

Palpating the Cat:
Getting the Political Back into
Political Methodology

Christopher H. Achen
Princeton University

A Definition

- “to palpate”: to touch for medical purposes
- From the Latin: “palpare,” to stroke (metaphorically, to coax or flatter)

The Palpated Cat: “Jet”





The Old Methodology: Thinking about the Dependent Variable

- If the dependent variable is normally (Gaussian) distributed, use regression.
- If it is dichotomous, use probit or logit.
- If it is polychotomous, use polychotomous probit or logit.
- And so forth.

The Old Methodology: Thinking about the Independent Variables

- If somebody has mentioned them as possible key factors, and if they can be measured, use them.
- If other theoretically irrelevant variables might also matter, use them as “controls,” e.g., a dummy for race or gender.
- Don’t worry about the functional form for any of this, just dump everything in linearly.

The Old Methodology: Presentation

- Don't worry about interpreting the coefficients ("0.76 what?").
- Mention that you corrected for seven obscure statistical problems and used heteroskedasticity-robust standard errors.
- Put asterisks next to statistically significant coefficients.
- Announce loudly that your pet variable "passed."

What Can We Say about this Approach as Science?

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Why Is the Old Approach So Bad?

- In practice, it doesn't work.
- No major social science advances of the past 50 years have emerged from high-end statistical analysis on its own.
- As is often said, our results accumulate, but they don't cumulate.
- There is good reason to think that this approach will **never** work, as I hope to show today.

What to Do?

My View: Palpate the Cat

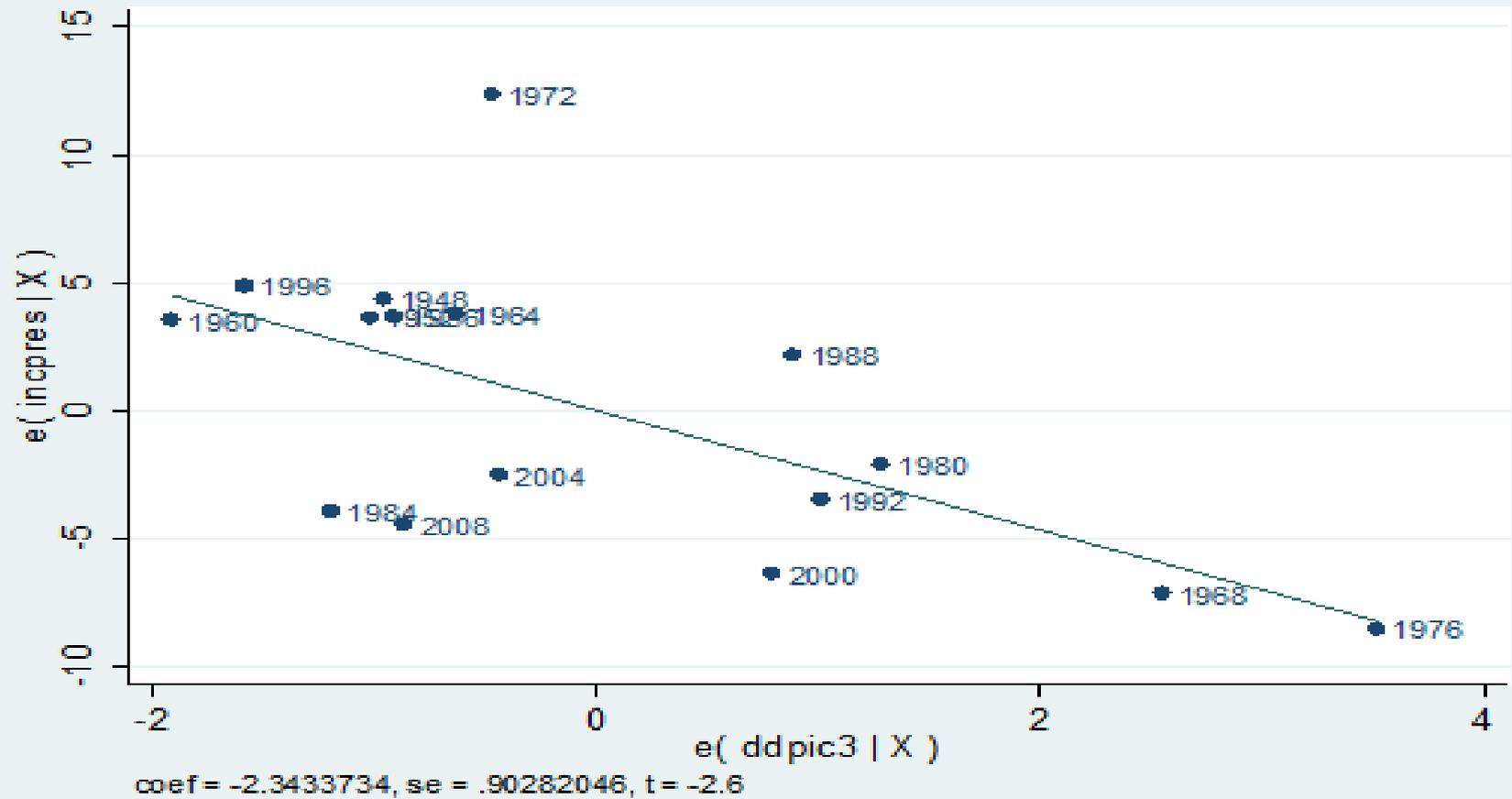
- Serious, patient data analysis of a new kind
- A Rule of Three (ART)
- Deep knowledge of the politics
- Careful questioning of how our conventional statistical procedures might be wrong in the case at hand

