

PVI 5.0: Revised 2011 San Francisco Progressive Voter Index and changes in the San Francisco electorate
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Summary

The San Francisco Progressive Voter Index (PVI) is a single-number summary index of San Francisco “ideological” voting trends in each city precinct. The PVI ranks each precinct from 0-100, where lower numbers indicate more conservative precincts and higher numbers represent more liberal precincts. The PVI is maintained and updated in order to provide political professionals, researchers, the media, and other political junkies with tools to help understand San Francisco’s complex political climate. ¹

This report revises and improves upon the most recent 2008 (4.0) version. The 2011 PVI relies on 20 local ballot measures from November 2007 through November 2010. Five issues overlap with the 2008 PVI to provide continuity and consistency. Although this is a smaller number of overlapped issues than previous iterations, I didn't want this PVI to go back further than 2007, leaving only five overlapping issues.

The PVI itself is an indexed factor analysis score based on electoral results. I keep the same methodology as 2008 and all previous versions, where the PVI is derived from the summation of two rotated factor scores of the chosen issues. Each factor is weighted equally and has a defensible ideological interpretation.

Generally, the PVI results are similar to that of 2008 and 2006. D10 and D11 moved a bit 'rightward' relative to the rest of the city, mainly due to voting results of some tax measures. The ideological positioning of the rest of the city's precincts - relative to each other - remain unchanged. There is some evidence that that as a whole, the city has moved slightly to the right; however, the PVI concerns itself with how precincts vote relative to one another.

This version of the PVI will be what I and other researchers will use in interpreting the 2010 decennial Census data, as data are released from 2011-2013. This will also be the last PVI before new district lines are drawn in San Francisco for various political constituencies.

Methodology

The methodology for the 2011 PVI is the same as all of the previous efforts. A detailed description of the technique is given in Appendix 1. It was extremely important to keep the methodology consistent from version to version - not only in the factor analysis technique but also in the number of issues used, timeframe covered, and overlapping from the previous version. Table 1 shows a summary chart of PVI

¹ The PVI was originally created by Prof. Rich DeLeon (now Emeritus) of San Francisco State University. I am grateful for his ongoing guidance and support for the continuation of the project.

component statistics. Only by maintaining consistency can the PVI be used to accurately measure changes in the San Francisco electorate over time.

Table 1: Details for the 2011 PVI and previous versions

Year	# of issues	Timeframe covered	Issues overlapped from previous PVI
Original	10	Nov 2000 - Nov 2001 (1 yr, 2 elections)	-
2004	19	Nov 2000 - Nov 2002 (2 yrs, 4 elections)	10
2006	25	Nov 2003 - Jun 2006 (2.5 yrs, 5 elections)	0
2008	20	Nov 2004 - Jun 2008 (3.5 yrs, 6 elections)	9
2011	20	Nov 2007 - Nov 2010 (3 yrs, 6 elections)	5

Table 2 shows the issues that were utilized in constructing the 2011 PVI. The most important factor in choosing a ballot measure was that it somehow encompassed the San Francisco left-right political divide, as understood by most San Francisco political workers.² It is clear that for this version of the PVI, representing the past few years, there were fewer measures that were easily placed as a left vs right issue. A few examples were legalization of prostitution and non-citizen voting. Thus, it was more difficult to select issues for the 2011 PVI. All of the chosen issues are, though, defensible on theory, especially in how various San Francisco political factions view the role of government in citizens' lives. Different combinations of issues were considered, and the final selection was based on theory, election results, and correlations with previous PVIs.

² There will be no end to the debate as to what 'left-right' actually means in a San Francisco context, but *in general* it refers to opinions of fiscal, social, land use, and governmental matters. By and large, the 'left' is more willing to support taxes and bonds, funding for social services, a more active role for the government, tighter land use restrictions, and more liberal social views as understood nationally (i.e., homelessness, military, etc). To anyone outside of San Francisco politics, it's really just left vs. more left. However, many cities deal with similar issues.

