

“Unbiasedness”: You keep using that word.
I do not think it means what you think it means.

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Article

Talk

Econometrics

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Econometric theory uses [statistical theory](#) to evaluate and develop econometric methods. Econometricians try to find [estimators](#) that have desirable statistical properties including [unbiasedness](#), [efficiency](#), and [consistency](#). An estimator is unbiased if its expected value is the true value

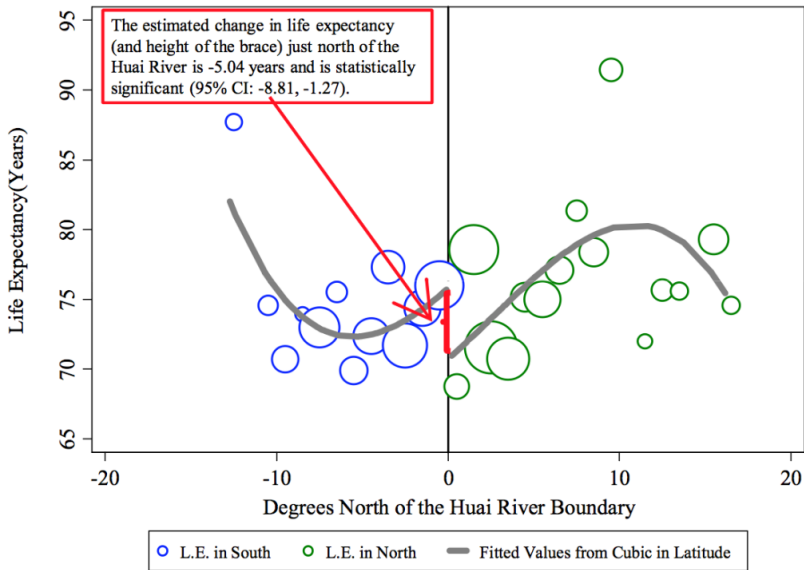


Fig. 3. The plotted line reports the fitted values from a regression of life expectancy on a cubic in latitude using the sample of DSP locations, weighted by the population at each location.

WORLD	U.S.	N.Y. / REGION	BUSINESS	TECHNOLOGY	SCIENCE	HEALTH	SPORTS	OPINION
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AFRICA	AMERICAS	ASIA PACIFIC	EUROPE	MIDDLE EAST
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Pollution Leads to Drop in Life Span in Northern China, Research Finds



Evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River policy

Yuyu Chen^{a,1}, Avraham Ebenstein^{b,1}, Michael Greenstone^{c,d,1,2}, and Hongbin Li^{e,1}

This paper's findings suggest that an arbitrary Chinese policy that greatly increases total suspended particulates (TSPs) air pollution is causing the 500 million residents of Northern China to lose more than 2.5 billion life years of life expectancy. The quasi-experimental empirical approach is based on China's Huai River policy, which provided free winter heating via the provision of coal for boilers in cities north of the Huai River but denied heat to the south. Using a regression discontinuity design based on distance from the Huai River, we find that ambient concentrations of TSPs are about $184 \mu\text{g}/\text{m}^3$ [95% confidence interval (CI): 61, 307] or 55% higher in the north. Further, the results indicate that life expectancies are about 5.5 y (95% CI: 0.8, 10.2) lower in the north owing to an increased incidence of cardiorespiratory mortality. More generally, the analysis suggests that long-term exposure to an additional $100 \mu\text{g}/\text{m}^3$ of TSPs is associated with a reduction in life expectancy at birth of about 3.0 y (95% CI: 0.4, 5.6).

