

Ballot Format Effects in the 2006 Midterm Elections in Florida

Michael C. Herron

20th December 2006

Motivation

- What explains the undervote rate observed in Sarasota County in Florida's 13th Congressional District?
- Initial work began on this question on November 9, 2006

Precinct data collected and analyzed

County	Precincts	County	Precincts
Broward	776	Martin	53
Charlotte	80	Miami-Dade	780
Collier	95	Nassau	21
DeSoto	16	Palm Beach	768
Hardee	12	Pasco	153
Hillsborough	361	Pinellas	376
Jackson	26	Sarasota	157
Lake	102	Sumter	39
Lee	171		
Manatee	137		

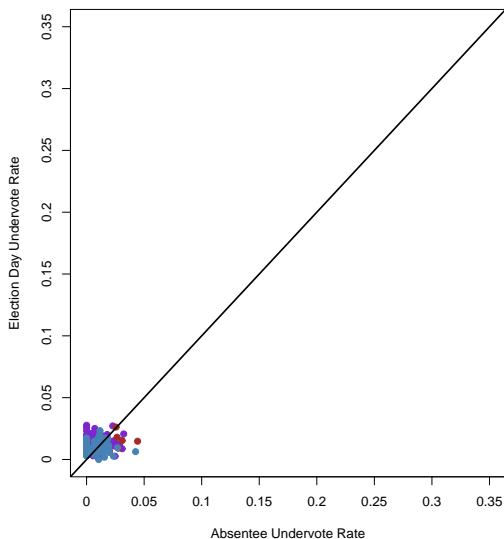
Ballot image data collected and analyzed

County	Ballots	Contests
Charlotte	46024	30
Collier	70115	44
Jackson	2156	20
Lake	75393	58
Lee	129917	65
Miami-Dade	279737	68
Nassau	19637	25
Pasco	113564	41
Sarasota	119898	48
Sumter	27457	26
Total	883898	259

Races Considered

- Florida U.S. Senate: six candidates plus a write-in
- U.S. Congressional when applicable
- Florida Governor: six candidates plus a write-in
- Florida Attorney General (AG): two candidates
- Florida Chief Financial Officer (CFO): two candidates
- Florida Commissioner of Agriculture: two candidates

Undervoting in CD 13 Counties: U.S. Senate Race

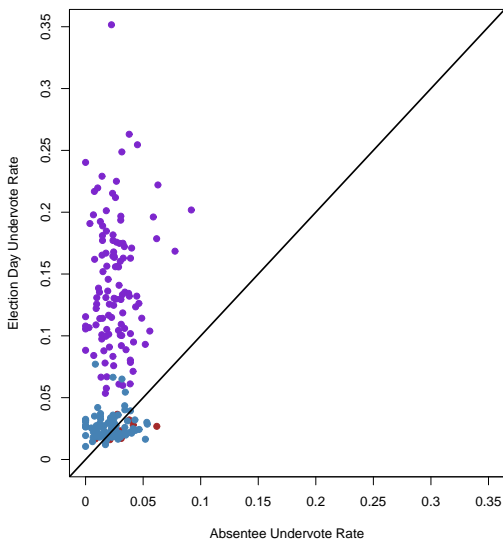


- All precincts similar.
- Election day and absentee undervote rates similar.

Notes:

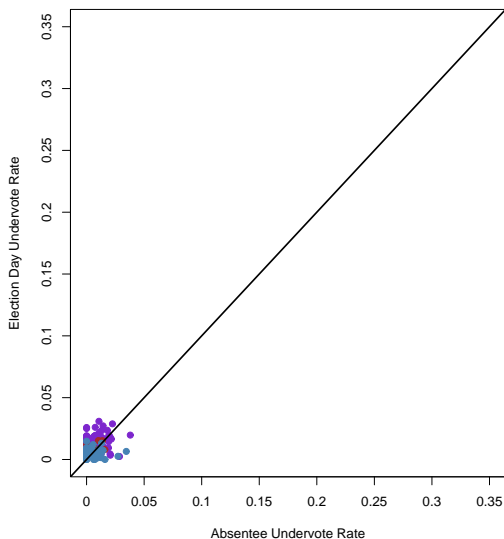
- CD 13 precincts with at least 100 voters.
- DeSoto County ignored — total of 6672 voters.