**Statistical Analysis of Incumbent Party Popular
Vote Margins in Presidential Elections, 1948- 2008**

Ordinary least squares regression parameter estimates
(with standard errors in parentheses). N = 16.

	(1)	(2)	(3)	(4)	(5)
Election- year income growth (%)	3.87 (2.01)	4.27 (1.90)	3.91 (1.03)	3.86 (2.05)	4.51 (.85)
Election- year GNP growth (%)	.22 (1.60)	-.30 (1.51)	---	.05 (1.64)	---
Election- year unemployment (%)	-1.28 (1.33)	---	-.91 (1.29)	-.92 (1.44)	---
Election- year inflation (%)	---	-.70 (.67)	-.55 (.69)	-.55 (.73)	---
Year 3 income growth (%)	---	---	---	---	1.66 (.98)
Year 2 income growth (%)	---	---	---	---	-1.04 (.66)
Year 1 income growth (%)	---	---	---	---	-2.34 (.90)
Incumbent party tenure (years)	-1.10 (.43)	-.90 (.37)	-1.04 (.40)	-1.05 (.44)	-.83 (.41)
Intercept	7.76 (10.79)	2.13 (6.01)	7.83 (9.66)	7.97 (11.02)	1.14 (5.20)
<i>Standard error of regression</i>	6.49	6.45	6.32	6.63	5.34
<i>Adjusted R²</i>	.64	.64	.66	.62	.75
<i>Predicted margin based on current economic conditions</i>	-7.3	-3.6	-5.9	-5.9	+5.5

Partial Regression Plot



Why So Much Time on Data Analysis?

- Even linear relationships can be misleading, as we just saw.
- Worse, the world is just not linear most of the time.
- And we know this:
 - moderate information people are more influenced by campaigns than the highly informed or the poorly informed.
 - wars are more common between dyads with an intermediate power preponderance rather than high or low.
 - many, many other well known examples.

What Are Linear Relationships?

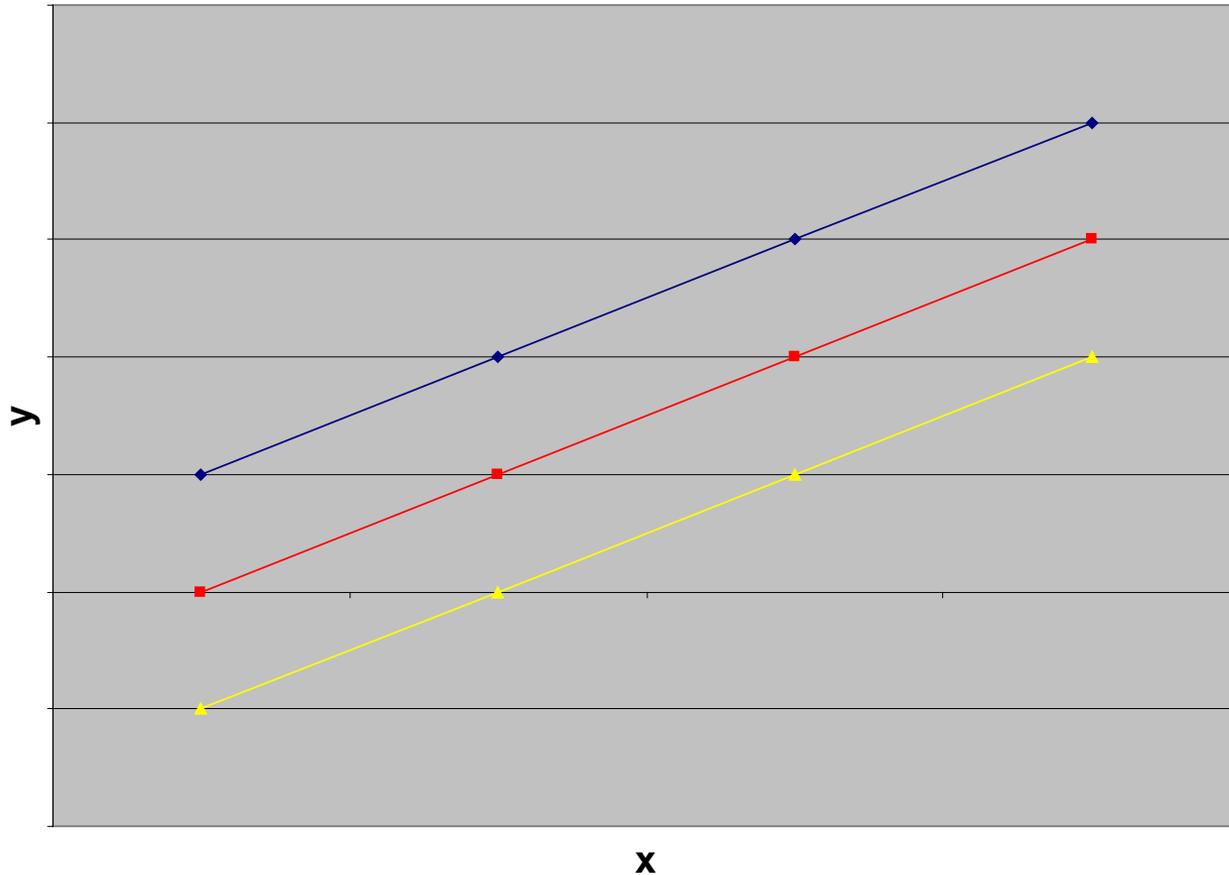
- Consider the case of X influencing Y in three different groups, say American whites, African-Americans, and Latinos.