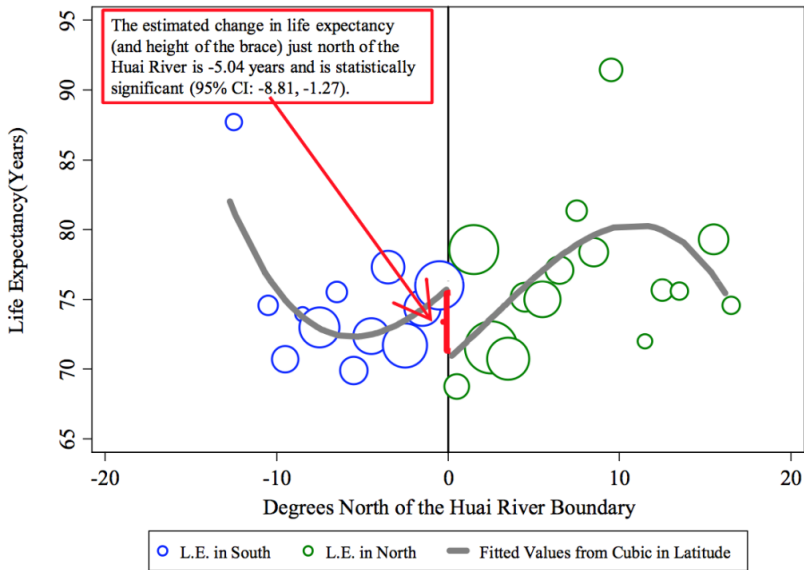


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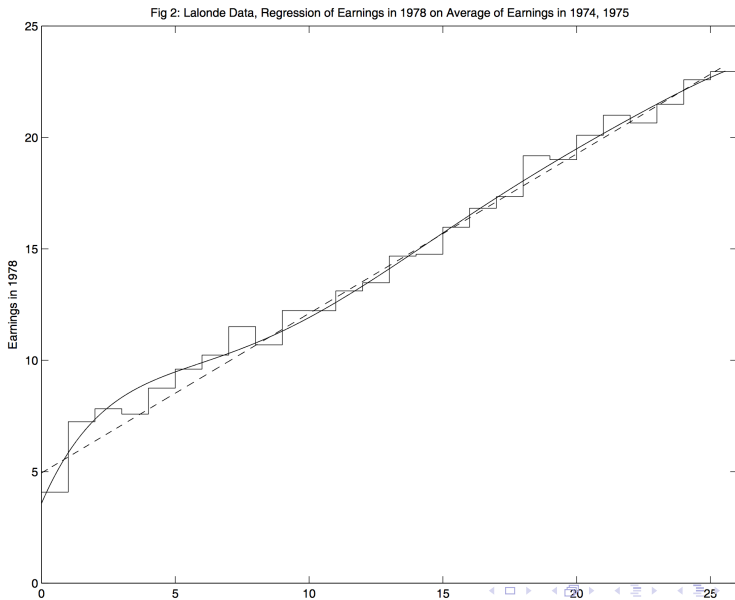
“Robustness checks”

Table S9

Robustness checks of choice of functional form for latitude

	Linear & Controls	Quadratic & Controls	Cubic & Controls	Quartic & Controls	Quintic & Controls
	(1)	(2)	(3)	(4)	(5)
Panel 1: Impact of "North" on the Listed Variable, Ordinary Least Squares					
TSP (100 $\mu\text{g}/\text{m}^3$)	2.89*** (0.56)	2.63*** (0.49)	1.84*** (0.63)	1.95*** (0.59)	1.52** (0.72)
Life Expectancy (years)	-1.62 (1.66)	-1.29 (1.68)	-5.52** (2.39)	-5.67** (2.36)	-5.43* (2.94)

Simulation study: looking for a discontinuity where none exists



Rejection rates are much higher than nominal!

	Order of polynomial	Rejection rate	Median standard error
global	1	0.49	0.29
global	2	0.34	0.45
global	3	0.21	0.61
global	4	0.14	0.77
global	5	0.11	0.93
global	6	0.11	1.09
local	1	0.07	0.46
local	2	0.07	0.67

Labor Market Returns to Early Childhood Stimulation: a 20-year Followup to an Experimental Intervention in Jamaica

Paul Gertler, James Heckman, Rodrigo Pinto, Arianna Zanolini, Christel Vermeersch, Susan Walker, Susan M. Chang, Sally Grantham-McGregor

We find large effects on the earnings of participants from a randomized intervention that gave psychosocial stimulation to stunted Jamaican toddlers living in poverty. The intervention consisted of one-hour weekly visits from community Jamaican health workers over a 2-year period that taught parenting skills and encouraged mothers to interact and play with their children in ways that would develop their children's cognitive and personality skills. We re-interviewed the study participants 20 years after the intervention. Stimulation increased the average earnings of participants by 42 percent. Treatment group earnings caught up to the earnings of a matched non-stunted comparison group. These findings show that psychosocial stimulation early in childhood in disadvantaged settings can have substantial effects on labor market outcomes and reduce later life inequality.

