

Vote Swing Analysis Vote Swing by Region

“Vote Swing” is the percentage of votes won in the current election minus the % in the previous.
The LDP actually lost votes in rural areas in 2005, while it was gaining elsewhere. And, if anything, LDP candidates lost more vote in rural areas in 2005 than they did in 2009.

```
. *LDP in Rural
. ci swing00 swing03 swing05 swing09 if pty==1 & urban3==1
```

Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	91	.0388169	.0123916	.0141988	.063435
swing03	77	-.0024967	.0138656	-.0301124	.025119
swing05	94	-.0531618	.0139081	-.0807805	-.0255431
swing09	98	-.0443387	.0118393	-.0678364	-.020841

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. *LDP in Mixed
. ci swing00 swing03 swing05 swing09 if pty==1 & urban3==2
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Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	90	.0379353	.0094548	.0191488	.0567218
swing03	68	.0074747	.0096606	-.011808	.0267574
swing05	93	.0243596	.008545	.0073885	.0413307
swing09	99	-.0969339	.0084222	-.1136474	-.0802204

```
. *LDP in Urban
. ci swing00 swing03 swing05 swing09 if pty==1 & urban3==3
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Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	80	.0518721	.0080223	.035904	.0678402
swing03	62	.0596159	.0067339	.0461506	.0730811
swing05	89	.0767585	.0064469	.0639467	.0895703
swing09	90	-.1298033	.0052639	-.1402626	-.1193441

```
. *DPJ in Rural
. ci swing00 swing03 swing05 swing09 if pty==2 & urban3==1
```

Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	16	.1623074	.0290662	.1003542	.2242606
swing03	49	.0455702	.0158557	.0136902	.0774501
swing05	72	.003546	.009838	-.0160703	.0231623
swing09	78	.1290802	.0083772	.112399	.1457615

```
. *DPJ in Mixed
. ci swing00 swing03 swing05 swing09 if pty==2 & urban3==2
```

Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	45	.1023164	.0154209	.0712376	.1333952
swing03	65	.0879498	.0128484	.062282	.1136175
swing05	92	-.0151802	.008489	-.0320426	.0016823
swing09	95	.1361928	.0059456	.1243876	.1479979

```
. *DPJ in Urban
. ci swing00 swing03 swing05 swing09 if pty==2 & urban3==3
```

Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]	
swing00	71	.1410648	.0110583	.1190098	.1631198
swing03	73	.0834989	.0081722	.067208	.0997898
swing05	98	-.0570768	.0047966	-.0665967	-.0475568
swing09	92	.1318049	.0058556	.1201735	.1434362

The biggest thing I found here is that the LDP was actually losing votes (negative vote swing) in 2005, even controlling for the presence of postal rebels.

One example of this is in the following regression

Urban3 is the 300 districts broken into 3 groups (100 SMDs in each): 1 for rural, 2 for mixed, and 3 for urban.

postal_there is a 0-1 dummy: was there a postal rebel in the district?

ldp is a 0-1 dummy: LDP =1, DPJ=0

Controlling for postal_rebels and level of urbanization, we see that the LDP was losing votes in 2005 in rural areas (the negative sign on the uninteracted LDP).

Moreover, controlling for all of these things, we see that the DPJ was actually gaining votes in rural areas (as shown by the positive sign on the intercept).

I have lots of simple summary stats to show this, but this regression makes the point most succinctly.