Undervoting in CD 13 Counties: CD 13 Race



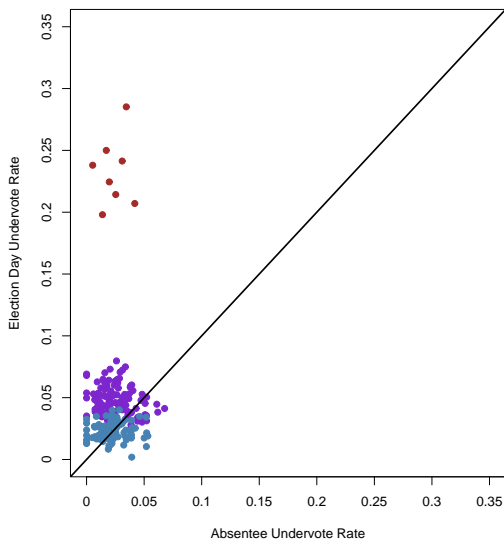
- Counties are distinct.
- Election day undervote high in Sarasota.
- Elevated undervote not isolated.

Undervoting in CD 13 Counties: Governor Race



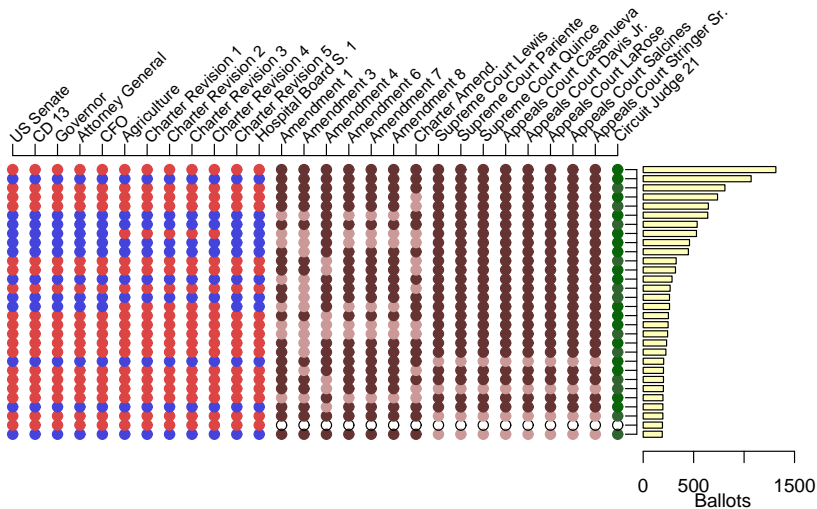
- All precincts similar.
- Election day and absentee undervote rates similar.

Undervoting in CD 13 Counties: AG Race

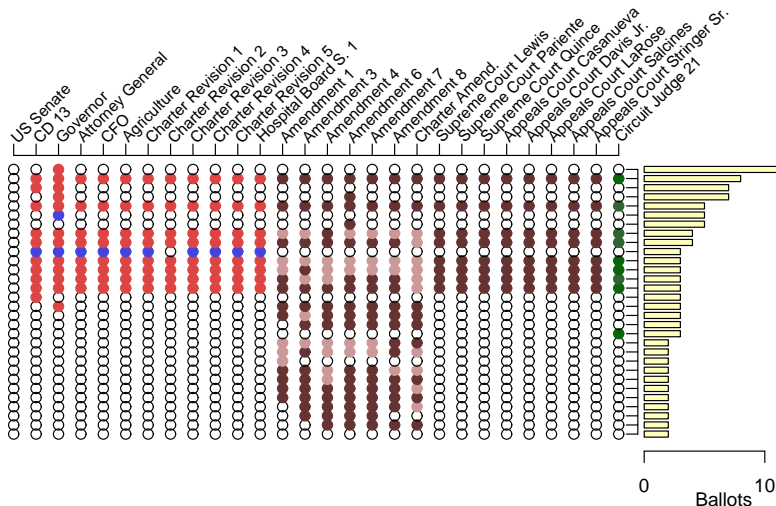


- Counties are distinct.
- Election day undervote high in Charlotte.
- Elevated undervote not isolated.

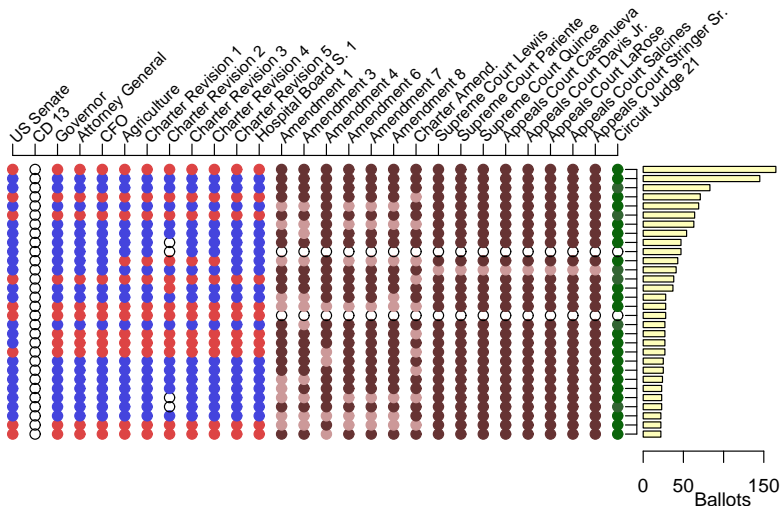
Top Sarasota County ballot-level voting patterns, All voters