- We want to write:

$Y = a + bX + \text{two dummies for black and Latino}$

- What must the relationship between Y and X be in each group for this to be right?

A Linear Relationship between Y and X in Three Groups



Examples of Actual Data

**Figure 11: Conversion to 1997 Pro-Choice Views
by 1982 Pro-Life Respondents**

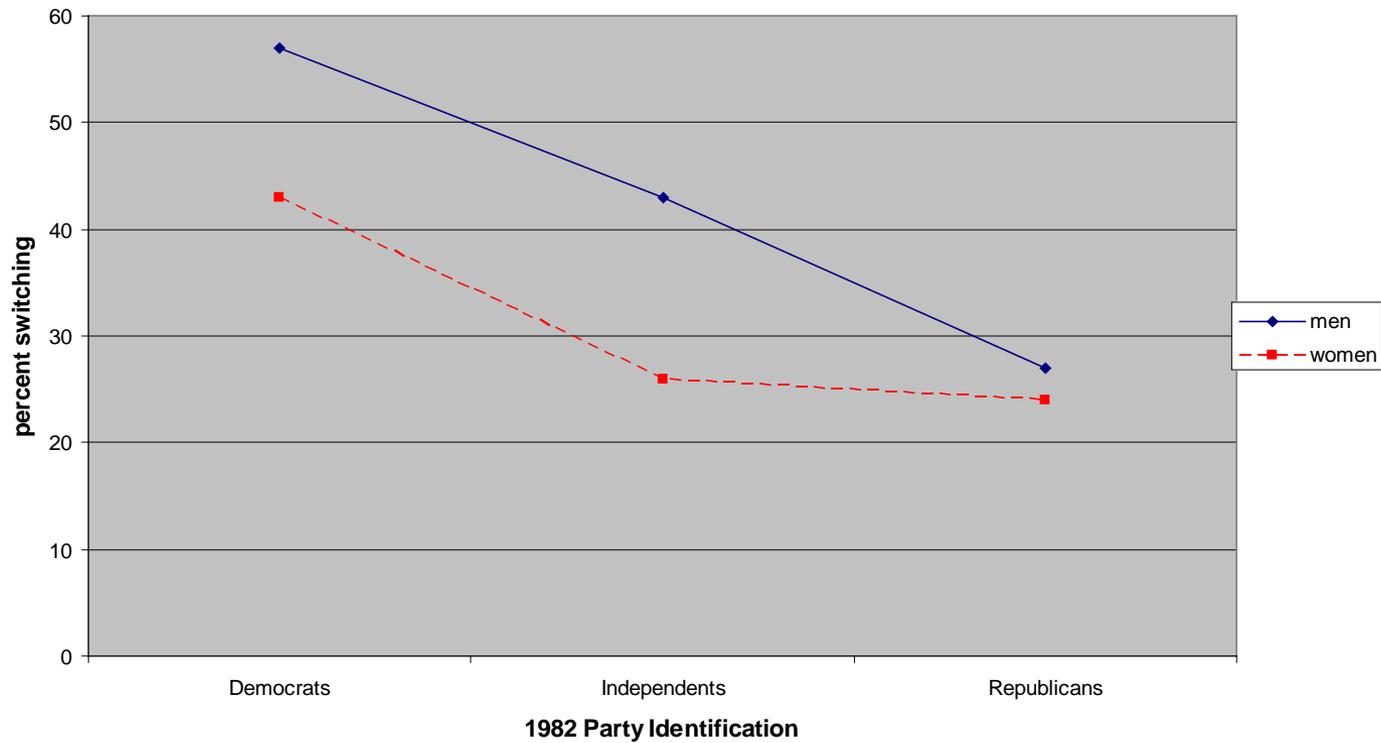


Figure 1
**Perceptions of Budget Deficit
by Party and Information Level, 1996**

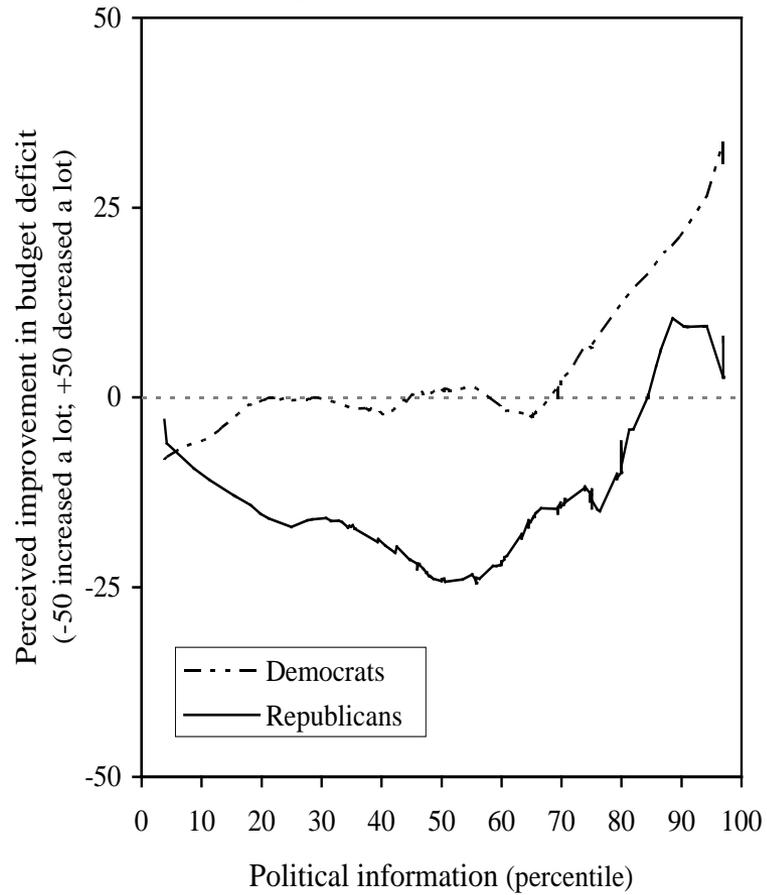
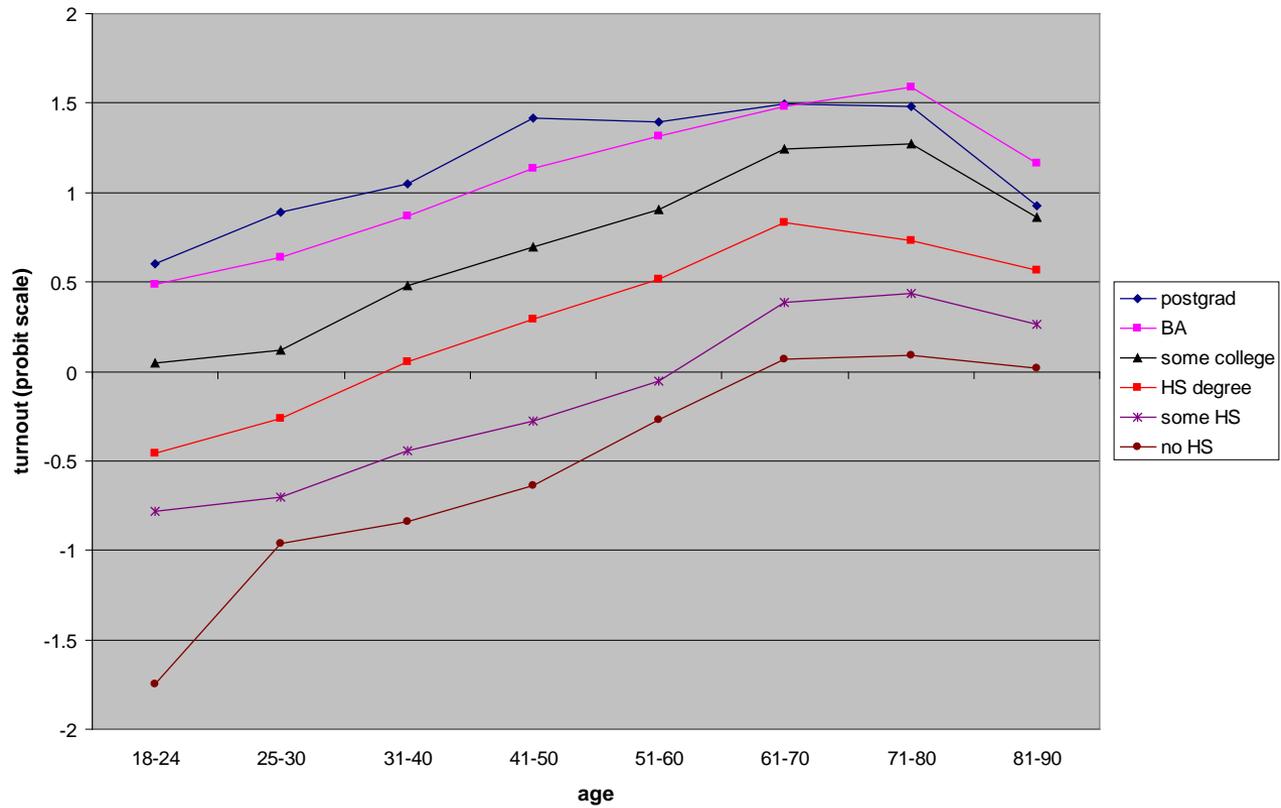


