Analysis

### EPISTEMOLOGY

Constructionism, Social  
 Epistemology  
 Idealism  
 Interpretivism  
 Laws in Social Science  
 Logical Positivism  
 Methodological Holism  
 Naturalism  
 Objectivism  
 Positivism

### ETHNOGRAPHY

Autoethnography  
 Case Study  
 Creative Analytical Practice (CAP) Ethnography

Critical Ethnography  
 Ethnographic Content Analysis  
 Ethnographic Realism  
 Ethnographic Tales  
 Ethnography  
 Participant Observation

### EVALUATION

Applied Qualitative Research  
 Applied Research  
 Evaluation Research  
 Experiment  
 Heuristic Inquiry  
 Impact Assessment  
 Qualitative Evaluation  
 Randomized Control Trial

### EVENT HISTORY ANALYSIS

Censoring and Truncation  
 Event History Analysis  
 Hazard Rate  
 Survival Analysis  
 Transition Rate

### EXPERIMENTAL DESIGN

Experiment  
 Experimenter Expectancy Effect  
 External Validity  
 Field Experimentation  
 Hawthorne Effect  
 Internal Validity  
 Laboratory Experiment  
 Milgram Experiments  
 Quasi-Experiment

### FACTOR ANALYSIS AND RELATED TECHNIQUES

Cluster Analysis  
 Commonality Analysis  
 Confirmatory Factor Analysis  
 Correspondence Analysis  
 Eigenvalue  
 Exploratory Factor Analysis  
 Factor Analysis  
 Oblique Rotation  
 Principal Components Analysis  
 Rotated Factor

Rotations  
Varimax Rotation

## FEMINIST METHODOLOGY

Feminist Ethnography  
Feminist Research  
Gender Issues  
Standpoint Epistemology

## GENERALIZED LINEAR MODELS

General Linear Models  
Generalized Linear Models  
Link Function  
Logistic Regression  
Logit  
Logit Model  
Poisson Regression  
Probit Analysis

## HISTORICAL/COMPARATIVE

Comparative Method  
Comparative Research  
Documents, Types of  
Emic/Etic Distinction  
Historical Methods  
Oral History

## INTERVIEWING IN QUALITATIVE RESEARCH

Biographic Narrative Interpretive Method (BNIM)  
Dependent Interviewing  
Informant Interviewing  
Interviewing in Qualitative Research  
Narrative Interviewing  
Semistructured Interview  
Unstructured Interview

## LATENT VARIABLE MODEL

Confirmatory Factor Analysis  
Item Response Theory  
Factor Analysis  
Latent Budget Analysis  
Latent Class Analysis  
Latent Markov Model  
Latent Profile Model

Latent Trait Models  
Latent Variable  
Local Independence  
Nonparametric Random-Effects Model  
Structural Equation Modeling

## LIFE HISTORY/BIOGRAPHY

Autobiography  
Biographic Narrative Interpretive Method (BNIM)  
Interpretive Biography  
Life History Method  
Life Story Interview  
Narrative Analysis  
Psychoanalytic Methods

## LOG-LINEAR MODELS (CATEGORICAL DEPENDENT VARIABLES)

Association Model  
Categorical Data Analysis  
Contingency Table  
Expected Frequency  
Goodness-of-Fit Measures  
Log-Linear Model  
Marginal Model  
Marginals  
Mobility Table  
Odds Ratio  
Saturated Model  
Sparse Table

## LONGITUDINAL ANALYSIS

Cohort Analysis  
Longitudinal Research  
Panel  
Period Effects  
Time-Series Data (Analysis/Design)

## MATHEMATICS AND FORMAL MODELS

Algorithm  
Assumptions  
Basic Research  
Catastrophe Theory  
Chaos Theory  
Distribution  
Fuzzy Set Theory  
Game Theory

