Research Needs on Panel Conditioning Effects

Rob Warren

University of Minnesota

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MINNESOTA POPULATION CENTER

UNIVERSITY OF MINNESOTA

Effect of Panel Participation

The big problem yet unsolved is whether repeated interviews are likely, in themselves, to influence a respondent's opinions.

PAUL F. LAZARSFELD
Director, Princeton Office of Radio Research

(*Public Opinion Quarterly*, 1940)

Anecdotes? Parlor Tricks?

To Cheat or Not to Cheat: Reducing Cheating by Requesting Self-Prophecy

Eric Spangenberg and Carl Obermiller

Cheating in college is widely acknowledged as a serious problem. A review of the research on cheating suggests adequate understanding of it but little insight into solutions. A psychological phenomenon referred to as the self-prophecy effect is reviewed and proposed as the basis for an intervention based on asking students to predict whether they would cheat. We conducted an experiment with one group making a prediction about cheating and the other group not doing so. Subsequent cheating behavior was monitored. The results indicated the prediction request resulted in significantly less cheating.

Spangenberg, E. R. and C. Obermiller. 1996. "To Cheat or Not to Cheat: Reducing Cheating by Requesting Self-Prophecy." *Marketing Education Review* 6:95-103.

Health Psychology
2008, Vol. 27, No. 2, 179–184

0278-6133/08/$12.00 DOI: 10.1037/0278-6133.27.2.179

Asking Questions Changes Behavior: Mere Measurement Effects on Frequency of Blood Donation

Gaston Godin
Laval University

Paschal Sheeran
University of Sheffield

Mark Conner
University of Leeds

Marc Germain
Héma-Québec

Godin, G., P. Sheeran, M. Conner, and M. Germain. 2008. "Asking Questions Changes Behavior: Mere Measurement Effects on Frequency of Blood Donation." *Health Psychology* 27:179-84.

RESPONSE VALIDITY: VOTE REPORT*

BY AAGE R. CLAUSEN†

Popular as well as professional misgivings are often expressed concerning the validity of information obtained in social surveys by means of either the personal interview or the self-administered questionnaire. This concern is evoked by the uneasy feeling that the respondent may, for a variety of reasons, engage in a "presentation of self"

Clausen, Aage. R. 1968. "Response Validity: Vote Report." *Public Opinion Quarterly* 32:588-606.

CONSEQUENCES OF PARTICIPATING IN A LONGITUDINAL STUDY OF MARRIAGE

JOSEPH VEROFF
SHIRLEY HATCHETT
ELIZABETH DOUVAN

Abstract The possibility that survey research methods, particularly those used in longitudinal studies, can effect enduring changes in attitudes or behavior among respondents was explored using data from a 4-year study of black and white newlyweds. Randomly selected couples in first marriages were assigned to either a relatively large study group or a smaller control group, with the former receiving more frequent and more intense inter-

Veroff, J., S. Hatchett, and E. Douvan. 1992. "Consequences of Participating in a Longitudinal-Study of Marriage." *Public Opinion Quarterly* 56:315-27.

Developments in Migratory Game Bird Surveys

A. R. SEN*

Estimates of kill and activity in Canadian mail surveys of migratory game birds have been subject to considerable survey errors. This article reviews the design of the surveys and describes the studies undertaken to estimate and correct for these errors. Recent developments in sampling and estimation procedures for these surveys are presented and changes in operational procedures described which have been adopted to implement these developments.

3. DESIGN OF THE SURVEYS (1967–71)

In 1966 it became obligatory for hunters, other than Indians and Eskimos, intending to shoot waterfowl in Canada to purchase a Federal Migratory Game Bird Hunting permit in addition to provincial licenses. The permit is on sale at post offices all over the country. It

Sen, A. R. 1976. "Developments in Migratory Game Bird Surveys." *Journal of the American Statistical Association* 71:43-48.

Conceptual Cousins

Hawthorne Effect

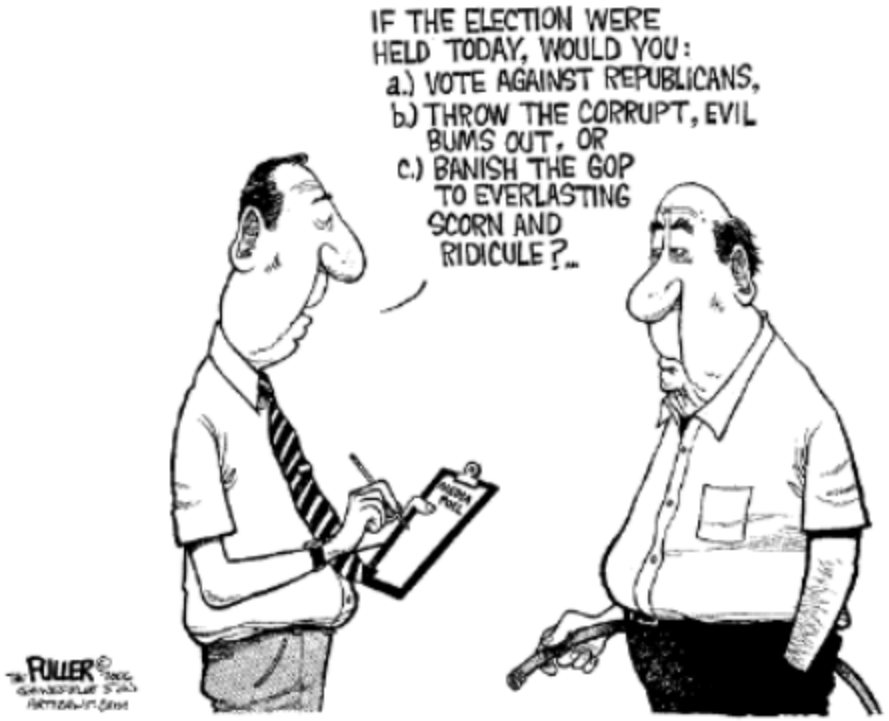
Reactivity

FACTORS RELEVANT TO THE VALIDITY OF EXPERIMENTS IN SOCIAL SETTINGS[1]

DONALD T. CAMPBELL
Northwestern University

Reactive arrangements. In any of the experimental designs, the respondents can become aware that they are participating in an experiment, and this awareness can have an interactive effect, in creating reactions to X which would not occur had X been encountered without this "I'm a guinea pig" attitude. Lazars-

Push Polls


IF THE ELECTION WERE HELD TODAY, WOULD YOU:
a.) VOTE AGAINST REPUBLICANS,
b.) THROW THE CORRUPT, EVIL BUMS OUT, OR
c.) BANISH THE GOP TO EVERLASTING SCORN AND RIDICULE?..
FULLER

Marketing Surveys

Asking People Questions May Change the Object of Study

(or at the quality of responses)

But This Doesn’t Happen in the Kinds of Surveys We Care About

But This Doesn’t Happen in the Kinds of Surveys We Care About

Right ?!?

Panel Effects in the American National Election Studies

Larry M. Bartels
Princeton University

Parallel panel and fresh cross-section samples in recent National Election Study surveys provide valuable leverage for assessing the magnitude of biases in statistical analyses of survey data due to panel attrition and panel conditioning. My analyses employing a variety of typical regression models suggest that substantial panel biases are likely to

Bartels, Larry M. 1999. "Panel Effects in the American National Election Studies." *Political Analysis* 8:1-20.

Special Issue Article

Sociological Methods & Research
2017, Vol. 46(1) 103-124

DOI: 10.1177/0049124114532445
journals.sagepub.com/home/smr

Panel Conditioning in the General Social Survey

Andrew Halpern-Manners[1], John Robert Warren[2], and Florencia Torche[3]

Halpern-Manners, Adrew, John Robert Warren, and Florencia Torche. 2017. "Panel Conditioning in the General Social Survey." *Sociological Methods & Research* 46: 103-124.

Panel Effects in the National Medical Care Utilization and Expenditure Survey*

Larry S. Corder and Daniel G. Horvitz

Corder, Larry S. and Daniel G. Horvitz. 1989. "Panel Effects in the National Medical Care Utilization and Expenditure Survey." Pp. 304-318 in *Panel Surveys*, edited by D. Kasprzyk, G. J. Duncan, G. Kalton, and M. P. Singh. New York: Wiley.