```
. reg voteswing ldp postal_there mixed urban ldp_mixed ldp_urban if year==2005 & pty<3
```

Source	SS	df	MS	Number of obs =	538
Model	2.15615594	6	.359359323	F(6, 531) =	64.13
Residual	2.97557168	531	.005603713	Prob > F	= 0.0000
Total	5.13172762	537	.00955629	R-squared	= 0.4202
				Adj R-squared	= 0.4136
				Root MSE	= .07486

voteswing	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
ldp	-.059686	.0117258	-5.09	0.000	-.0827207 -.0366514
postal_there	-.1482103	.0111932	-13.24	0.000	-.1701988 -.1262219
mixed	-.0452179	.0119475	-3.78	0.000	-.068688 -.0217478
urban	-.0859967	.0117763	-7.30	0.000	-.1091306 -.0628627
ldp_mixed	.1007501	.0160849	6.26	0.000	.0691523 .132348
ldp_urban	.1926207	.0160503	12.00	0.000	.1610909 .2241506
_cons	.0364816	.009166	3.98	0.000	.0184755 .0544878

Correlates of Vote Swing

What affected the loss or gain of votes?

Variables for the multivariate analysis (unless otherwise noted, they are all district level variables):

Dependent variable:

voteswing: party's SMD vote % this time minus its SMD vote % last time

independent variables:

voteswing_prev: the swing for the party in the district in the previous election. We expect big past swings to indicate volatility. If the LDP gained a lot of votes in 2005, we expect it to lose a lot in 2009 when the winds changed.

did: urban-rural measure (densely inhabited districts) [FYI: I've now written up the code to just use 2005 did for 2009]

cand_no_chg: # of candidates last time - # of candidates this time

samecand: Did the candidate running for the party run in the district last time as well? (0-1)

sinc: SMD incumbent – won the SMD in the previous general election

pinc: PR incumbent – won a PR seat in the previous general election

new_sinc: last time the party's candidate was new, this time he's a SMD incumbent

new_qual2: last time new, non quality, but this time he's new, quality

sinc_notsinc: last time an SMD incumbent, this time not (except for inherit, which gets a 0 on this)

opp_sinc: does the opposition have an SMD incumbent?

opp_new_sinc: did the opposition have someone go from new to SMD incumbent?

opp_new_qual2: did the opposition have someone go from new/non-quality to SMD incumbent?

opp_sinc_notsinc: did the opposition go from last time an SMD incumbent, this time not (except for inherit, which gets a 0 on this)

postal_there: is there a postal rebel running in the district (2005)?

postal_did: interaction between did & postal_there

kom_drop_vote: if Komeito's candidate dropped out between the 2 elections, how many votes did he have last time?

jcp_sdp_drop_vote: if JCP's or SDP's candidate dropped out between the 2 elections, how many votes did they have last time?

ldp: coded 1 for LDP

Results next:

Vote Swing for LDP & DPJ if vote swing is only the absolute value

***This is probably the most important/compelling vote swing model

In the later models, we include direction of the vote swing, but I also ran models where both the current vote swing and the previous were just absolute value. There voteswing_prev_abs has coefficient of about same size in both 2005 & 2009 (and is significant), but is totally non-significant for 2003.

Actually, when we do this (see the LDP variable in this model), the size of the swing is pretty small by party.