Table 2: Measures in the 2011 PVI

Month	Year	Measure	Title	% Yes (Bold = FAIL)	2008 PVI
NOV	2007	A	Transit Reform, Parking Regulation and Emissions Reductions	55.7	Y
NOV	2007	C	Requiring Public Hearings on Proposed Measures	68.2	Y
JUN	2008	C	Forfeiture of Retirement Benefits for Conviction of a Crime involving Moral Turpitude in Connection with City Employment	58.1	Y
JUN	2008	D	Appointment to City Boards and Commissions	59.0	Y
JUN	2008	F	Affordable Housing Requirement for the Candlestick Point and Hunters Point Shipyard Mixed-Use Development Project	36.8	Y
NOV	2008	B	Establishing Affordable Housing Fund	47.8	
NOV	2008	G	Allowing Retirement System Credit for Unpaid Parental Leave	62.5	
NOV	2008	K	Changing Enforcement laws related to Prostitution and Sex Workers	40.9	
NOV	2008	M	Changing Residential Rent Ordinance to prohibit Acts of Harassment of Tenants by Landlords	58.8	
NOV	2008	N	Changing Real Property Transfer Tax Rates	68.6	
NOV	2008	R	Renaming Oceanside Water Treatment Plant	30.3	
NOV	2008	U	Policy Against funding of Armed Forces in Iraq	59.3	
NOV	2009	E	Advertisements on City Property	57.3	
JUN	2010	F	Renters' Financial Hardship Applications	42.3	
NOV	2010	AA	Vehicle Registration Fee	58.8	
NOV	2010	D	Non-Citizen Voting in School Board Elections	45.1	
NOV	2010	E	Election Day Voter Registration	47.2	
NOV	2010	J	Hotel Tax Clarification and Temporary Increase	45.5	
NOV	2010	L	Sitting or Lying on Sidewalks	54.3	
NOV	2010	N	Real Property Transfer Tax	58.5	

There have been some precinct line changes since 2008; namely, several precincts were added to D6 and D10 in 2010. For these precincts, the 2010 measure results were combined with the results of the geography's previous lines. Precincts which only changed by a street or two were treated as if they didn't change.

Results

Map 1 shows the PVI for the city of San Francisco. Figure 1 shows a correlation of the 2008 PVI with the new PVI. The results are extremely close ($R^2 = 0.95$), indicating two things: the methodology was very consistent from the 2006 PVI, especially in carefully choosing the relevant issues. Second, this shows in general that the politics of San Francisco's various geographies haven't changed much in a *relative* sense.