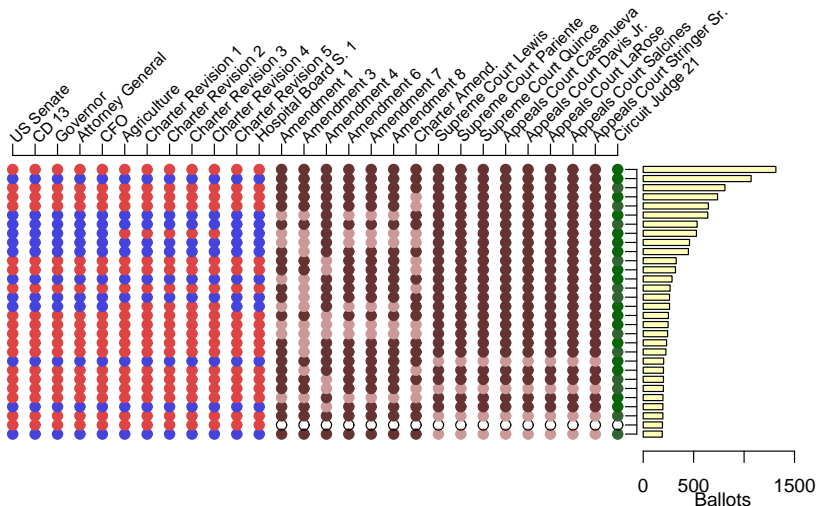
Top Sarasota County ballot-level voting patterns, US Senate undervoters



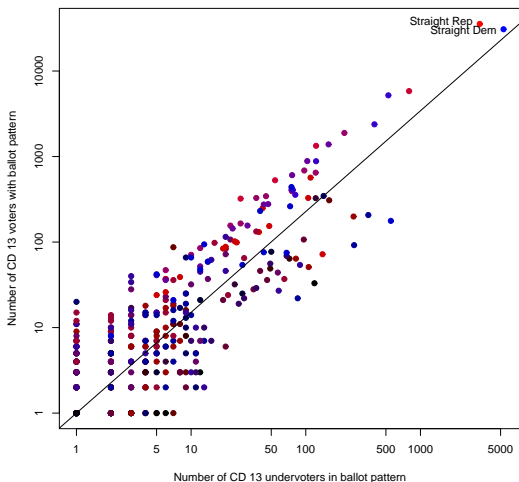
Top Sarasota County ballot-level voting patterns, CD 13 undervoters



Top Sarasota County ballot-level voting patterns, CD 13 voters



Voting patterns among CD 13 voters and undervoters



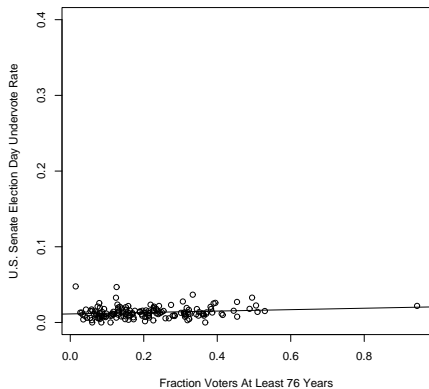
- Each point represents a pattern of votes across the top five statewide races.
- Points colored from red to blue in proportion to the number of Democrats and Republicans supported.

Summary of Initial Evidence

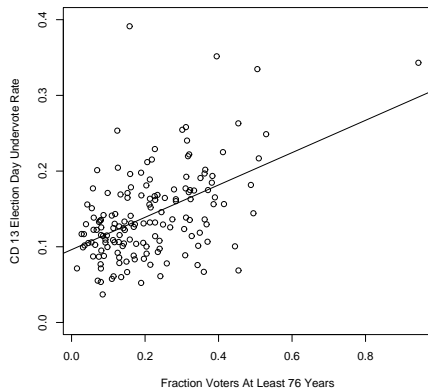
- Sarasota CD 13 race was different than other races in Sarasota
- Sarasota CD 13 race was different than other races in CD 13
- ... except for the AG race in Charlotte County
- Focusing solely on the CD 13 race in Sarasota will lead to an incomplete analysis