	(1) swing03abs	(2) swing05abs	(3) swing09abs
voteswing_prev_abs	-0.0567 (-0.71)	0.194 (2.93)	0.185 (3.25)
ldp	-0.0209* (-2.57)	0.0144* (2.43)	-0.0211** (-3.17)
did	-0.0277* (-2.19)	0.0240* (2.33)	0.0307** (3.00)
cand_no_chg	0.0182*** (5.29)	0.00183 (0.53)	0.00345 (1.15)
sinc	-0.0113 (-1.25)	-0.00434 (-0.65)	-0.00695 (-1.00)
new_sinc	0.00858 (0.56)	-0.00447 (-0.36)	0.0245* (2.14)
new_qual2	0.0134 (0.82)	0.00457 (0.33)	0.0205 (1.61)
sinc_not sinc	0.0149 (1.08)	0.0146 (1.40)	0.00199 (0.21)
opp_new_sinc	-0.0150 (-0.93)	-0.00576 (-0.45)	-0.00313 (-0.28)
opp_new_qual2	-0.00672 (-0.40)	0.00461 (0.32)	-0.00545 (-0.53)
opp_sinc_not sinc	0.00320 (0.26)	0.0105 (1.04)	0.00534 (0.63)
postal_there	0 .	0.145*** (7.24)	0 .
postal_did	0 .	-0.114*** (-3.58)	0 .
_cons	0.105*** (9.42)	0.0317*** (3.51)	0.111*** (13.61)
<i>N</i>	393	413	522

Vote Swing for LDP & DPJ if vote swing is only the absolute value

Note that here (the absolute value model – both dependent variable and independent variable are absolute value of swing) there is no statistically significant relationship between urbanness and swing in 2009. I assume that this is because some areas have the same size absolute value swing in the different types of regions. We'll want to think about whether the measure should be absolute value or not.

	(1) swing03abs	(2) swing05abs	(3) swing09abs
voteswing_prev_abs	-0.0644 (-0.80)	0.194^{**} (2.93)	0.191^{***} (3.35)
ldp	-0.00265 (-0.19)	0.0246[*] (2.26)	-0.0276^{**} (-2.70)
mixed	0.00176 (0.13)	0.0182 (1.74)	0.0119 (1.25)
urban	-0.00936 (-0.70)	0.0216[*] (2.02)	0.0122 (1.17)
ldp_mixed	-0.0306 (-1.71)	-0.0229 (-1.63)	0.00171 (0.13)
ldp_urban	-0.0204 (-1.12)	-0.00813 (-0.55)	0.0229 (1.61)
cand_no_chg	0.0178 ^{***} (5.18)	0.00180 (0.52)	0.00333 (1.11)
sinc	-0.0138 (-1.48)	-0.00476 (-0.68)	-0.00608 (-0.87)
new_sinc	0.00982 (0.64)	-0.00515 (-0.41)	0.0244 [*] (2.14)
new_qual2	0.0114 (0.69)	0.00726 (0.52)	0.0226 (1.77)
sinc_notsync	0.0126 (0.92)	0.0151 (1.42)	0.00646 (0.66)
opp_new_sinc	-0.0148 (-0.91)	-0.00486 (-0.37)	-0.00158 (-0.14)
opp_new_qual2	-0.00319 (-0.19)	0.00520 (0.36)	-0.00581 (-0.56)
opp_sinc_notsync	0.00351 (0.29)	0.0104 (1.02)	0.00155 (0.18)
postal_there	0 .	0.143 ^{***} (7.12)	0 .
postal_did	0 .	-0.111 ^{***} (-3.49)	0 .
_cons	0.0905 ^{***} (7.89)	0.0332 ^{***} (3.82)	0.120 ^{***} (15.56)
<i>N</i>	393	413	522

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Vote Swing for LDP & DPJ both considered in the analysis

The rest of the models include direction of vote swing – I'm less compelled by this measure

Big thing to note here is the powerful (but nearly identical) effect of vote swing in both 2005 and 2009. Swing begets swing and this is not unique to 2009. Weaker effect of volatility in 2003.

	(1) swing03	(2) swing05	(3) swing09
voteswing_prev	-0.155* (-2.23)	-0.272*** (-4.19)	-0.306*** (-5.46)
did	0.0469** (3.19)	0.0335** (2.63)	-0.0260* (-2.22)
cand_no_chg	0.0429*** (10.59)	0.0408*** (9.23)	0.0226*** (6.21)
sinc	-0.00597 (-0.58)	-0.0466*** (-5.70)	-0.0164* (-2.02)
new_sinc	0.00413 (0.24)	0.00902 (0.59)	0.0431** (3.28)
new_qual2	0.0286 (1.55)	0.0357* (2.11)	0.0255 (1.71)
sinc_otsinc	-0.0199 (-1.29)	-0.0337** (-2.63)	-0.0127 (-1.15)
opp_new_sinc	0.00946 (0.52)	-0.00786 (-0.50)	0.0135 (1.03)
opp_new_qual2	-0.0337 (-1.76)	-0.00925 (-0.53)	-0.0227 (-1.88)