The Effects of Rotation Group Bias on Estimates from Panel Surveys

BARBARA A. BAILAR*

Evidence is available from many different kinds of surveys that repeated interviewing of the same persons can frequently change response patterns. For many characteristics, estimates from different panels relating to the same time period do not have the same expected value. In panel surveys, estimation techniques frequently take advantage of the correlation between observations on identical persons over time. The existence of a bias, its effect on both ratio estimates and composite estimates, and a comparison of the estimated mean-square errors of ratio and composite estimates are illustrated with data from the Current Population Survey.

Nisselson and Steinberg [3] discussed this problem, especially as it affected the estimates of the unemployment rate. Numerous papers [3, 5, 6, 9, 13] over the years have referred to the problem of bias associated with repeated interviewing in the CPS.

For several characteristics on which data are collected in the CPS, it has been observed that there is a higher level for the first interview than for succeeding interviews, a finding similar to that of other researchers. It is likely

Bailar, Barbara A. 1975. "Effects of Rotation Group Bias on Estimates from Panel Surveys." *Journal ofthe American Statistical Association* 70:23-30.

1. We need more research on how, when, and why panel conditioning effects happen

2. Surveys need to build in tests for panel conditioning at the design stage

Why Does This Happen?

Measuring Non-Existent Attitudes

"Do you think NASA spends too much or too little money developing the technology to send people to Mars?"

1. Time 1: "Too much!"
2. Interim: Thought, attention to news, research
3. Time 2: "About right."

Generating Knowledge of or Interest in Behaviors

"Have You Enrolled in the National 'Do Not Call' Registry?"

1. Time 1: "No"
2. Interim: Thought, research
3. Time 2: "Yes"

Forcing People to Confront Socially Non-Normative Attitudes or Behaviors

"Do You Watch Pornographic Movies?"

1. Time 1: "Yes"
2. Interim: Feelings of shame
3. Time 2: "No"

Building Trust Relationships Over Time

"Do You Watch Pornographic Movies?"

1. Time 1: "No … that would be wrong"
2. Interim: Enhancement of trust
3. Time 2: "OK … yes"

Teaching People to Manipulate Surveys

Time 1:

Q: “Are you unemployed?”

A: “Yes”

Q: “Please answer the following 17 questions about your unemployment”

Teaching People to Manipulate Surveys

Time 2:

Q: “Are you unemployed?”

A: “No”

Teaching People to Be Better Respondents

"What is Your Home Worth?"

Time 1: "I don't know. Maybe $250,000?"
Interim: Research
Time 2: "$221,500."

The Role of Time

The Role of Time

Panel conditioning effects may be especially pronounced when survey waves are closer together in time.

Methods for Assessing Panel Conditioning Bias

	Time 1	Time 2
Group A	$X_{A,1}$	$X_{A,2}$

Panel Conditioning =

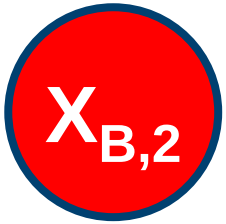
	Time 1	Time 2
Group A		

Panel Conditioning = $X_{A,2} - X_{A,1}$

Conflates panel conditioning with actual change and with panel attrition

	Time 1	Time 2
Group A	$X_{A,1}$	$X_{A,2}$

Panel Conditioning = $X_{A,2} - X_{A,1}$

	Time 1	Time 2
Group A		
Group B		

Panel Conditioning =

	Time 1	Time 2
Group A		
Group B		

Panel Conditioning = $X_{A,2} - X_{B,2}$

Conflates panel conditioning with panel attrition

	Time 1	Time 2
Group A	$X_{A,1}$	$X_{A,2}$
Group B		$X_{B,2}$

Panel Conditioning = $X_{A,2} - X_{B,2}$

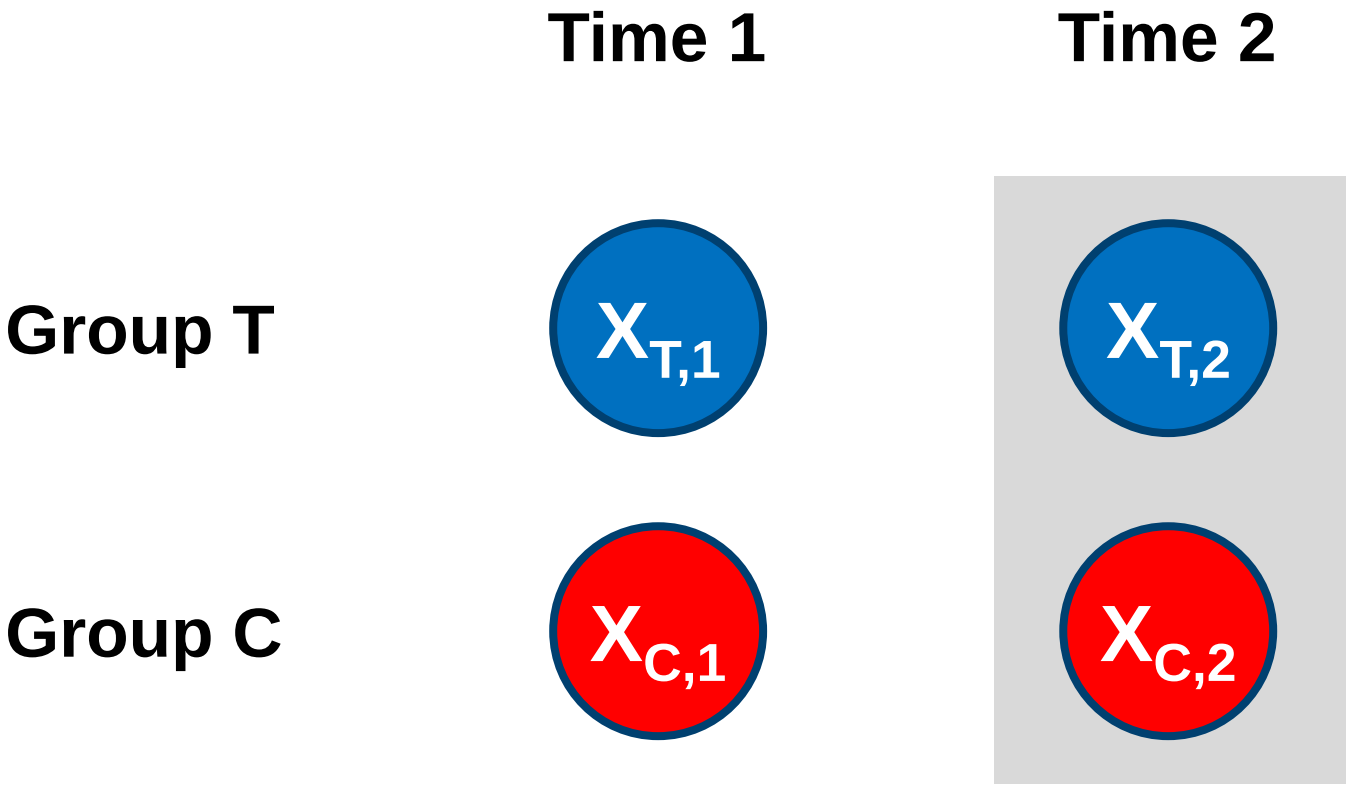
	Time 1	Time 2
Group T	$X_{T,1}$	$X_{T,2}$
Group C	$X_{C,1}$	$X_{C,2}$

Panel Conditioning =

	Time 1	Time 2
Group T	$X_{T,1}$	$X_{T,2}$
Group C	$X_{C,1}$	$X_{C,2}$

Panel Conditioning = $X_{T,2} - X_{C,2}$

OK if treatment is unrelated to risk of attrition



Panel Conditioning = $X_{T,2} - X_{C,2}$

Experimental Designs

Mainstay of research in marketing, political science, cognitive psychology, internet panels

Costly for larger longitudinal surveys to implement

Panel Conditioning in a Longitudinal Study of Adolescents' Substance Use: Evidence from an Experiment

Florencia Torche, *New York University and Catholic University of Chile*
John Robert Warren, *University of Minnesota*
Andrew Halpern-Manners, *University of Minnesota*
Eduardo Valenzuela, *Catholic University of Chile*

Torche, Florencia, John Robert Warren, and Andrew Halpern-Manners. 2012. "Panel Conditioning in a Longitudinal Study of Chilean Adolescents' Substance Use: Evidence from an Experiment." *Social Forces*. 90:891-918.