Some Evidence of Voter Confusion

US Senate

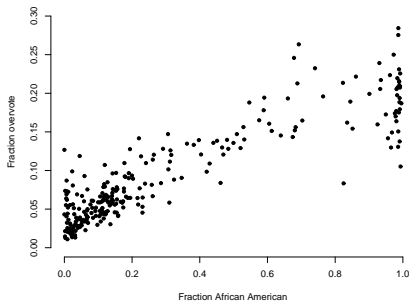


CD 13



Voter confusion in the 2000 Duval County Presidential Election

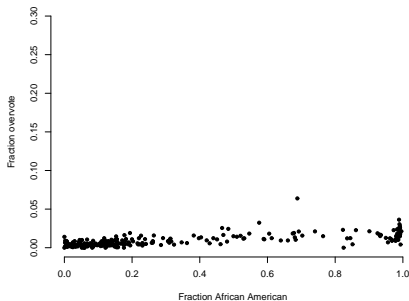
President



- Punch card machines
- Presidential race spread over 2 ballot pages
- Confusion:
 - 7.6 presidential overvote
 - Greater than 20 percent overvote in many precincts
 - 84 percent of overvotes include punch on each of the two ballot pages
 - Overvote rate is a function of demographics

Voter confusion in the 2000 Duval County Presidential Election

US Senate



- Punch card machines
- Presidential race spread over 2 ballot pages
- Confusion:
 - 7.6 presidential overvote
 - Greater than 20 percent overvote in many precincts
 - 84 percent of overvotes include punch on each of the two ballot pages
 - Overvote rate is a function of demographics

Theory of Ballot Format Effects

- Voters are primed by initial number of races per ballot page
 - Confusion tends to occur on the first ballot page that includes multiple races.
 - Confusion tends to be aggravated by certain types of voter demographics
 - Key point: inconsistency in presentation of races across initial ballot pages
- Theory applies to top races only
 - Theory has nothing to say about formats that are not inconsistent

Sarasota County

OFFICIAL SENATOR ELECTION BALLOT
SARASOTA COUNTY, FLORIDA
NOVEMBER 7, 2006

CONGRESSIONAL

UNITED STATES SENATOR
(Vote for One)

Katherine Harris	REP	<input type="checkbox"/>
Bill Nelson	DEM	<input type="checkbox"/>
Floyd Roy Frazier	NPA	<input type="checkbox"/>
Belinda Roach	NPA	<input type="checkbox"/>
Brian Moore	NPA	<input type="checkbox"/>
Roy Tanner	NPA	<input type="checkbox"/>
Write-In		<input type="checkbox"/>



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Sarasota County

U.S. REPRESENTATIVE IN CONGRESS
13TH CONGRESSIONAL DISTRICT
(Vote for One)

Vern Buchanan	REP	<input type="checkbox"/>
Christine Jennings	DEM	<input type="checkbox"/>

STATE

GOVERNOR AND LIEUTENANT GOVERNOR
(Vote for One)

Charlie Crist	REP	<input type="checkbox"/>
Jeff Kotlikamp		
Jim Davis	DEM	<input type="checkbox"/>
Daryl L. Jones		
Max Linn	REP	<input type="checkbox"/>
Tom Macklin		
Richard Paul Bombinsky	NPA	<input type="checkbox"/>
Dr. Joe Smith		
John Wayne Smith	NPA	<input type="checkbox"/>
James J. Kearney		
Karl C.C. Behn	NPA	<input type="checkbox"/>
Carol Castagnero		
Write-In		<input type="checkbox"/>

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Sarasota County

ATTORNEY GENERAL (Vote for One)			
Bill McCollum	REP		<input type="checkbox"/>
Walter "Skip" Campbell	DEM		<input type="checkbox"/>
CHIEF FINANCIAL OFFICER (Vote for One)			
Tom Lee	REP		<input type="checkbox"/>
Alex Siak	DEM		<input type="checkbox"/>
COMMISSIONER OF AGRICULTURE (Vote for One)			
Charles H. Bronson	REP		<input type="checkbox"/>
Eric Copeland	DEM		<input type="checkbox"/>

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Pg3 AG/CFO/Agriculture

Charlotte County

OFFICIAL GENERAL ELECTION BALLOT
 CHARLOTTE COUNTY, FL
 NOVEMBER 7, 2006

CONGRESSIONAL

UNITED STATES SENATOR
 (Vote For One)

Katherine Harris	REP	<input type="checkbox"/>
Bill Nelson	DEM	<input type="checkbox"/>
Floyd Ray Frazier	NPA	<input type="checkbox"/>
Belinda Noah	NPA	<input type="checkbox"/>
Brian Moore	NPA	<input type="checkbox"/>
Roy Tanner	NPA	<input type="checkbox"/>
Write-In		<input type="checkbox"/>