Map 1: 2011 San Francisco PVI

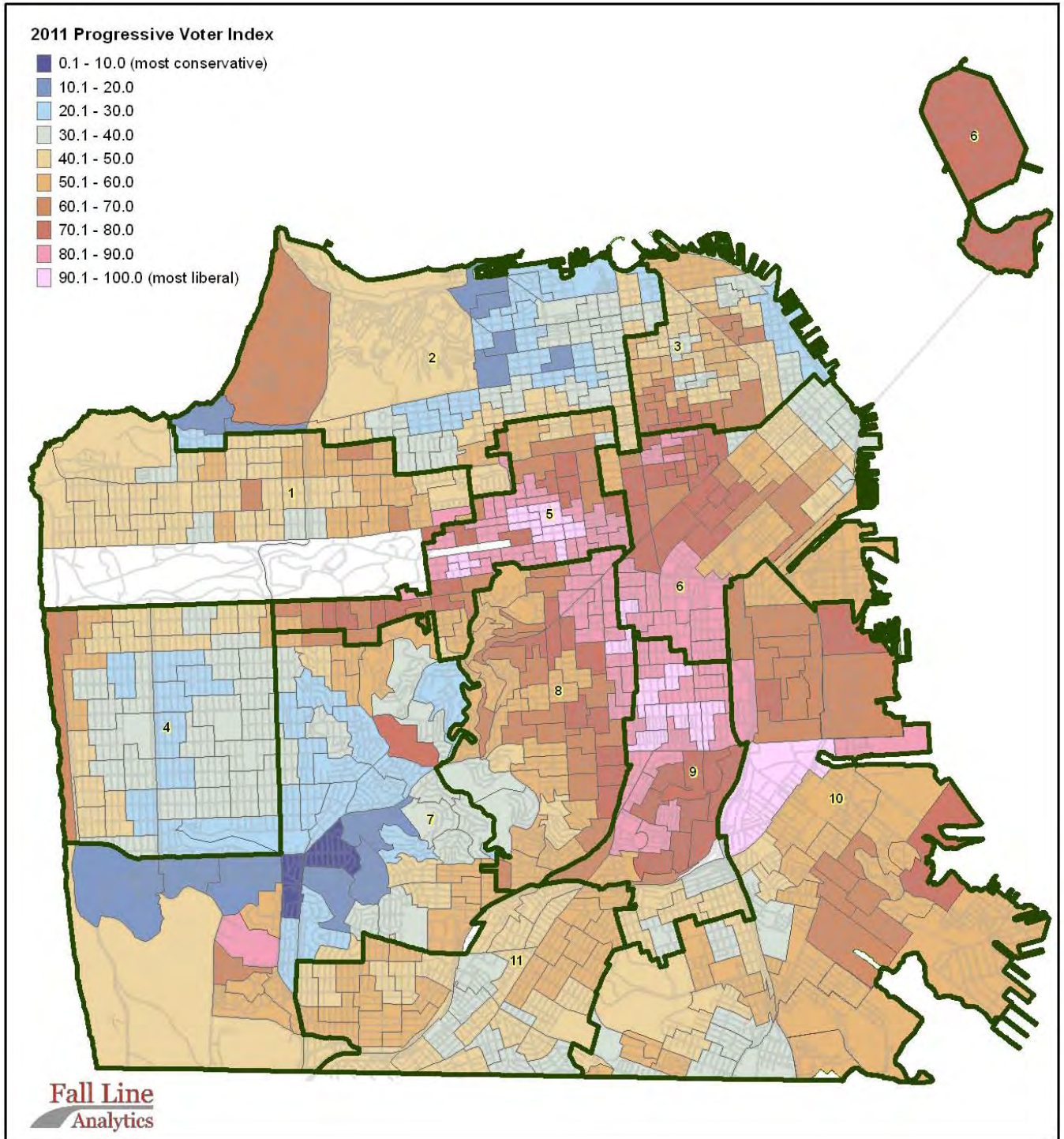


Figure 1: Correlation of 2008 vs. 2011 PVI. $R^2 = 0.95$, indicating a high level of relative political placement among the precincts

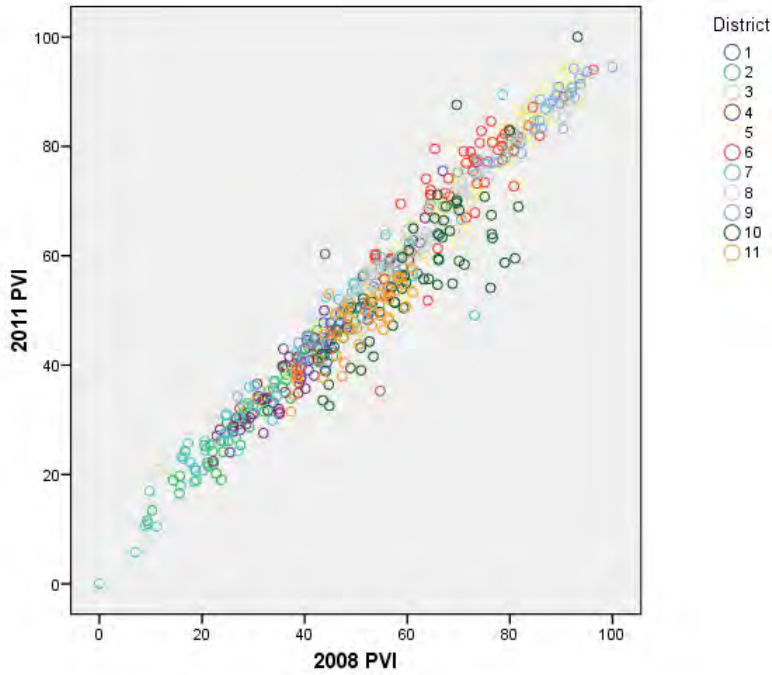
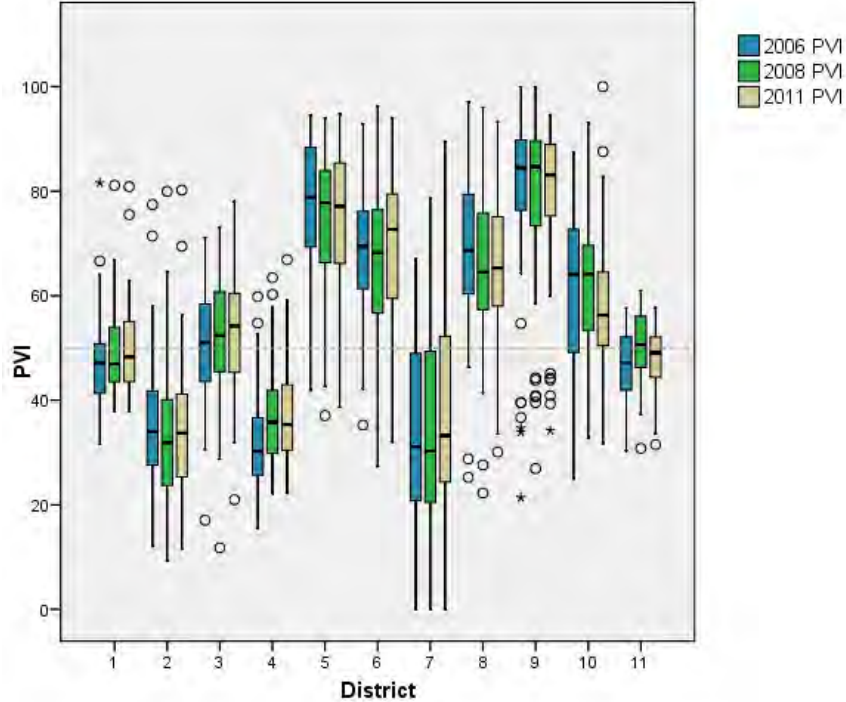