The “That which does not destroy my statistical significance makes it stronger” fallacy

Charles Murray: “To me, the experience of early childhood intervention programs follows the familiar, discouraging pattern . . . small-scale experimental efforts [$N = 123$ and $N = 111$] staffed by highly motivated people show effects. When they are subject to well-designed large-scale replications, those promising signs attenuate and often evaporate altogether.”

James Heckman: “The effects reported for the programs I discuss survive batteries of rigorous testing procedures. They are conducted by independent analysts who did not perform or design the original experiments. The fact that samples are small works *against* finding any effects for the programs, much less the statistically significant and substantial effects that have been found.”

The perils of pooling

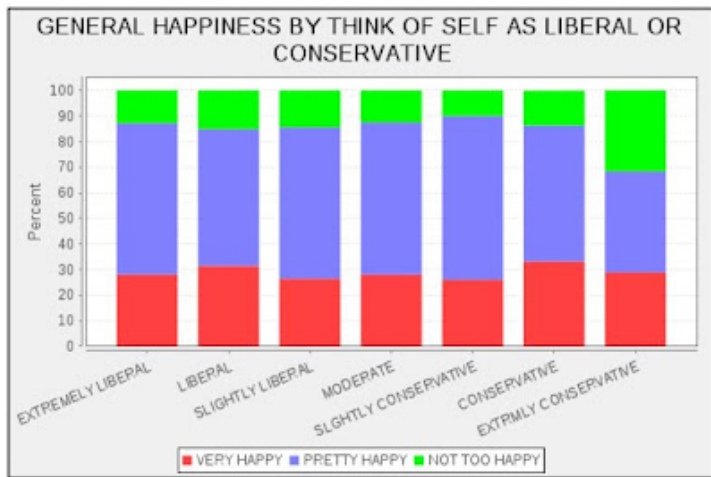
Arthur “not David” Brooks in the *New York Times*:

“People at the extremes are happier than political moderates. . . . none, it seems, are happier than the Tea Partiers . . .”

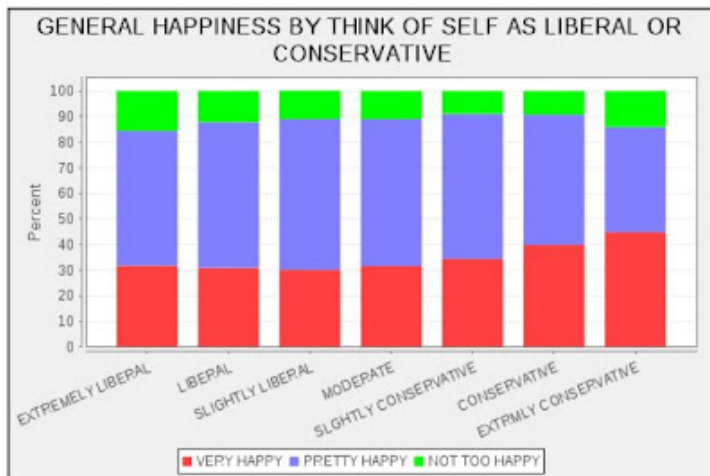
Jay Livingston (sociology, Montclair State University) looks up the data in the General Social Survey . . .

“None, it seems, are happier than the Tea Partiers ...” ??

Chart for YEAR = 4(2009-2010)



Pooling, 1972–2010



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A side-by-side portrait of Joe Biden on the left and Mitt Romney on the right, both in suits and ties, against a blue background.


Join the VP Debate
We're polling LIVE, 9 PM ET

UFC 153

Press Conf

A stylized, glowing image of a person's head and shoulders, likely representing the Kinect Cent feature.

Kinect Cent

A close-up image of a motorcycle handlebar and controls, representing the New Trials game.

New Trials

A close-up portrait of a man with a beard and mustache, representing an advertisement.