Figure 1: U.S. 2000 Turnout by Age and Education



But Won't Linear Models Kinda, Sorta Work OK?

- No!
- Achen, “Let's Put Garbage-Can Regressions and Garbage-Can Probits Where They Belong.” *Conflict Management and Peace Science* 2005.

A Good General Rule when Reading a Regression or Logit Model with Many Explanatory Variables Entered Linearly and No Accompanying Data Analysis

- Just turn the page to the next article.
- There is almost never anything to be learned from it—the biases are going to be horrible and will overwhelm any good sense that went into it.

So Why Do We Continue This Way, Finding So Little?

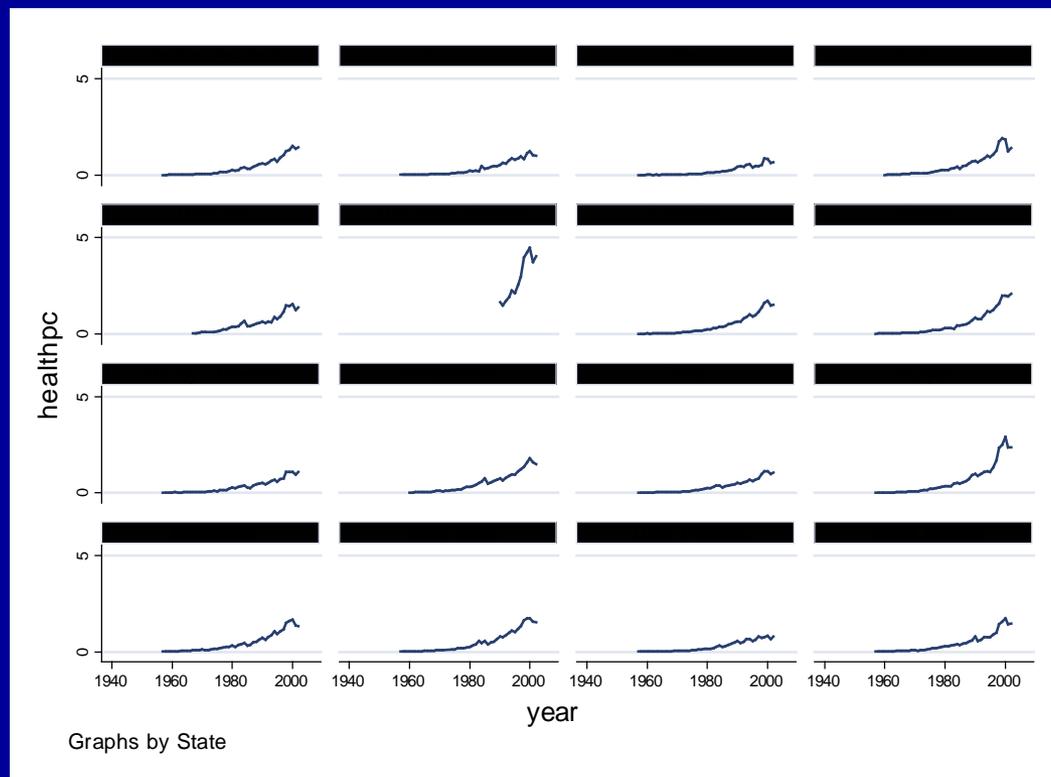
- Basically, we don't look.
- Looking is hard and takes time, while mindless regressions and probits and “generalized estimators” downloaded from the Internet are easy.
- As long as reviewers are too poorly trained to ask to see the plots and other evidence for the specifications, the journals will fill with unscientific work.