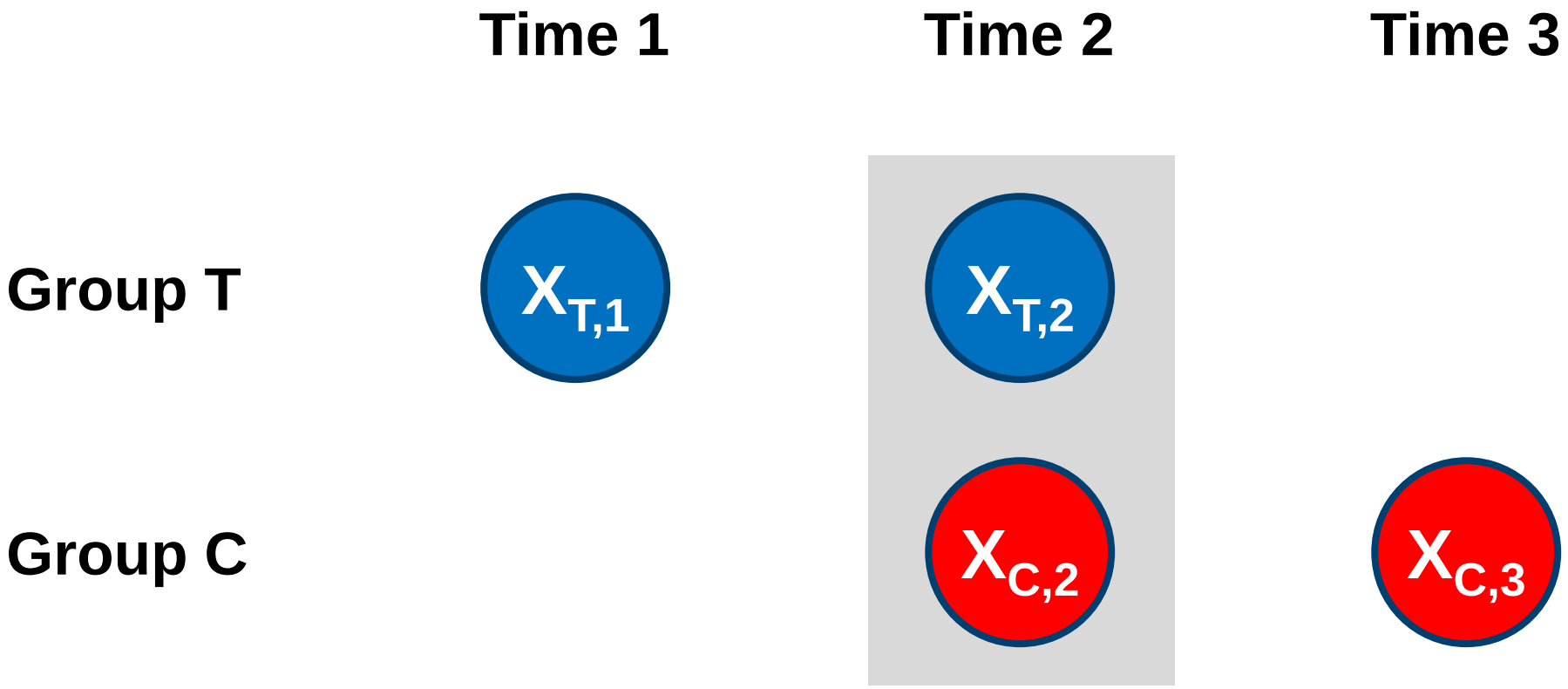
	Time 1	Time 2	Time 3
Group T	$X_{T,1}$	$X_{T,2}$	
Group C		$X_{C,2}$	$X_{C,3}$

Panel Conditioning =

	Time 1	Time 2	Time 3
Group T	$X_{T,1}$	$X_{T,2}$	
Group C		$X_{C,2}$	$X_{C,3}$

Panel Conditioning = $X_{T,2} - X_{C,2}$

Some loss of external validity



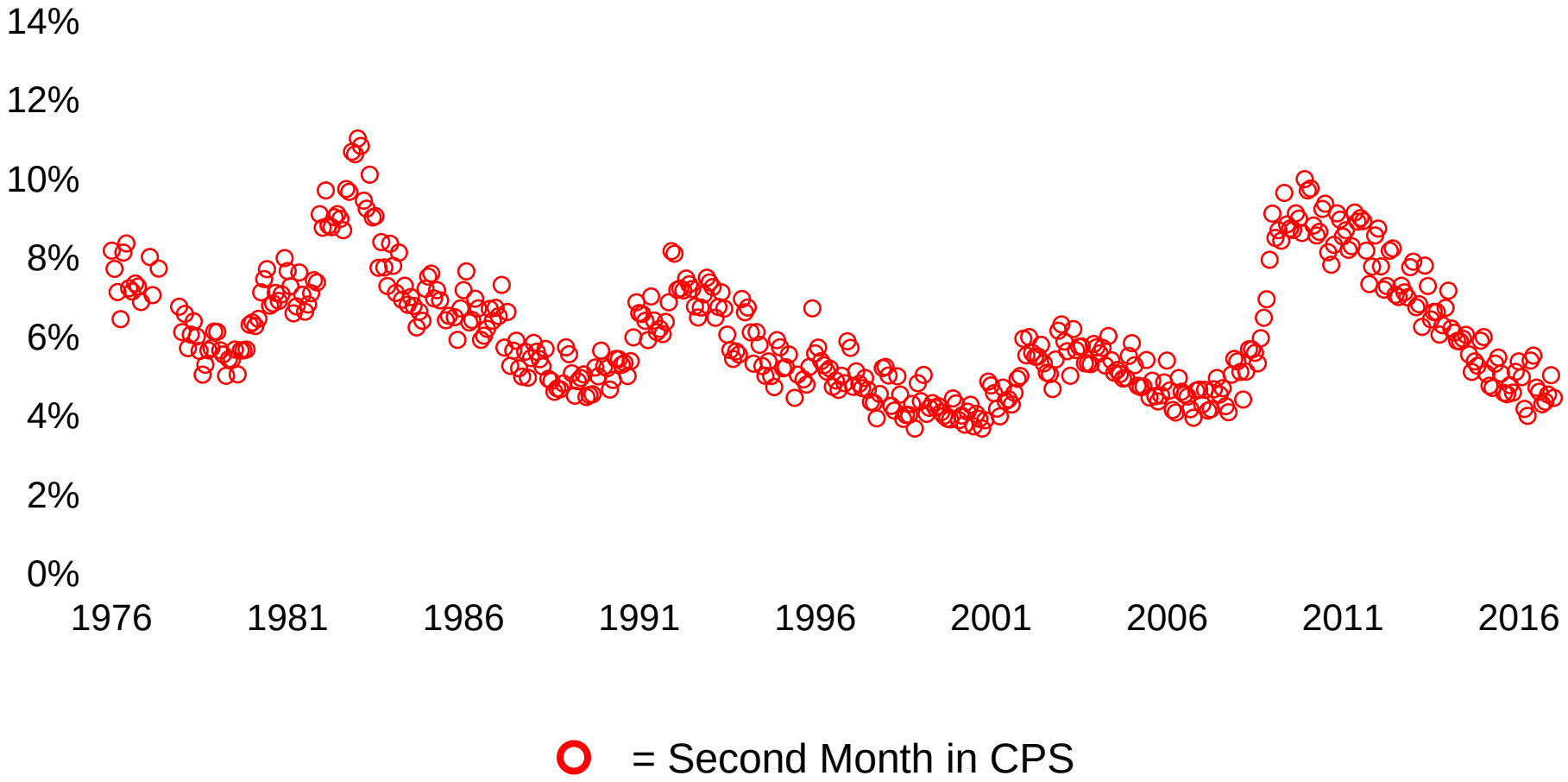
Panel Conditioning = $X_{T,2} - X_{C,2}$

Rotating Panel Designs

Current Population Survey; General Social Survey; Consumer Expenditure Survey; Medical Expenditure Panel Survey