ADVERTISEMENT

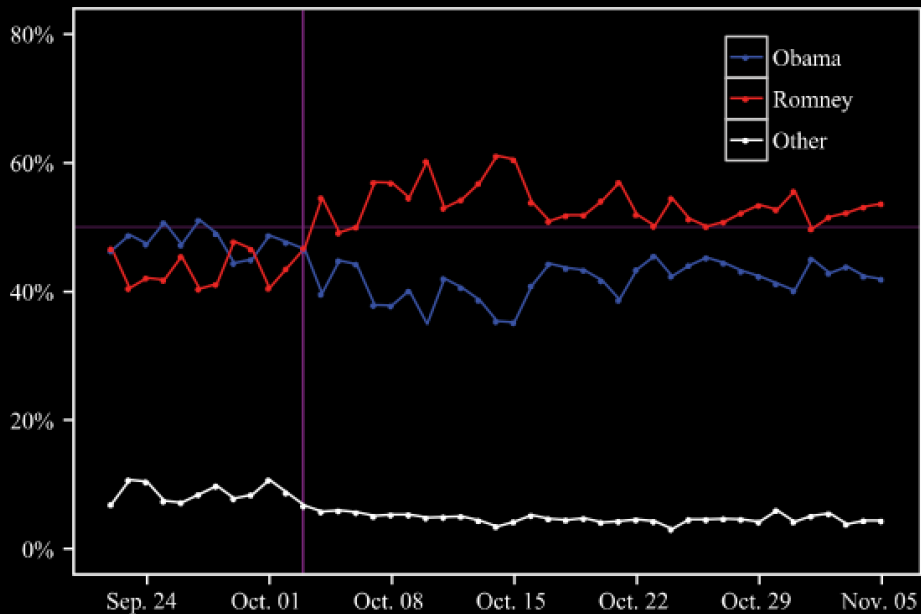
If the election were held today, who would you vote for?