opp_sinc_otsinc	-0.00105 (-0.08)	0.0252* (2.03)	-0.0155 (-1.56)
postal_there	0 .	-0.159*** (-6.48)	0 .
postal_did	0 .	0.100* (2.56)	0 .
ldp	-0.0424*** (-4.63)	0.0643*** (8.85)	-0.216*** (-27.86)
_cons	0.0214 (1.87)	-0.0302** (-2.86)	0.163*** (18.29)
<i>N</i>	393	413	522

Vote Swing for LDP & DPJ both considered in the analysis
Now also interact with urban-ness

Here volatility has roughly the same impact. But also we can see the regional differences better. For both 2005 & 2009, volatility is much less great in rural areas. In 2005, the LDP gains less in rural areas (the base category) and in 2009 in rural areas it loses less.

	(1) swing03	(2) swing05	(3) swing09
voteswing_prev	-0.147* (-2.13)	-0.289*** (-4.86)	-0.298*** (-5.53)
mixed	0.0269 (1.78)	-0.0240* (-2.04)	0.0268* (2.49)
urban	0.0223 (1.46)	-0.0584*** (-4.85)	0.0397*** (3.39)
ldp_mixed	-0.0196 (-0.97)	0.0717*** (4.53)	-0.0649*** (-4.41)
ldp_urban	0.0218 (1.06)	0.149*** (9.01)	-0.106*** (-6.58)
cand_no_chg	0.0432*** (10.75)	0.0394*** (9.72)	0.0232*** (6.63)
sinc	-0.00258 (-0.25)	-0.0230** (-2.91)	-0.0228** (-2.90)
new_sinc	0.00540 (0.31)	0.00635 (0.45)	0.0412** (3.24)
new_qual2	0.0259 (1.40)	0.0357* (2.29)	0.0223 (1.54)
sinc_notsync	-0.0192 (-1.24)	-0.0119 (-1.00)	-0.0339** (-3.07)
opp_new_sinc	0.00627 (0.34)	-0.0195 (-1.34)	0.0123 (0.97)
opp_new_qual2	-0.0291 (-1.50)	-0.00966 (-0.60)	-0.0213 (-1.83)
opp_sinc_notsync	0.000533 (0.04)	0.0137 (1.20)	-0.000684 (-0.07)
postal_there	0 .	-0.161*** (-7.16)	0 .
postal_did	0 .	0.110** (3.08)	0 .
ldp	-0.0445** (-2.81)	-0.0192 (-1.57)	-0.163*** (-14.12)
_cons	0.0332**	0.0151	0.129***

	(2.80)	(1.62)	(15.49)
<i>N</i>	393	413	522
Vote Swing - LDP only			
	(1)	(2)	(3)
	swing03	swing05	swing09
voteswing_prev	-0.146 (-1.53)	-0.283*** (-3.39)	-0.311*** (-3.76)
did	0.0584** (2.85)	0.137*** (7.81)	-0.0955*** (-5.22)
cand_no_chg	0.0396*** (7.05)	0.0421*** (7.47)	0.0220*** (4.09)
sinc	0.0120 (0.82)	-0.0109 (-0.96)	-0.0218 (-1.82)
new_sinc	-0.0207 (-0.82)	0.0219 (1.07)	0.0462** (3.07)
new_qual2	0.00586 (0.17)	0.0132 (0.53)	0.0252 (0.83)
sinc_otsinc	0.00155 (0.08)	0.00364 (0.24)	-0.127*** (-4.54)
opp_new_sinc	0.0173 (0.71)	0.00430 (0.20)	0.0292 (0.38)
opp_new_qual2	-0.0499* (-2.22)	-0.0358 (-1.65)	-0.0216 (-1.30)
opp_sinc_otsinc	0.00730 (0.29)	0.00167 (0.08)	-0.00909 (-0.68)
postal_there	0 .	-0.189*** (-6.03)	0 .
postal_did	0 .	0.102* (1.98)	0 .
kom_drop_vote	0.394* (2.03)	0 .	0 .
_cons	-0.0395* (-2.22)	-0.0489** (-3.16)	-0.00627 (-0.40)
<i>N</i>	206	212	271

Vote swing – DPJ only

	(1) swing03	(2) swing05	(3) swing09
voteswing_prev	-0.143 (-1.43)	-0.277*** (-3.49)	-0.251*** (-3.93)
did	0.0363 (1.67)	-0.0702*** (-4.23)	0.0473*** (3.43)
cand_no_chg	0.0482*** (8.15)	0.0381*** (6.26)	0.0252*** (6.17)
sinc	-0.0357* (-2.21)	-0.0364*** (-3.46)	-0.0340*** (-3.41)
new_sinc	0.0444 (1.82)	0.00793 (0.44)	-0.0188 (-0.35)
new_qual2	0.0383 (1.80)	0.0583** (3.16)	0.0233 (1.72)
sinc_otsinc	-0.0711* (-2.59)	-0.0241 (-1.14)	-0.0122 (-1.21)
opp_new_sinc	-0.0126 (-0.47)	-0.0508** (-2.74)	-0.00179 (-0.17)
opp_new_qual2	0.0297 (0.81)	0.0229 (1.00)	-0.0225 (-1.48)
opp_sinc_otsinc	-0.00954 (-0.58)	0.0122 (0.96)	0.0227 (1.52)
postal_there	0 .	-0.109*** (-3.56)	0 .
postal_did	0 .	0.0669 (1.43)	0 .
jcp_sdp_drop_vo te	-0.0944 (-0.56)	-0.0160 (-0.08)	0 .
_cons	0.0327* (2.22)	0.0336** (2.84)	0.121*** (13.25)
<i>N</i>	187	201	251