Little cost for at least checking for panel conditioning

	Month 1	Month 2	Month 3
Group T: Start CPS in Month 1	$X_{T,1}$	$X_{T,2}$	$X_{T,3}$
Group C: Start CPS in Month 2		$X_{C,2}$	$X_{C,3}$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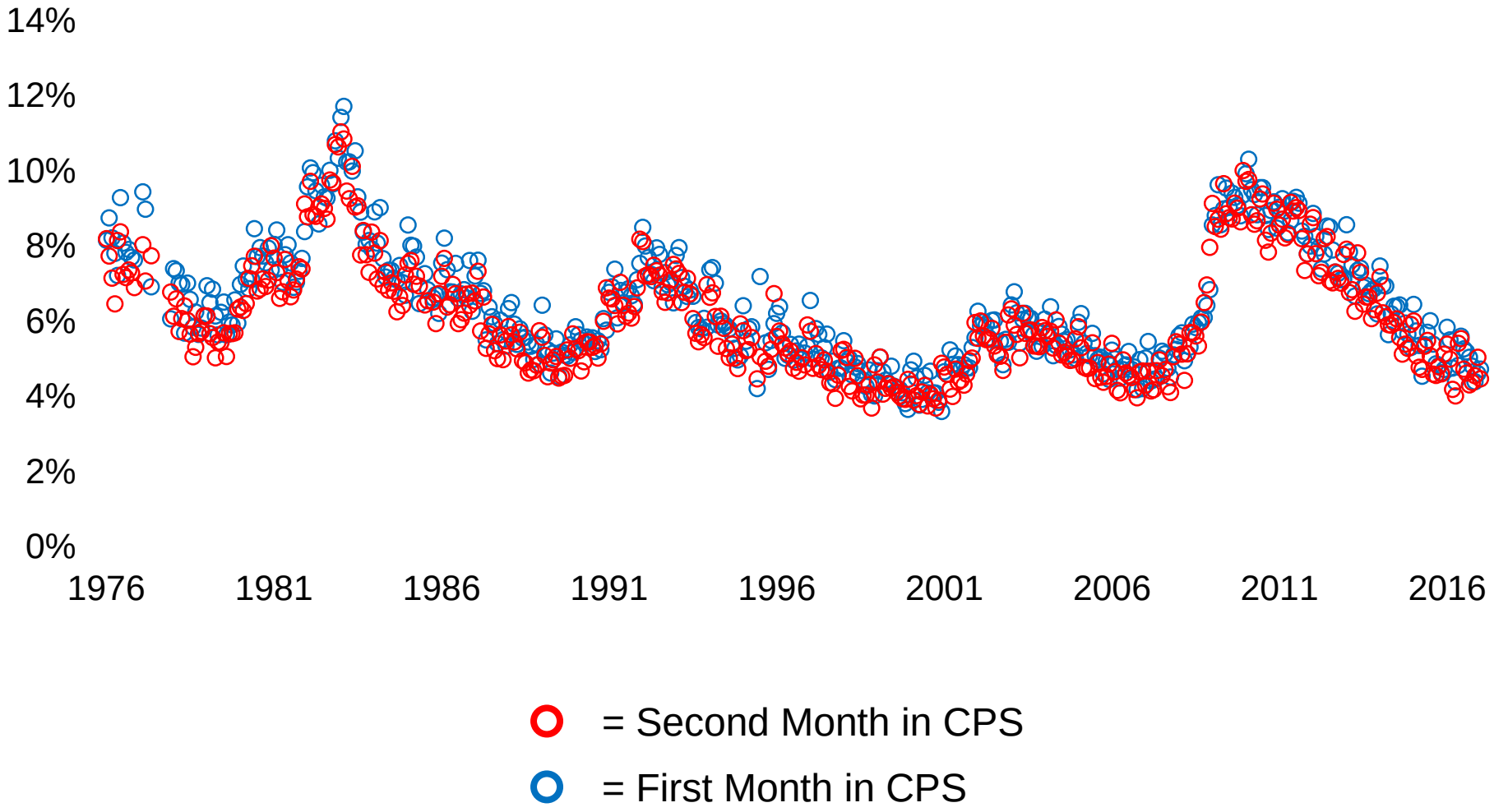