Barack Obama

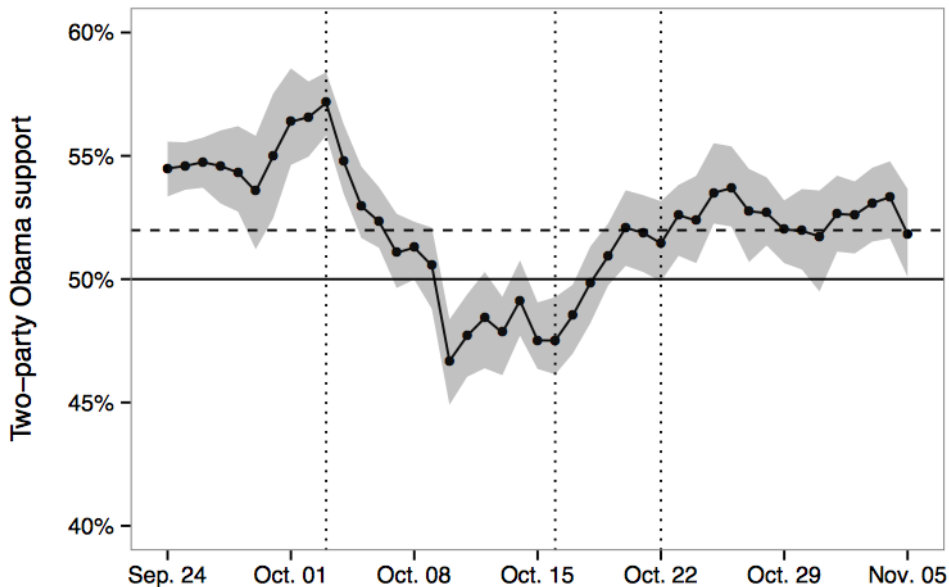
Mitt Romney

Other

Not sure



Xbox estimates, adjusting for demographics

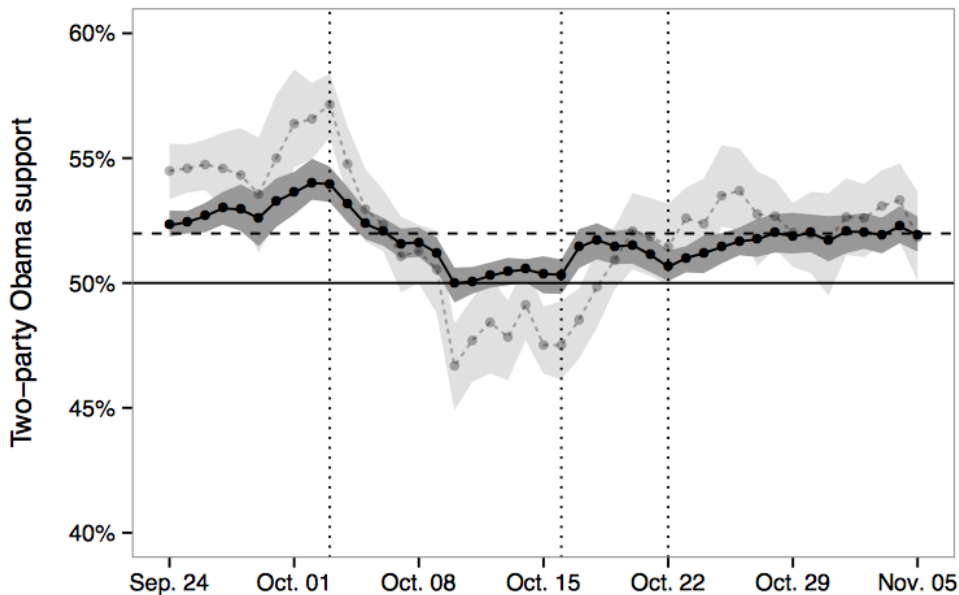






- ▶ Karl Rove, *Wall Street Journal*, 7 Oct: “Mr. Romney’s bounce is significant.”
- ▶ Nate Silver, *New York Times*, 6 Oct: “Mr. Romney has not only improved his own standing but also taken voters away from Mr. Obama’s column.”

Xbox estimates, adjusting for demographics and partisanship



The Fluctuating Female Vote: Politics, Religion, and the Ovulatory Cycle

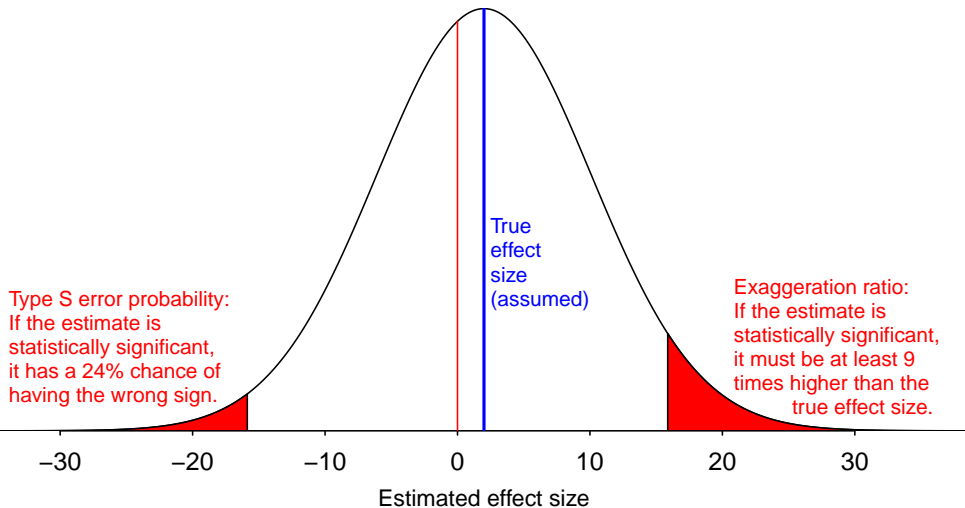
**Kristina M. Durante¹, Ashley Rae¹, and
Vladas Griskevicius²**

¹College of Business, University of Texas, San Antonio, and ²Carlson School of Management, University of Minnesota

Abstract

Each month, many women experience an ovulatory cycle that regulates fertility. Although the ovulatory cycle influences women's mating preferences, we proposed that it might also change women's political views. Building on theory suggesting that political and religious orientation are linked to reproductive goals, we tested how fertility influenced women's politics, religiosity, and voting in the 2012 U.S. presidential election. Using data with large and diverse samples, ovulation had drastically different effects on single women and women in relationships. Ovulation led single women to become more liberal, less religious, and more likely to vote for Obama. In contrast, ovulation led women in committed relationships to become more conservative.

**This is what "power = 0.06" looks like.
Get used to it.**



The Fluctuating Female Vote: Politics, Religion, and the Ovulatory Cycle

**Kristina M. Durante¹, Ashley Rae¹, and
Vladas Griskevicius²**

¹College of Business, University of Texas, San Antonio, and ²Carlson School of Management, University of Minnesota

Abstract

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Summary: What's wrong with unbiasedness?

- ▶ Varying effects, estimating a moving target
- ▶ Pooling needed to get enough data so that an unbiased estimate is precise enough to be useful
- ▶ Selection: Statistical significance filter
- ▶ Selection: Survey nonresponse, etc.
- ▶ Omitted variable bias in observational studies