Example: Education Expenditures per capita in India (Prerna Singh)

- Can't we use panels? Often proposed as “solution” to lack of randomization in observational studies
- In particular, won't fixed effects for time and observation unit fix the problem?

Example: Education Expenditures per capita in India (Prerna Singh)

- Can we use fixed effects for time as well as for Indian states?



What Can We Do?

- Stick to a few variables so that we can do the data analysis very well and in a reasonable amount of time.
- Understand the politics.
- But won't this cause omitted variables bias?

Avoiding Bias

- Subsample to get causally homogeneous groups
- Study critical situations where the effects will be visible without complex manipulations (Darwin in the Galapagos Islands)
- Look at lots of different situations and see whether the effect is always there

What Else Can We Do?

- Experiments, both lab and field
- Matching, natural experiments, differences in differences models, regression discontinuity designs, etc.
- Most of these were familiar in the Fifties in sociology and now being re-discovered with much fanfare by economists and statisticians.

Limits of Experiments

- Experiments are glittery right now--“the gold standard.”
- But everything that glitters isn’t gold.
- Lots of problems with external validity and interpretation.
- We still need to work with observational data. Most of the big questions cannot be studied with experiments (often true of natural science, too).
- Example: Does retrospective voting work?

Fiorina: “[Retrospective voters] need *not* know the precise economic or foreign policies of the incumbent administration in order to see or feel the *results* of those policies. ... In order to ascertain whether the incumbents have performed poorly or well, citizens need only calculate the changes in their own welfare.

- If jobs have been lost in a recession, something is wrong.
- If sons have died in foreign rice paddies, something is wrong.
- If thugs make neighborhoods unsafe, something is wrong.
- If polluters foul food, water, or air, something is wrong.”

- But voters need to know whose fault the “something is wrong” belongs to.
- Can they do that?
- Hard to do with economic voting: not clear whether presidents or prime ministers are responsible for the typical economic downturn.
- Need a better test

And Moses stretched forth his rod over the land of Egypt, and the Lord brought an east wind upon the land all that day, and all that night; and when it was morning, the east wind brought the locusts. And the locusts went up over all the land of Egypt, and rested in all the coasts of Egypt: very grievous were they; before them there were no such locusts as they, neither after them shall be such. For they covered the face of the whole earth, so that the land was darkened; and they did eat every herb of the land, and all the fruit of the trees which the hail had left: and there remained not any green thing in the trees, or in the herbs of the field, through all the land of Egypt.

Then Pharaoh called for Moses and Aaron in haste; and he said, I have sinned against the Lord your God, and against you.

— Exodus 10: 13-16 (King James version)

Shark Attacks in New Jersey, 1916: The Voters Bite Back

On the four-day Fourth of July weekend in 1916, the beaches of New Jersey were packed with crowds happy to escape the summer heat of nearby cities. On Saturday, July 1, a young Ivy League graduate from Philadelphia, Charles Vansant, was swimming just beyond the breakers in four feet of water at Beach Haven. He was attacked by a shark. Skillful lifeguards managed to get him to shore, but he died soon after from blood loss.

Shark Attacks in New Jersey, 1916: The Voters Bite Back

Five days later, a young Swiss bellhop named Charles Bruder, a strong swimmer like Vansant, also ventured out past the lifelines at Spring Lake beach, some forty five miles north of Beach Haven. He, too, was attacked by a shark. Though rescued by lifeguards in a small boat, he died of his wounds before reaching shore.

- The resorts were losing money rapidly, with a quarter million dollars in reservations cancelled within a week.
- Some resorts had 75 percent vacancy rates in the midst of their high season.
- Losses may have amounted to perhaps as much as \$1 million for the season altogether, a sizable sum in 1918.
- Letters poured into Congressional offices from the affected counties, demanding federal action, though there was little any government agency could do.