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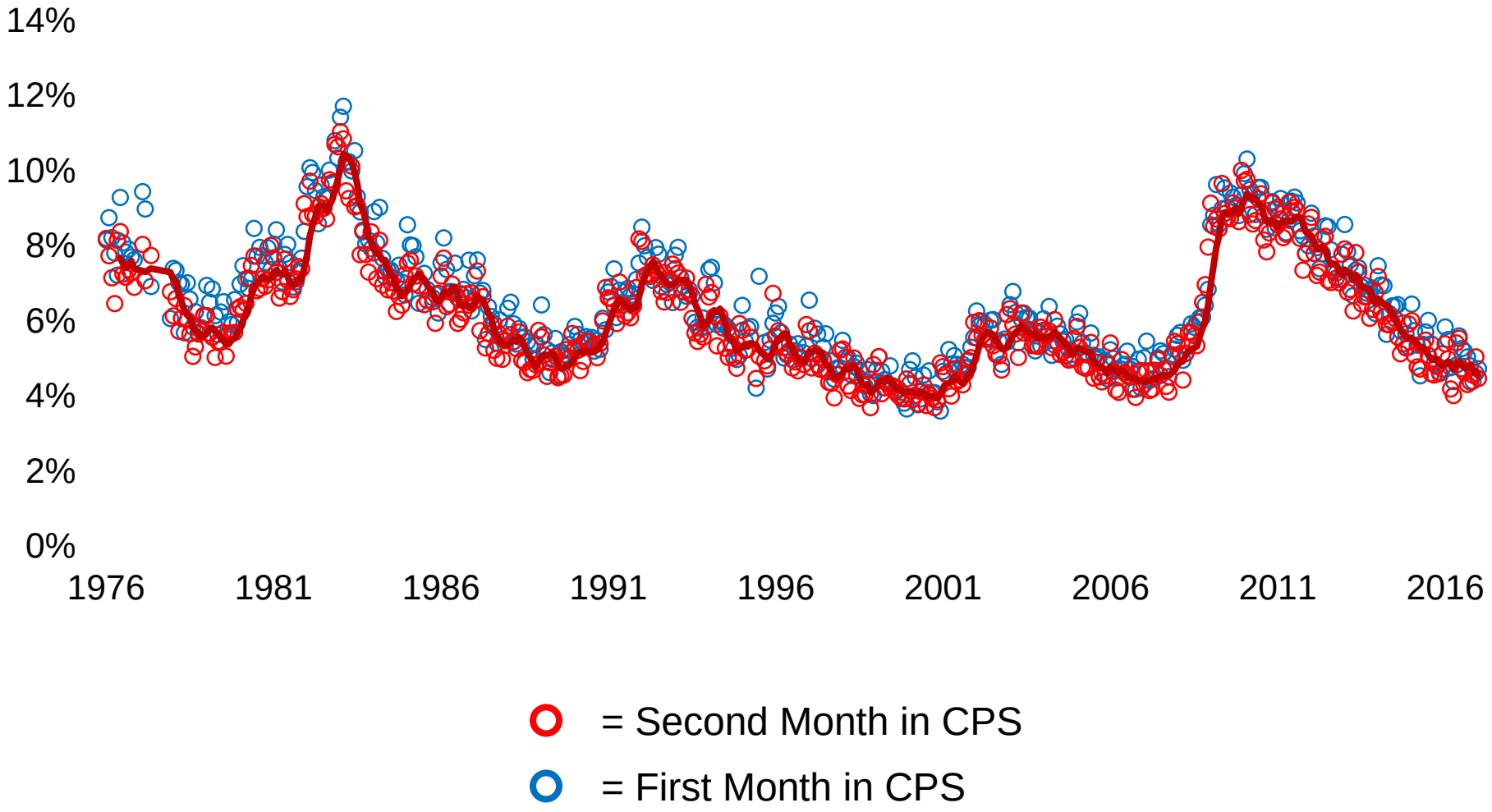
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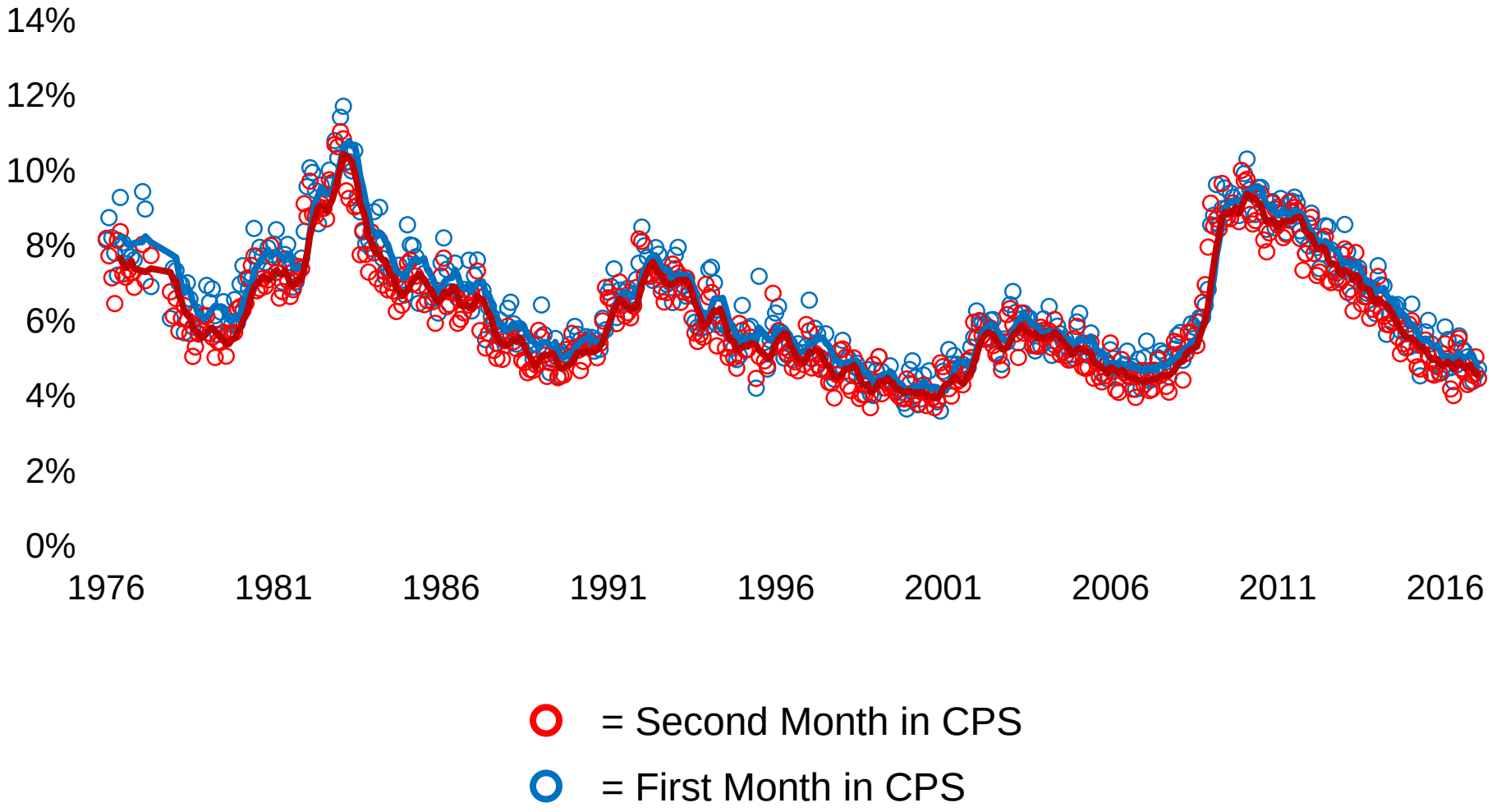
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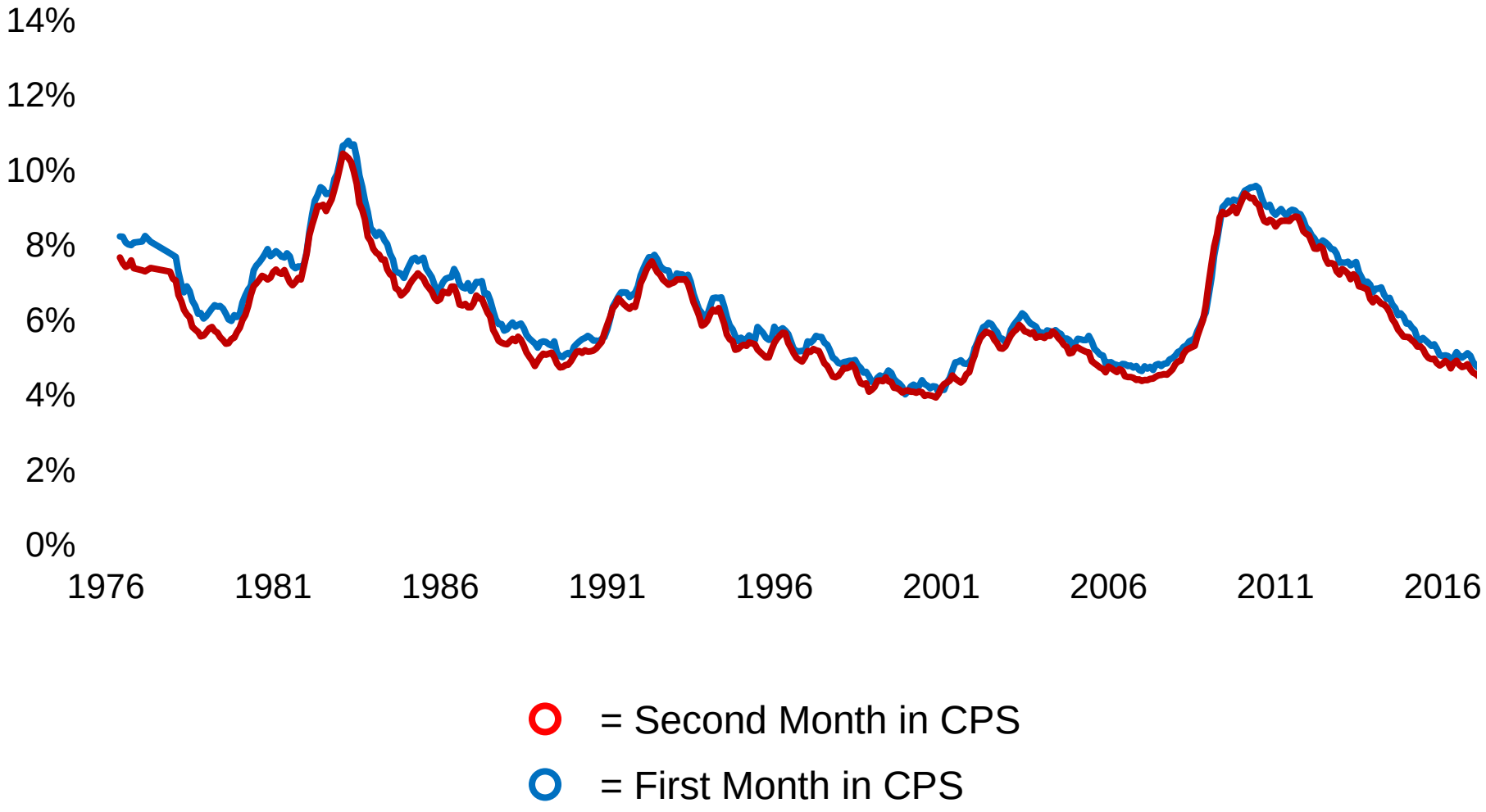
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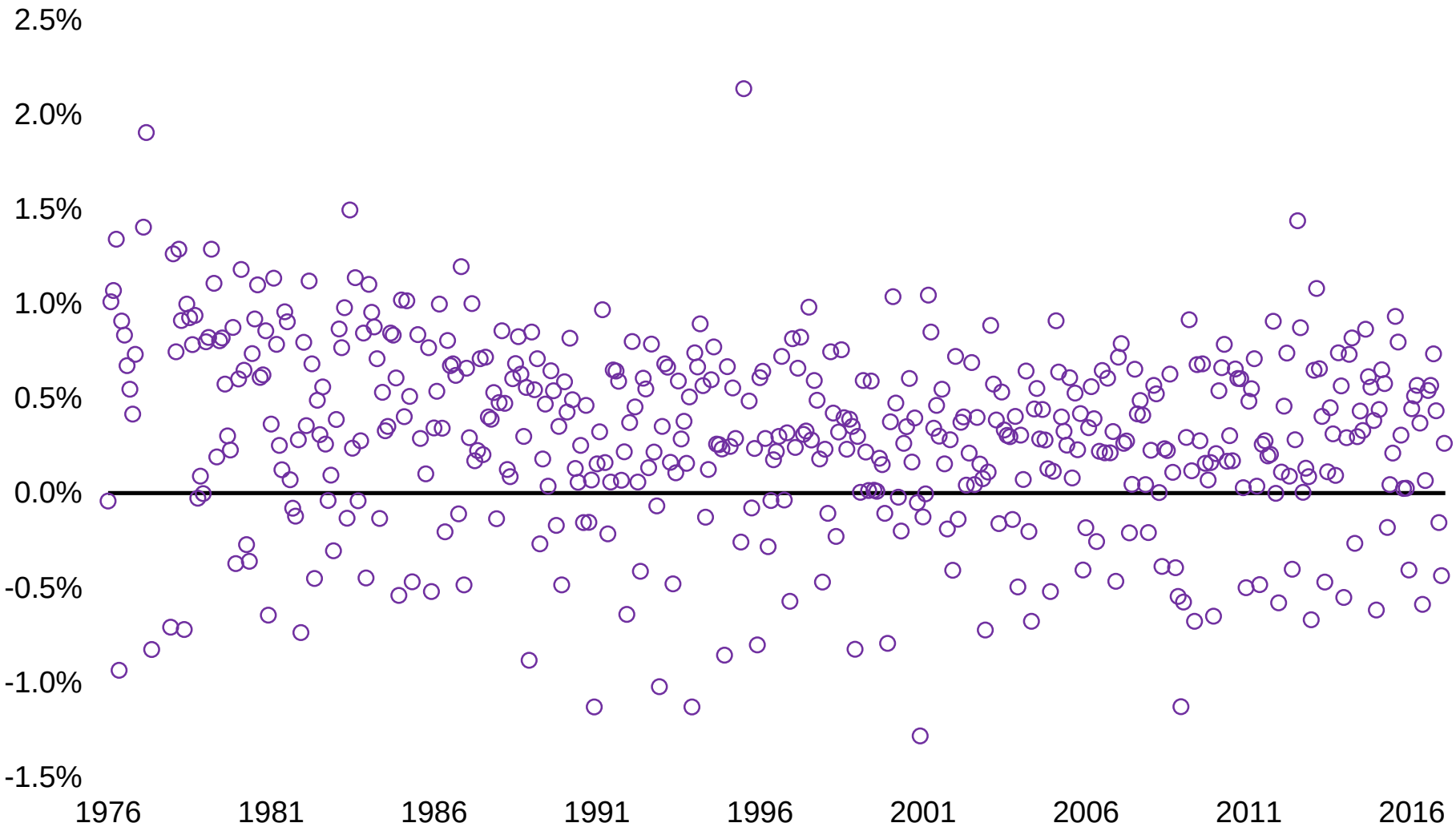