**MEASUREMENT LEVEL**

Attribute  
 Binary  
 Categorical  
 Continuous Variable  
 Dichotomous Variables  
 Discrete  
 Interval  
 Level of Measurement  
 Metric Variable  
 Nominal Variable  
 Ordinal Measure

**MEASUREMENT TESTING AND CLASSIFICATION**

Conceptualization, Operationalization, and Measurement  
 Generalizability Theory  
 Item Response Theory  
 Likert Scale  
 Multiple-Indicator Measures  
 Summated Rating Scale

**MULTILEVEL ANALYSIS**

Contextual Effects  
 Dependent Observations  
 Fixed Effects Model  
 Mixed-Effects Model  
 Multilevel Analysis  
 Nonparametric Random-Effects Model  
 Random-Coefficient Model  
 Random-Effects Model

**MULTIPLE REGRESSION**

Adjusted *R*-Squared  
 Best Linear Unbiased Estimator  
 Beta  
 Generalized Least Squares  
 Heteroskedasticity  
 Interaction Effect  
 Misspecification  
 Multicollinearity  
 Multiple Regression Analysis  
 Nonadditive  
*R*-Squared  
 Regression  
 Regression Diagnostics

Specification  
 Standard Error of the Estimate

**QUALITATIVE DATA ANALYSIS**

Analytic Induction  
 CAQDAS  
 Constant Comparison  
 Grounded Theory  
 In Vivo Coding  
 Memos, Memoing  
 Negative Case  
 Qualitative Content Analysis

**SAMPLING IN QUALITATIVE RESEARCH**

Purposive Sampling  
 Sampling in Qualitative Research  
 Snowball Sampling  
 Theoretical Sampling

**SAMPLING IN SURVEYS**

Multistage Sampling  
 Quota Sampling  
 Random Sampling  
 Representative Sample  
 Sampling  
 Sampling Error  
 Stratified Sampling  
 Systematic Sampling

**SCALING**

Attitude Measurement  
 Bipolar Scale  
 Dimension  
 Dual Scaling  
 Guttman Scaling  
 Index  
 Likert Scale  
 Multidimensional Scaling (MDS)  
 Optimal Scaling  
 Scale  
 Scaling  
 Semantic Differential Scale  
 Thurstone Scaling

**SIGNIFICANCE TESTING**

Alpha, Significance Level of a Test  
 Confidence Interval

Level of Significance  
One-Tailed Test  
Power of a Test  
Significance Level  
Significance Testing  
Statistical Power  
Statistical Significance  
Substantive Significance  
Two-Tailed Test

### **SIMPLE REGRESSION**

Coefficient of Determination  
Constant  
Intercept  
Least Squares  
Linear Regression  
Ordinary Least Squares  
Regression on . . .  
Regression  
Scatterplot  
Slope  
Y-Intercept

### **SURVEY DESIGN**

Computer-Assisted Personal  
Interviewing  
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Interviewing  
Mail Questionnaire  
Secondary Analysis  
of Survey Data  
Structured Interview  
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### **TIME SERIES**

ARIMA  
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Granger Causality  
Interrupted Time-Series Design  
Intervention Analysis  
Lag Structure  
Moving Average  
Periodicity  
Serial Correlation  
Spectral Analysis  
Time-Series Cross-Section (TSCS)  
Models  
Time-Series Data (Analysis/Design)  
Trend Analysis

**TABLE 1 Party Identification and Exogenous Party Identification, Economic Perception and Exogenous Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates; 2002–2004 ANES Panel)**