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Charlotte County

REPRESENTATIVE IN CONGRESS DISTRICT 13 (Vote For One)		
Vern Buchanan	REP	<input type="checkbox"/>
Christine Jennings	DEM	<input type="checkbox"/>

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Charlotte County

STATE		
GOVERNOR & LIEUTENANT GOVERNOR (Vote For One)		
Charlie Crist	REP	<input type="checkbox"/>
Jeff Kottkamp		
Jim Davis	DEM	<input type="checkbox"/>
Daryl L. Jones		
Max Linn	REP	<input type="checkbox"/>
Tom Macklin		
Richard Paul Dembinsky	NPA	<input type="checkbox"/>
Dr. Joe Smith		
John Wayne Smith	NPA	<input type="checkbox"/>
James J. Kearney		
Karl C.C. Behm	NPA	<input type="checkbox"/>
Carol Castagnero		
Write-In		<input type="checkbox"/>
ATTORNEY GENERAL (Vote For One)		
Bill McCollum	REP	<input type="checkbox"/>
Walter "Skip" Campbell	DEM	<input type="checkbox"/>

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Pasco County

OFFICIAL GENERAL ELECTION BALLOT
PASCO COUNTY, FLORIDA
NOVEMBER 7, 2006

CONGRESSIONAL

UNITED STATES SENATOR
(Vote for One)

Katherine Harris	REP	<input type="checkbox"/>
Bill Nelson	DEM	<input type="checkbox"/>
Floyd Ray Frazier	NPA	<input type="checkbox"/>
Belinda Noah	NPA	<input type="checkbox"/>
Brian Moore	NPA	<input type="checkbox"/>
Roy Tanner	NPA	<input type="checkbox"/>
Write-In		<input type="checkbox"/>

REPRESENTATIVE IN CONGRESS
DISTRICT 5
(Vote for One)

Virginia "Ginny" Brown-Waite	REP	<input type="checkbox"/>
John Russell	DEM	<input type="checkbox"/>

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Pasco County

STATE		CHIEF FINANCIAL OFFICER (Vote for One)	
GOVERNOR AND LIEUTENANT GOVERNOR (Vote for One)		Tom Lee	REP <input type="checkbox"/>
Charlie Crist	REP <input type="checkbox"/>	Alex Sink	DEM <input type="checkbox"/>
Jeff Kottkamp		COMMISSIONER OF AGRICULTURE (Vote for One)	
Jim Davis	DEM <input type="checkbox"/>	Charles H. Bronson	REP <input type="checkbox"/>
Daryl L. Jones		Eric Copeland	DEM <input type="checkbox"/>
Max Linn	REP <input type="checkbox"/>	LEGISLATURE	
Tom Macklin		STATE SENATOR DISTRICT 12 (Vote for One)	
Richard Paul Dembinsky	NPA <input type="checkbox"/>	Victor Crist	REP <input type="checkbox"/>
Dr. Joe Smith		C. Burt Linthicum	CFP <input type="checkbox"/>
John Wayne Smith	NPA <input type="checkbox"/>		
James J. Kearney			
Karl C.C. Behm	NPA <input type="checkbox"/>		
Carol Castagnero			
Write-In	<input type="checkbox"/>		
ATTORNEY GENERAL (Vote for One)			
Bill McCollum	REP <input type="checkbox"/>		
Walter "Skip" Campbell	DEM <input type="checkbox"/>		

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Nassau County

CONGRESSIONAL		STATE	
UNITED STATES SENATOR (Vote for One)		GOVERNOR AND LIEUTENANT GOVERNOR (Vote for One)	
Katherine Harris	REP	Charlie Crist	REP
Bill Nelson	DEM	Jeff Kotkamp	DEM
Floyd Ray Frazier	NPA	Jim Davis	DEM
Belinda Noah	NPA	Daryl L. Jones	DEM
Brian Moore	NPA	Max Linn	REF
Roy Tanner	NPA	Tom MacLellan	REF
Write-In		Richard Paul Dembinsky	NPA
		Dr. Joe Smith	NPA
		John Wayne Smith	NPA
		James J. Kearney	NPA
		Kari C. C. Behm	NPA
		Carol Castagnere	NPA
		Write-In	
REPRESENTATIVE IN CONGRESS DISTRICT 4 (Vote for One)		ATTORNEY GENERAL (Vote for One)	
Ander Crenshaw	REP	Bill McCollum	REP
Robert J. Hams	DEM	Walter "Skip" Campbell	DEM
Write-In			
		CHIEF FINANCIAL OFFICER (Vote for One)	
		Tom Lee	REP
		Alex Sirk	DEM
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Pg1 Senate/US House/Gov/AG/CFO
 Pg2 Agriculture/Downballot

