BALLOT CONFUSION

Some Palm Beach County voters are complaining that they inadvertently voted for Reform Party candidate Patrick Buchanan when they thought they were

voting for Al Gore. They blame what Voters in Palm Beach County who they say was a confusing ballot. wanted to vote for Al Gore were FLORID ICIAL BALLOT, GENERAL ELECTION PALM BEACH COUNTY, FLORIDA supposed to punch No. 5. But NOVEMBER 7, 2000 some said they thought No. 4 was the right hole to punch for Gore. (REPUBLICAN) GEORGE W. BUSH PRESIDENT (REFORM) DICK CHENEY . VICE PRESIDENT PAT BUCHANAN PRESIDENT EZOLA FOSTER VICE PRESIDENT (DEMOCRATIC) AL GORE PRESIDENT (SOCIALIST) JOE LIEBERMAN . VICE PRESIDENT DAVID MCREYNOLDS PRESIDENT 🗲 6 MARY CAL HOLLIS . VICE PRESIDENT (LIBERTARIAN) HARRY BROWNE PRESIDENT (CONSTITUTION) ART OLIVIER vice PRESIDENT HOWARD PHILLIPS PRESIDENT E 8 J. CURTIS FRAZIER VICE PRESIDENT (GREEN) RALPH NADER PRESIDENT 9-> (WORKERS WORLD) WINDNA LADUKE - VICE PRESIDENT MONICA MOOREHEAD PRESIDEN **410** (SOCIALIST WORKERS) GLOBIA La RIVA VICE PRESIDENT 11>> JAMES HARRIS PRESIDENT MARGARET TROWE - VICE PRESIDENT WRITE-IN CANDIDATE To vote for a write in candidate, follow the (NATURAL LAW) directions on the long stub of your ballot card. 13-> JOHN HAGELIN PRESIDENT NAT GOLDHABER . VICE PRESIDENT

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THE HERALD

How would we know if Pat Buchanan got "too many votes" in Palm Beach County?

Look at the ballots





Look at the trends



Do statistical analysis

Florida: Perot vote in '96 vs. Buchanan vote in '00 (I)



Florida: Perot vote in '96 vs. Buchanan vote in '00 (II)



Run the regression

E(Buchanan % in 2000) = .0005 + .027 (Perot % in 1996) (.0008) (.009)
R² =.14

The regression line



Account for Palm Beach

2000 vote for Buchanan = 0.81% Accounted for as follows: **1996 vote for Perot = 0.26%** (= .0005 + .027 x 7.8%) **"Error" = 0.55%** (=0.81% - 0.26%)

Therefore, Buchanan *most likely* got 1989 more votes (i.e. 0.26 x 359174 = 934 *vs*. 2923 actual) than he "should have."

What's the best voting technology?

	% of counties using technology		% of populating covered by technology	
	1980	2000	1980	2000
Paper ballots	40.4	12.5	9.8	1.3
Lev. Machines	36.4	14.7	43.9	17.8
Punch card				
"VotoMatic"	17.0	17.5	30.0	30.9
"DataVote"	2.1	1.7	2.7	3.5
Opt. Scanned	0.8	40.2	9.8	27.5
Electronic (DRE)	0.2	8.9	2.3	10.7
Mixed	3.0	4.4	10.4	8.1

How do the technologies fare? "Residual vote"

	Residual vote			
Machine type	Average	Margin of error	Median	N
Paper ballot	2.0%	+/- 0.14%	1.9%	1,020
Lever machine	1.6%	+/- 0.10%	1.3%	1,072
Punch card				
"VotoMatic"	2.9%	+/- 0.09%	2.5%	1,462
"DataVote"	3.2%	+/- 0.33%	2.3%	296
Optical scanned	2.3%	+/- 0.19%	1.6%	958
Electronic (DRE)	3.0%	+/- 0.17%	3.1%	294
Mixed	2.1%	+/- 0.23%	1.7%	322

How do the technologies fare? Multivariate analysis

Machine contrast	Estimated Diff. In % R.V.	Margin of error	
Paper ballot v. Levers	-0.70	+/- 0.53	
"VotoMatic" v. Levers	1.13	+/- 0.52	
"DataVote" v. Levers	1.95	+/- 0.80	
Opt. Scan v. Levers	0.20	+/- 0.44	
DRE v. Levers	1.23	+/- 0.39	