	(1)	(2)	(3)
<i>A. Preliminary Panel Estimates (Ordered Probit)<sup>a</sup></i>			
PID (04)	1.21 (.07)**		
PID (02)		1.14 (.07)**	1.06 (.07)**
ECN (04)	.44 (.10)**		.49 (.09)**
ECN (02)		.36 (.13)**	
Controls (not shown)			
Intercept (not shown)			
Pseudo-R-sq.	.56	.47	.49
N	698	691	695
<i>B. Exogenous Party Identification, Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates)<sup>b</sup></i>			
ECN (04)	.53 (.10)**	.65 (.09)**	.77 (.08)**
PID' (02, broad x)	.76 (.06)**		
PID' (02, mod x)		.93 (.08)**	
PID' (02, strict x)			.93 (.16)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.48	.39	.24
Corr (r) PID/PID'	.76	.63	.39
N	515	593	633
<i>C. Exogenous Party Identification, Exogenous Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates)<sup>c</sup></i>			
ECN' (04)	.57 (.18)**	.61 (.15)**	.78 (.13)**
PID' (02, broad x)	.80 (.06)**		
PID' (02, mod x)		.96 (.08)**	
PID' (02, strict x)			.90 (.16)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.45	.34	.16
N	511	589	629

\*\* = statistical significance, .01; \* = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

<sup>a</sup>Dependent variable = 1 if vote for the incumbent, 0 otherwise; PID = +1 if partisan of the incumbent, 0 for independents, and -1 for partisan of the challenger(s); ECN = +1 for better national economic conditions, 0 for same national economic conditions, -1 for worse national economic conditions; Control variables = Race (1 for black, 0 otherwise), Age (in years), Gender (1 for female, 0 for male), Education (7 categories), Income (0 for lowest third, .5 for middle third, and 1 for highest third).

<sup>b</sup>PID' (02, strict x) = a "strictly" exogenous party identification variable, an instrument constructed from the following variables in the 2002 ANES: race (black, Hispanic, Southern white), age, gender, education, income, religion (Jewish, Catholic, white fundamentalist Protestant), religious observance, union membership. PID' (02, mod x) = a moderately exogenous party identification variable, an instrument constructed from the foregoing variables in the strict construction, plus liberal-conservative ideology from 2000. PID' (02, broad x) = a broadly exogenous party identification variable, an instrument constructed from all the foregoing variables, plus reported presidential vote in 1996.

<sup>c</sup>The party identification instruments are constructed exactly as above. ECN' (04) = an instrumental variable for national retrospective economic evaluation in 2004, constructed from the following variables in the 2004 ANES: race, age, gender, education, income, interest in politics, class (executive, blue collar), unemployment status, union member, personal retrospective economic evaluation.

Table 2

**(Two-Stage, Ordered Probit  
Estimates; 1990–1992 ANES Panel)**

	(1)	(2)	(3)
<i>A. Preliminary Panel Estimates (Ordered Probit)<sup>a</sup></i>			
PID (92)	.92 (.06)**		
PID (90)		.63 (.05)**	.60 (.05)**
ECN (92)	.55 (.10)**		.59 (.09)**
ECN (90)		.31 (.11)**	
Controls (not shown)			
Intercept (not shown)			
Pseudo-R-sq.	.37	.21	.24
N	830	823	826
<i>B. Exogenous Party Identification, Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates)<sup>b</sup></i>			
ECN (92)	.56 (.13)**	.57 (.11)**	.62 (.10)**
PID' (90, broad x)	.76 (.08)**		
PID' (90, mod x)		.92 (.13)**	
PID' (90, strict x)			.66 (.17)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.38	.22	.14
Corr (r) PID/PID'	.76	.50	.40
N	398	469	615
<i>C. Exogenous Party Identification, Exogenous Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates)<sup>c</sup></i>			
ECN' (92)	1.05 (.32)**	.95 (.25)**	.73 (.20)**
PID' (90, broad x)	.81 (.09)**		
PID' (90, mod x)		1.06 (.14)**	
3PID' (90, strict x)			.66 (.18)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.38	.22	.11
N	354	411	545

\*\* = statistical significance, .01; \* = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

<sup>a</sup>Specification and measurement follow the procedures of Table 1.

<sup>b</sup>The approach to construction of the instrumental variables is as described in Table 1B.