Nassau County

OFFICIAL GENERAL ELECTION BALLOT NASSAU COUNTY, FLORIDA NOVEMBER 7, 2006	
COMMISSIONER OF AGRICULTURE (Vote for One) Charles H. Bronson REP <input type="checkbox"/> Eric Copeland DEM <input type="checkbox"/>	COUNTY COMMISSIONER DISTRICT 4 (Vote for One) Barry Holloway REP <input type="checkbox"/> Angie Hall DEM <input type="checkbox"/>
LEGISLATIVE	
STATE SENATOR DISTRICT 8 (Vote for One) James E. "Jim" King Jr. REP <input type="checkbox"/> Write-In <input type="checkbox"/>	OCEAN HIGHWAY PORT AUTHORITY DISTRICT 3 (Vote for One) Ed Gandy REP <input type="checkbox"/> Keith L. Sawyer DEM <input type="checkbox"/>
NONPARTISAN	
COUNTY TAX COLLECTOR (Vote for One) John M. Drew REP <input type="checkbox"/> Ray Harper DEM <input type="checkbox"/>	JUSTICE OF THE SUPREME COURT 1 Shall Justice R. Fred Lewis of the Supreme Court be retained in office? YES <input type="checkbox"/> NO <input type="checkbox"/>
COUNTY COMMISSIONER DISTRICT 2 (Vote for One) Mike Boyle REP <input type="checkbox"/> Phil Scanlan DEM <input type="checkbox"/>	JUSTICE OF THE SUPREME COURT 2 Shall Justice Barbara Joan Panerite of the Supreme Court be retained in office? YES <input type="checkbox"/> NO <input type="checkbox"/>
<input type="button" value="Back"/> 2 of 5 Public Counter: 0 <input type="button" value="Next"/>	

- iVotronic
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- Layout
 - Pg1 Senate/US House/Gov/AG/CFO
 - Pg2 Agriculture/Downballot

Miami-Dade (without US House)

OFFICIAL GENERAL ELECTION BALLOT
MIAMI-DADE COUNTY, FLORIDA
NOVEMBER 7, 2006

CONGRESSIONAL

UNITED STATES SENATOR
(Vote for one)

Katherine Harris	(REP) 10	<input type="checkbox"/>
Bill Nelson	(DEM) 11	<input type="checkbox"/>
Floyd Ray Frazier	(NPA) 12	<input type="checkbox"/>
Belinda Nosh	(NPA) 13	<input type="checkbox"/>
Brian Moore	(NPA) 14	<input type="checkbox"/>
Roy Tanner	(NPA) 15	<input type="checkbox"/>
Write-in		<input type="checkbox"/>

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 - Pg1 Senate
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Miami-Dade (without US House)

OFFICIAL GENERAL ELECTION BALLOT
MIAMI-DADE COUNTY, FLORIDA
NOVEMBER 7, 2006

STATE

GOVERNOR AND LIEUTENANT GOVERNOR

(Vote for one)

Charlie Crist / Jeff Kotkamp

(REP) 29



Jim Davis / Daryl L. Jones

(DEM) 30



Max Linn / Tom Macklin

(REF) 31



Richard Paul Dembinsky / Dr. Joe Smith

(NPA) 32



John Wayne Smith / James J. Kearney

(NPA) 33



Karl C. C. Behm / Carol Castagnero

(NPA) 34



Write-in



ATTORNEY GENERAL

(Vote for one)

Bill McCollum

(REP) 36



Walter "Skip" Campbell

(DEM) 37



CHIEF FINANCIAL OFFICER

(Vote for one)

Tom Lee

(REP) 39



Alex Sink

(DEM) 40



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Miami-Dade (with US House)

OFFICIAL GENERAL ELECTION BALLOT
MIAMI-DADE COUNTY, FLORIDA
NOVEMBER 7, 2006

CONGRESSIONAL

UNITED STATES SENATOR

(Vote for one)

Katherine Harris (REP) 10

Bill Nelson (DEM) 11

Floyd Ray Frazier (NPA) 12

Belinda Noah (NPA) 13

Brian Moore (NPA) 14

Roy Tanner (NPA) 15

Write-in

REPRESENTATIVE IN CONGRESS, 18TH CONGRESSIONAL DISTRICT

(Vote for one)

Ileana Ros-Lehtinen (REP) 20

David "Big Dave" Pataki (DEM) 21

Write-in

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Miami-Dade (with US House)