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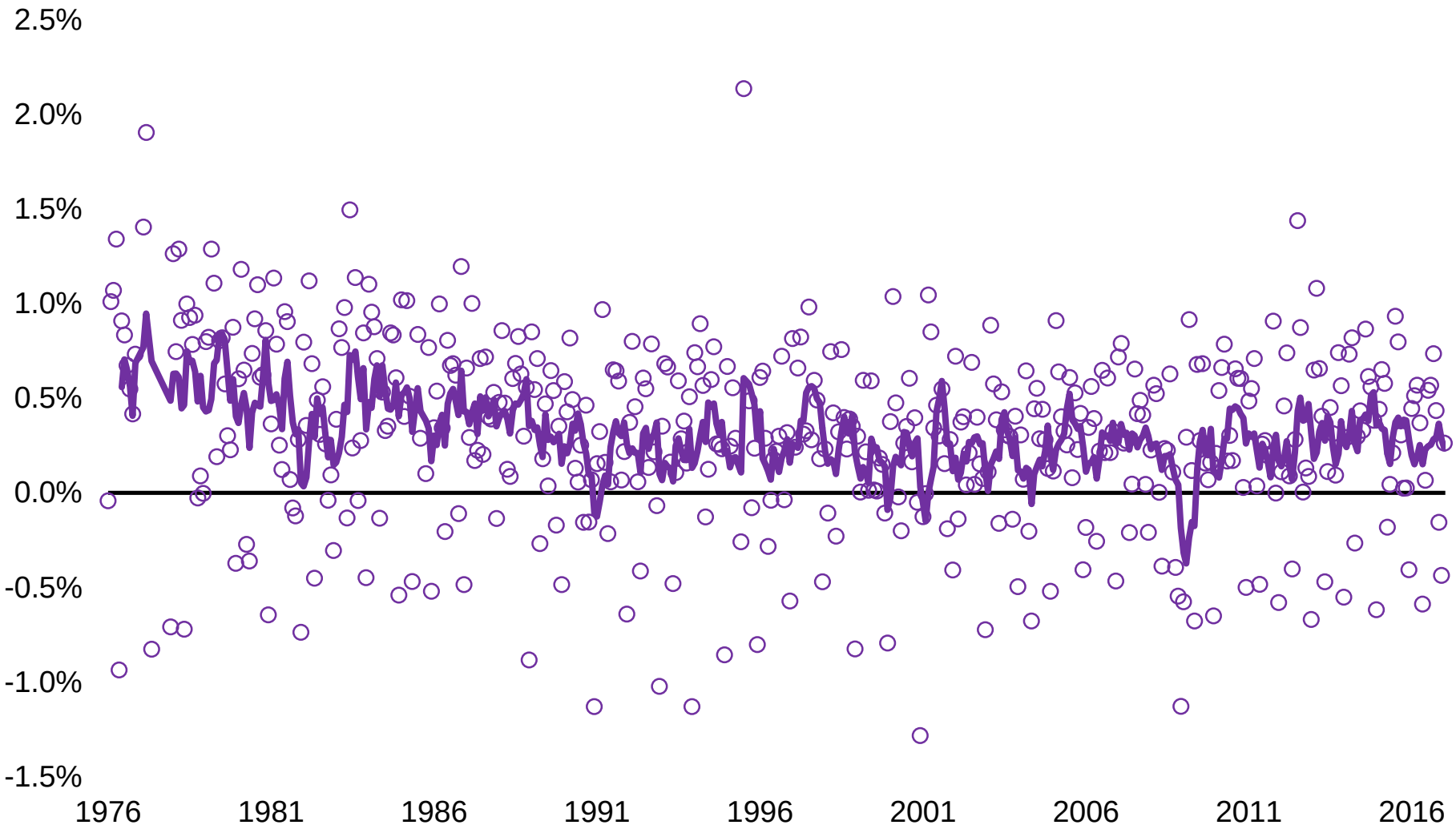