<sup>c</sup>The procedures and the instrumental variables construction is as with Table 1C.

**TABLE 3 Exogenous Party Identification, Exogenous Economic Perception, and the Vote: Panel Tests (Two-Stage, Ordered Probit Estimates; 1995–1997 BES and 2004–2006 CES Panels)**

	(1)	(2)	(3)
<i>A. 1995–1997 BES<sup>a</sup></i>			
ECN' (97)	1.23 (.40)**	1.35 (.33)**	.97 (.22)**
PID' (95, broad x)	.96 (.09)**		
PID' (95, mod x)		.99 (.12)**	
PID' (95, strict x)			.90 (.20)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.51	.34	.22
Corr (r) PID/PID'	.71	.48	.32
N	531	610	1215
<i>B. 2004–2006 CES<sup>b</sup></i>			
ECN' (06)	.64 (.24)**	.58 (.23)**	.63 (.21)**
PID' (04, broad x)	.48 (.09)**		
PID' (04, mod x)		.49 (.14)**	
PID' (04, strict x)			.90 (.23)**
Controls (not shown)			
Intercepts (not shown)			
Pseudo-R-sq.	.29	.25	.27
Corr (r) PID/PID'	.64	.44	.26
N	461	498	567

\*\* = statistical significance, .01; \* = statistical significance, .05; one-tailed tests. Figures in parentheses are standard errors.

<sup>a</sup>Dependent variable = 1 if vote for the incumbent, 0 otherwise. Control variables = Age (in years), Gender (1 for female, 0 for male), Education (6 categories), Income (a continuous scale from 0 to 1), Incumbent leader evaluation (1 if John Major is a strong leader, 0 otherwise). PID' (95, strict x) = a "strictly" exogenous party identification variable, an instrument constructed from the following variables in the 1992–1997 BES: age, gender, education, income, class (professional, intermediate, skilled, partly skilled), unemployment status, religion (no religion, C of E, Roman Catholic, Other Christian, Non-Christian). PID' (95, mod x) = a moderately exogenous party identification variable, an instrument constructed from the foregoing variables in the strict construction, plus opinion on nationalization. PID' (95, broad x) = a broadly exogenous party identification variable, an instrument constructed from all the foregoing variables, plus reported vote in 1987. ECN' (97) = an instrumental variable for national retrospective economic evaluation in 1997, constructed from the following variables in the 1992–1997 BES: age, gender, education, income, interest in politics, class (professional, intermediate, skilled, partly skilled), unemployment status, union member, personal retrospective economic evaluation.

<sup>b</sup>Dependent variable = 1 if vote for the incumbent, 0 otherwise. Control variables = Age (in years), Gender (1 for female, 0 for male), Education (6 categories), Income (0 for lowest third, .5 for middle third, and 1 for highest third), Incumbent leader evaluation (a feeling thermometer of Paul Martin, from 0 to 100). PID' (04, strict x) = a "strictly" exogenous party identification variable, an instrument constructed from the following variables in the 2004 CES: age; gender; education; income; religion (no religion, Catholic, Anglican; Protestant, United Church of Canada); religiosity; union membership; region (Atlantic, Quebec, Prairies, Alberta, British Columbia); language (French, other); rural; immigrant; North European; Non-European; public sector worker; married. PID' (04, mod x) = a moderately exogenous party identification variable, an instrument constructed from the foregoing variables in the strict construction, plus a constructed ideological variable (including cynicism, regional alienation, and free-enterprise dimensions from 2004) and opinion on sovereignty. PID' (04, broad x) = a broadly exogenous party identification variable, an instrument constructed from all the foregoing variables, plus reported vote in 2000. ECN' (06) = an instrumental variable for national retrospective economic evaluation in 2006, constructed from the following variables in the 2006 CES: age, gender, education, income, union membership, interest in politics, unemployment status, and personal retrospective economic evaluation.