OFFICIAL GENERAL ELECTION BALLOT
MIAMI-DADE COUNTY, FLORIDA
NOVEMBER 7, 2006

STATE

GOVERNOR AND LIEUTENANT GOVERNOR

(Vote for one)

Charlie Crist / Jeff Kotkamp

(REP) 29



Jim Davis / Daryl L. Jones

(DEM) 30



Max Linn / Tom Macklin

(REF) 31



Richard Paul Dembinsky / Dr. Joe Smith

(NPA) 32



John Wayne Smith / James J. Kearney

(NPA) 33



Karl C. C. Behm / Carol Castagnero

(NPA) 34



Write-in



ATTORNEY GENERAL

(Vote for one)

Bill McCollum

(REP) 36



Walter "Skip" Campbell

(DEM) 37



CHIEF FINANCIAL OFFICER

(Vote for one)

Tom Lee

(REP) 39



Alex Sink

(DEM) 40



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Sarasota top-ballot races

Feature	Senate	CD13	Governor	AG	CFO	Agric.
Undervotes	1373	17825	1652	5610	5395	6276
Undervote–Age slope	.01	.21	.02	.05	.02	.04
Avg. total undervotes						
Undervoters	10.8	4.7	9.6	11.9	13.1	13
Voters	2.8	2.4	2.8	2.4	2.4	2.3

- Total votes: 119898
- County-wide contests: 28

Charlotte top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	552	368	11377	1691	2614
Undervote–Age slope	.04	.02	.16	.05	.08
Avg. total undervotes					
Undervoters	8.8	10.5	3.8	9.9	8.8
Voters	2.3	2.4	1.7	2.1	2.0

- Total votes: 46024
- County-wide contests: 24

Collier top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	996	473	2404	4603	5233
Undervote–Age slope	.02	.01	.01	.08	.11
Avg. total undervotes					
Undervoters	10	11.6	10.6	8.6	8.6
Voters	2.8	2.9	2.6	2.5	2.4

- Total votes: 70115
- County-wide contests: 26
- Undervote CFO and Agriculture: 3902 (85 percent of CFO undervoters)
- Undervote AG and CFO: 1277 (53 percent of AG undervoters)

Lake top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	918	771	2833	4019	3686
Undervote–Age slope	.03	.03	.06	.08	.09
Avg. total undervotes					
Undervoters	7.5	7.8	7.4	6.8	7.8
Voters	2	2	1.8	1.8	1.7

- Total votes: 75393
- County-wide contests: 22

Lee top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	1461	902	26864	4340	7496
Undervote–Age slope	.01	.01	.21	.01	.09
Avg. total undervotes					
Undervoters	12.3	12.8	6.3	14	12
Voters	4.1	4.1	3.4	3.8	3.6

- Total votes: 129917
- County-wide contests: 28

Miami-Dade top-ballot races with no US House

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	400	206	1987	2059	853
Undervote–Age slope	.08	.06	.28	.30	.07
Avg. total undervotes					
Undervoters	9.0	10.6	7.3	7.1	10.5
Voters	2.9	3.0	2.3	2.4	2.6

- Total votes: 15175
- County-wide contests: 21
- AG–CFO pairs: 1761 (89 percent of AG undervoters)
- AG–Agriculture: 430 (22 percent of AG undervoters)

Miami-Dade top-ballot races with US House

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	12628	3684	24816	24475	21260
Undervote–Age slope	.35	.08	.50	.41	.52
Avg. total undervotes					
Undervoters	11.6	12.1	10.7	10.6	12.0
Voters	2.9	3.2	2.5	2.5	2.5

- Total votes: 264561
- County-wide contests: 21
- AG–CFO pairs: 18007 (73 percent of AG undervoters)
- AG–Agriculture: 12934 (52 percent of AG undervoters)

Nassau top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	223	157	478	525	656
Undervote–Age slope	.03	.06	.05	.08	.12
Avg. total undervotes					
Undervoters	10.4	9.9	10.4	10.4	10.3
Voters	1.6	1.7	1.5	1.5	1.4

- Total votes: 19637
- County-wide contests: 24

Pasco top-ballot races

Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	1832	896	5507	4295	6242
Undervote–Age slope	.03	.03	.09	.05	.09
Avg. total undervotes					
Undervoters	11.1	10.9	10.7	13.2	11.8
Voters	2.9	2.9	2.6	2.6	2.4