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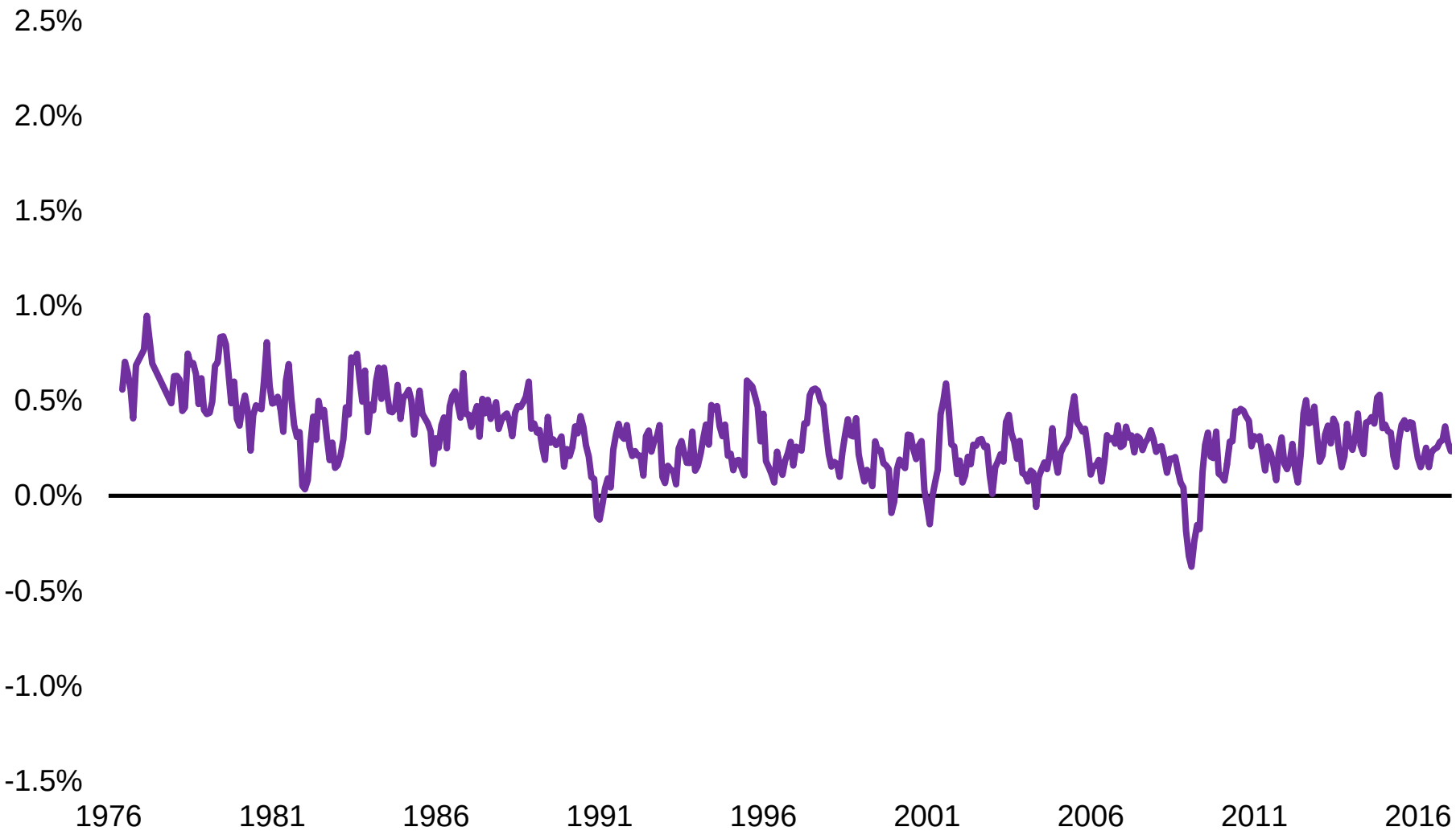
MPC
MINNESOTA POPULATION CENTER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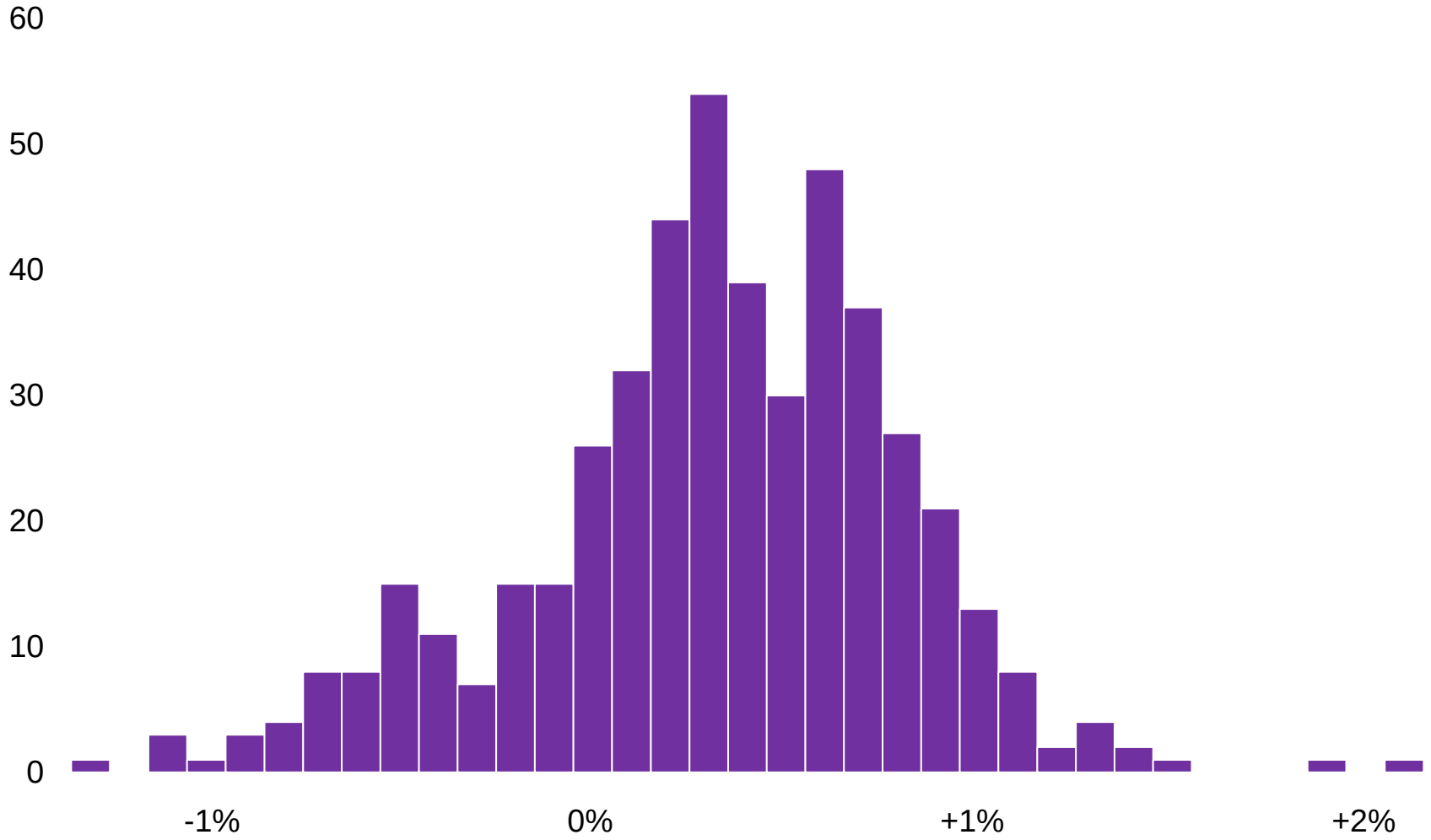
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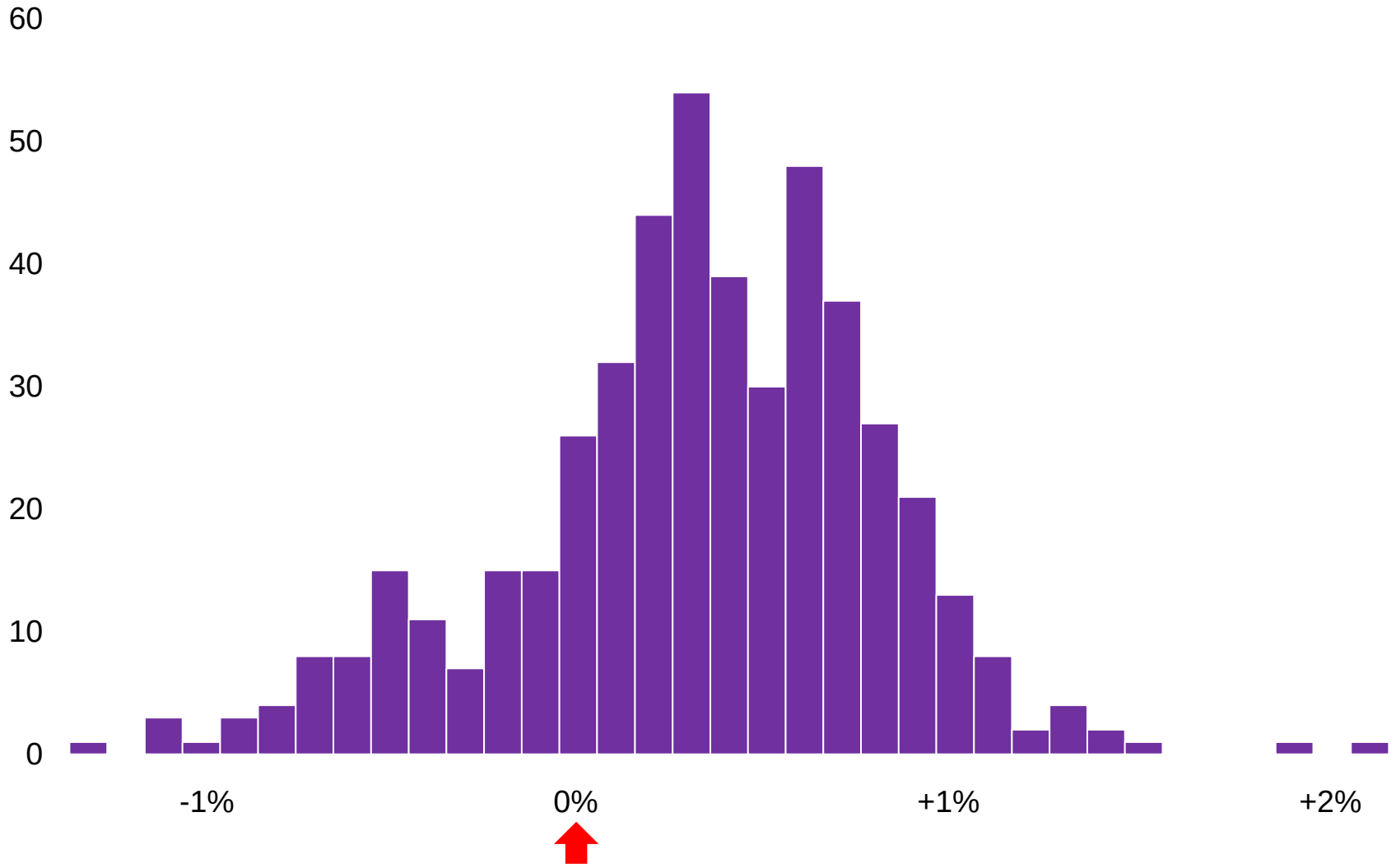
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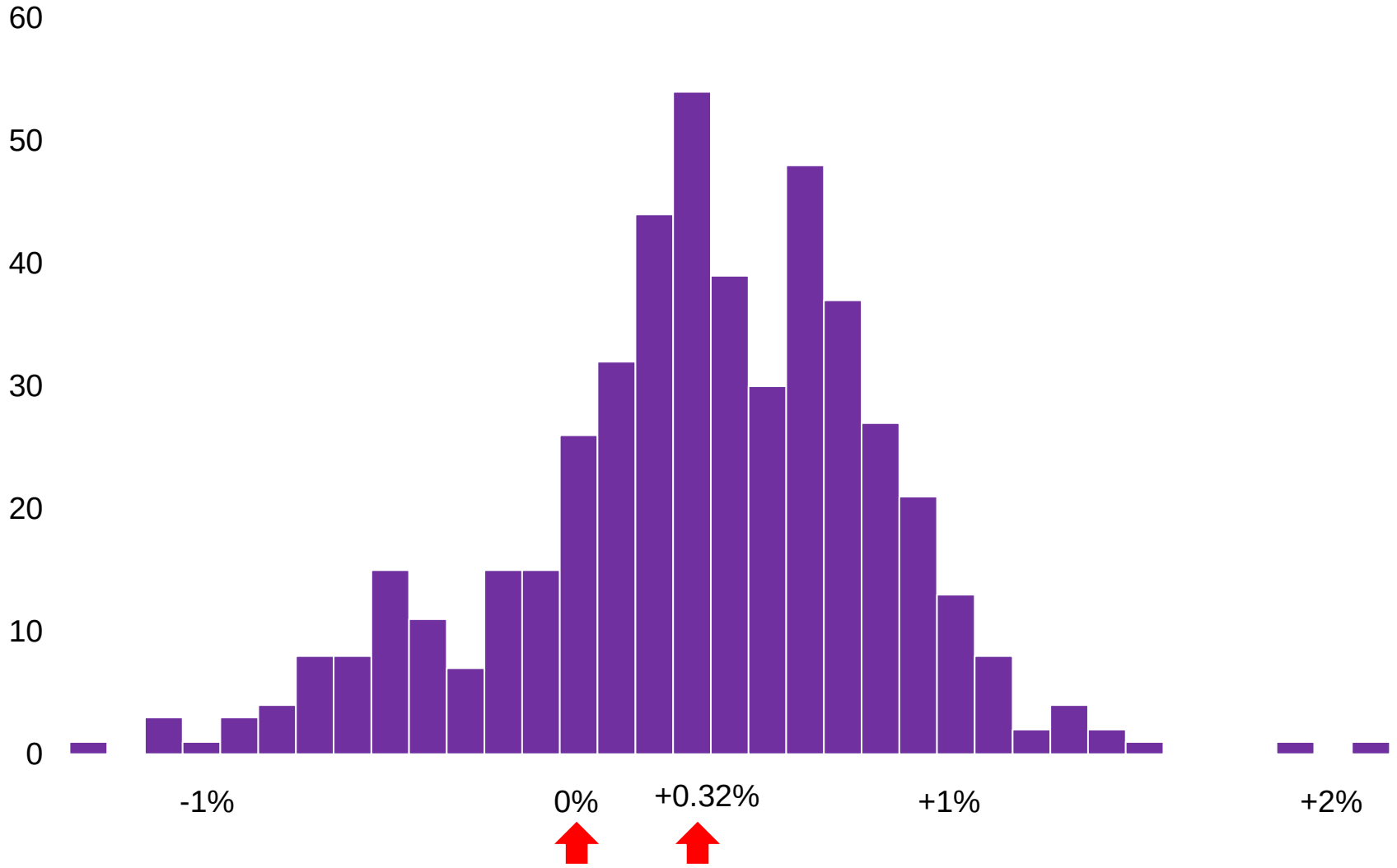
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Table 1. Differences Between Cohorts in 2008, Illustrative Results.