Data Analysis

- Eliminating outliers
- Testing for linearity

A Matching Design

- Differences in differences specification
- Explained: change in vote
- Explainer: change in shark attacks
- Key to the inference: control for pre-existing differences between the people affected and the people not affected

A Test: Ocean County, New Jersey



Figure 2. Change in Woodrow Wilson's Vote in New Jersey, 1912-1916, in Two Beach Resort Counties with Fatal Shark Attacks during July 1916

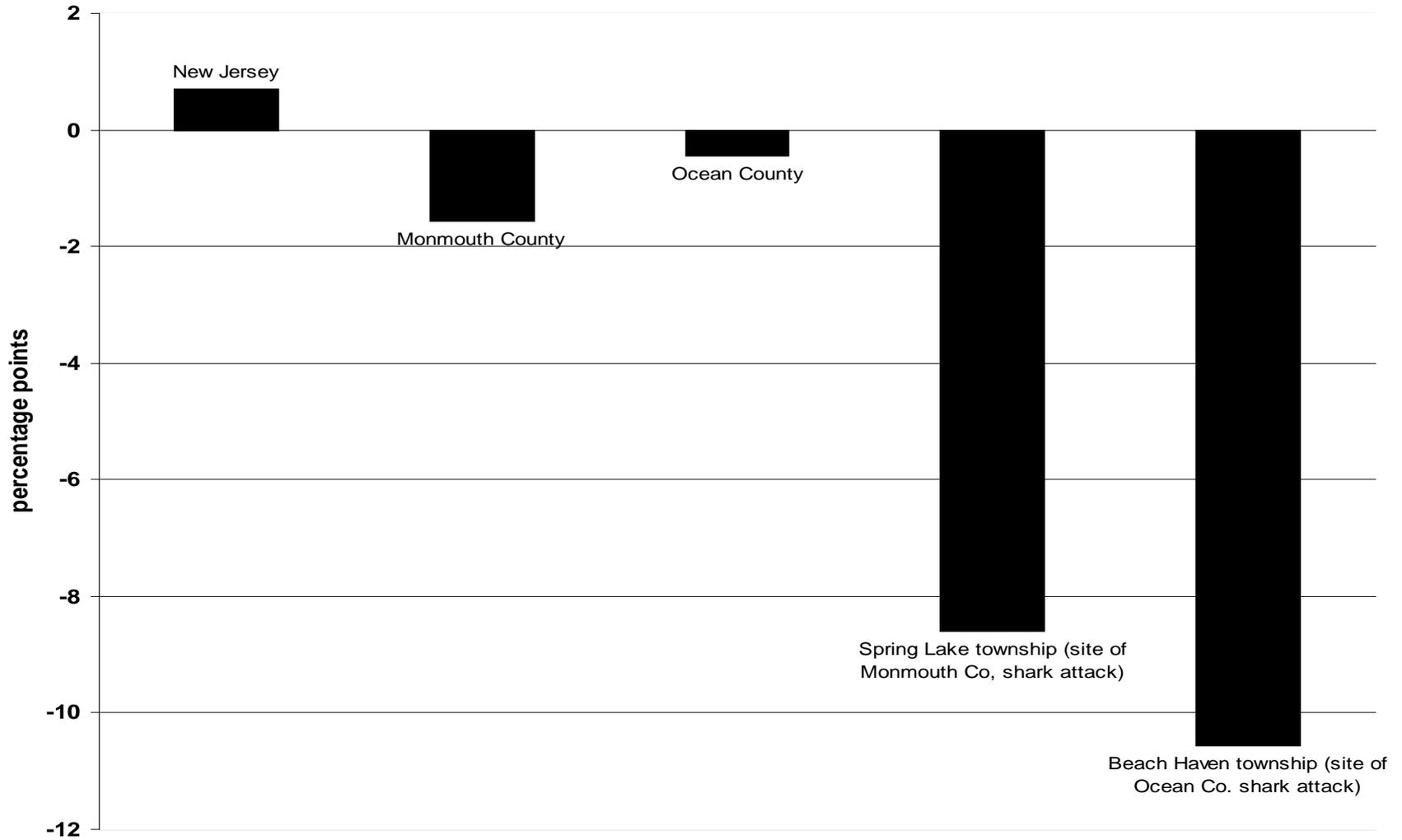
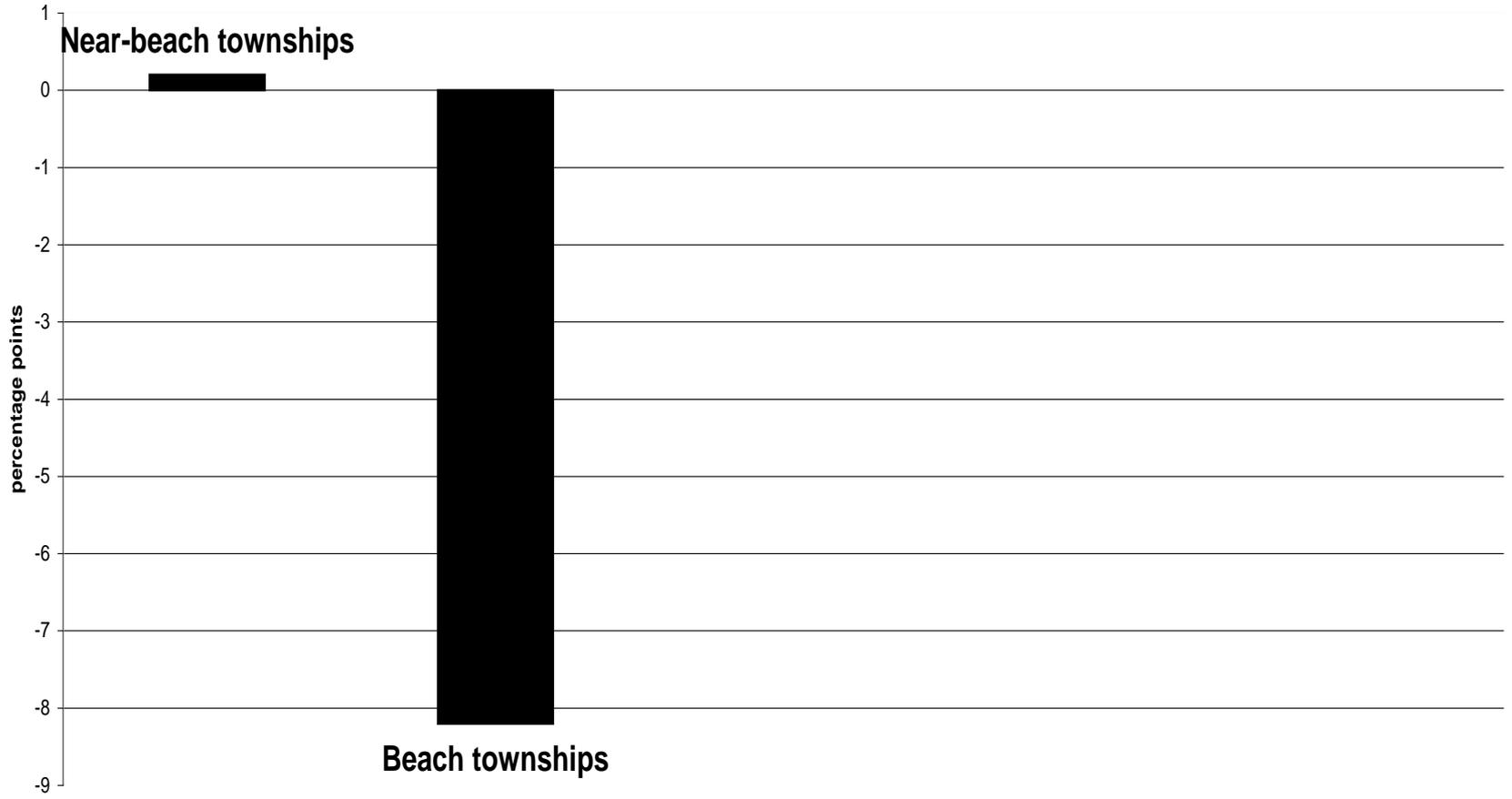