- Total votes: 113564
- County-wide contests: 28

Sumter top-ballot races

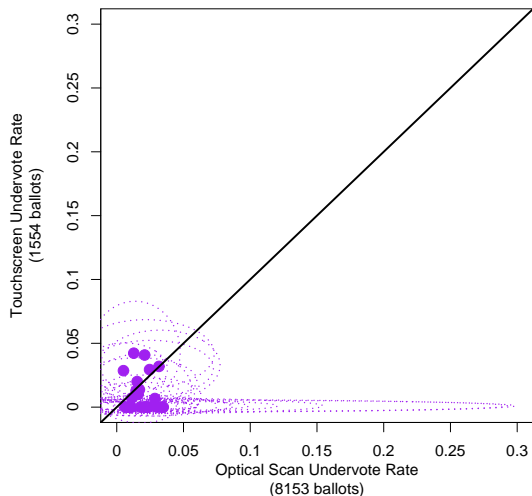
Feature	Senate	Governor	AG	CFO	Agriculture
Undervotes	341	242	6560	1012	1716
Undervote–Age slope	-.02	-.02	.19	-.01	.02
Avg. total undervotes					
Undervoters	8	7.8	2.6	7.3	6.1
Voters	1.6	1.7	1.1	1.5	1.4

- Total votes: 27457
- County-wide contests: 20

Jackson County

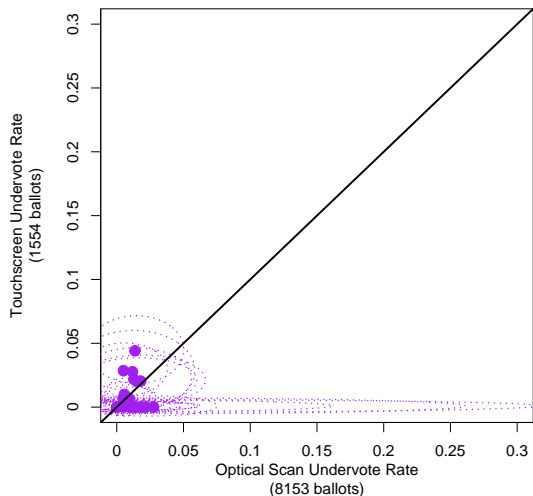
- Uses both iVotronic and optical scan voting on election day
- 25 total precincts, each of which had a single iVotronic
- Election day voters could choose how to vote
- Format issues
 - Bit-mapped style
 - First page contained U.S. Senate race only
 - Second page contained Governor, AG, and CFO
 - Third page contained Agriculture
 - No Congressional District race

Jackson County: U.S. Senate Race



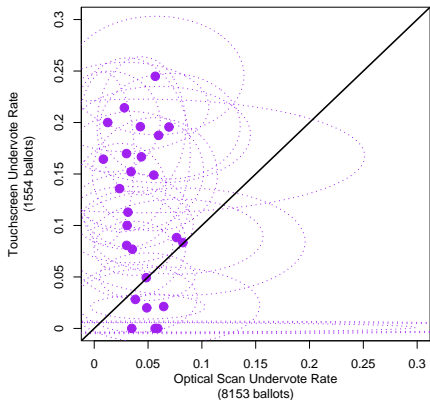
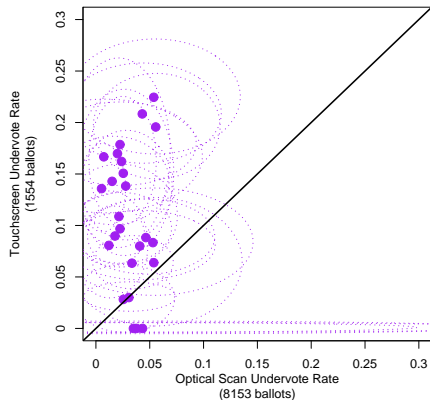
- All precincts roughly similar.
- Note: this is a small county.

Jackson County: Governor Race

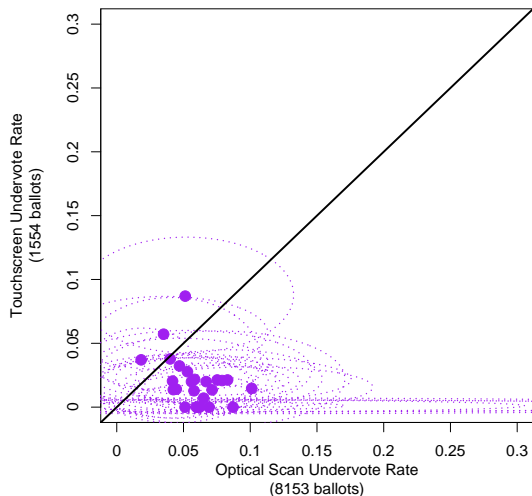


- All precincts roughly similar.

Jackson County: AG and CFO Races



Jackson County: Agriculture Race



- All precincts roughly similar.