Variable	Description of Response Options/Measure	Estimate (Percentage or Mean) 2006 Cohort	2008 Cohort
phone	Respondent refuses to give information about their phone	1.17	7.93
visitors	Average number of visitors in the household	0.05	0.01
parsol	Respondent's standard of living is higher than their parents' standard of living	66.21	59.50
rplace	The respondent is the householder or their spouse	91.70	88.21
adults	Average number of adults in the household	1.97	1.87
natracey	Respondent thinks current levels of public assistance for blacks are about right	53.51	43.60
marital	Respondent is divorced or widowed	25.88	21.56
spkrac	Respondent agrees that people have a right to make hateful speeches in public	67.08	60.81
rincom06	Respondent refuses to report income	4.27	6.05
famgen	Reports that there is only one generation in household	53.26	57.12
premarsx	Respondent reports that sex before marriage is always or almost always wrong	34.94	30.75
radioact	Correctly answers question about the source of radioactivity	84.79	79.40
viruses	Correctly answers question about efficacy of antibiotics	65.64	59.35
condrift	Correctly answers question about plate tectonics	91.34	87.21
electron	Correctly answers question about sizes of electrons/atoms	75.77	70.45

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Recommendations

More Research

How, when, why, and for whom does panel conditioning happen?

Improve Survey Design

Use extant research to anticipate, avoid PC

Build in methodological experiments on Day 1

Rotating panels? No excuse not to check for PC

Analogy to Random Measurement Error

We all know it is a potential problem

We almost never think about it

Thank you

Thank you

John Robert Warren and Andrew Halpern-Manners. 2012. “Panel Conditioning Effects in Longitudinal Social Science Surveys.” *Sociological Methods and Research* 41: 491-534.

Andrew Halpern-Manners and John Robert Warren. 2012. “Panel Conditioning in the Current Population Survey: Implications for Education, Labor Force, and Demographic Statistics.” *Demography* 49: 1499-1519.

Florencia Torche, John Robert Warren, Andrew Halpern-Manners, and Eduardo Valenzuela. 2012. “Panel Conditioning in a Longitudinal Study of Chilean Adolescents' Substance Use: Evidence from an Experiment.” *Social Forces* 90:891-918.

Andrew Halpern-Manners, John Robert Warren, and Florencia Torche. 2014. “Panel Conditioning in a Longitudinal Study of Illicit Behaviors.” *Public Opinion Quarterly* 78:565-590.

Andrew Halpern-Manners, John Robert Warren, and Florencia Torche. 2017. “Panel Conditioning in the General Social Survey.” *Sociological Methods and Research* 46: 103-124.