Figure 3. Change in Woodrow Wilson's Vote in New Jersey, 1912-1916, in Ocean County Townships



What to Notice

- Most of the analysis was graphical.
- One three-variable regression was used in a simple time series setup.
- Would a big cross-sectional regression with controls for immigrants, income, race, home ownership, and party registration (in a corrupt era) have been more persuasive?

Conclusions

- No mechanical rule, including a Rule of Three, fits all cases.
- That said, a real reorientation of our work is needed—much more data analysis, diverse data sets and countries, and (usually) less elaborate computing.
- This is NOT an argument against learning statistical theory—it's precisely a clear knowledge of theory that leads in this direction. It's weak knowledge that leads to unthinking reliance solely on econometrics and/or experimentation. (See David Freedman, *Statistical Models and Causal Inference*, 2010.)

More Conclusions

- Sometimes complex estimators are absolutely essential, but not as often as we now use them. The trick is to know when.
- More formal theory to structure applied work is desperately needed. No young empirical political scientist should avoid learning it.
- But formal theorizing needs to be done by scholars with a deep knowledge of politics, not just carted over mindlessly from pseudo-parallel economic applications.

Still More Conclusions

- Science is partly lengthy mechanical work. But it's not *just* lengthy mechanical work.
- It's also creative engagement with both theory and data, and participation in the dialogue between them.
- Despising knowledge of history and culture makes your modeling and statistical work dim-witted and dismissible.
- No mechanical estimator substitutes for informed, hard thinking about the politics.
- That's what we need to learn to teach and do better.