Table 3 shows the summary statistics for the 11 districts, as well as the summary statistics for the previous two iterations of the PVI. Figure 2 shows a boxplot of PVI values for the 11 districts.

Table 3: Summary statistics for the San Francisco districts for the 2001 PVI and the previous two PVIs.

District	Stats	2006 PVI	2008 PVI	2011 PVI	District	Stats	2006 PVI	2008 PVI	2011 PVI
1	N	49	49	49	7	N	59	59	59
	Mean	47.5	49.3	49.8		Mean	33.7	34.7	37.1
	Median	47.2	47.0	48.3		Median	31.1	30.3	33.2
	Range	50.1	43.3	43.1		Range	67.1	78.6	89.4
	Minimum	31.6	37.8	37.8		Minimum	0.0	0.0	0.0
	Maximum	81.6	81.1	80.9		Maximum	67.1	78.6	89.4
	Std. Error of Mean	1.3	1.2	1.3		Std. Error of Mean	2.3	2.3	2.3
2	N	60	60	60	8	N	65	65	65
	Mean	35.1	32.8	34.1		Mean	69.9	66.4	67.3
	Median	34.0	31.9	33.7		Median	68.7	64.5	65.3
	Range	65.3	70.6	68.6		Range	71.9	73.7	63.2
	Minimum	12.2	9.3	11.6		Minimum	25.3	22.2	30.1
	Maximum	77.4	79.9	80.2		Maximum	97.1	96.0	93.3
	Std. Error of Mean	1.6	1.7	1.6		Std. Error of Mean	1.7	1.9	1.6
3	N	46	46	46	9	N	41	41	41
	Mean	50.6	52.1	53.4		Mean	76.9	77.5	77.2
	Median	51.0	52.4	54.2		Median	84.5	84.7	83.1
	Range	54.0	61.4	57.1		Range	78.6	73.1	60.3
	Minimum	17.0	11.8	21.0		Minimum	21.4	26.9	34.2
	Maximum	71.1	73.2	78.1		Maximum	100.0	100.0	94.5
	Std. Error of Mean	1.6	1.8	1.8		Std. Error of Mean	3.1	2.8	2.6
4	N	46	46	46	10	N	53	53	57
	Mean	31.9	37.0	37.7		Mean	61.2	62.4	57.0
	Median	30.2	35.8	35.4		Median	64.1	64.2	56.3
	Range	44.4	41.3	44.5		Range	62.7	60.3	68.3
	Minimum	15.4	22.2	22.4		Minimum	24.8	32.8	31.7
	Maximum	59.8	63.5	66.9		Maximum	87.5	93.2	100.0
	Std. Error of Mean	1.5	1.4	1.4		Std. Error of Mean	1.9	1.6	1.8
5	N	66	66	66	11	N	43	43	43
	Mean	76.8	74.3	74.7		Mean	46.1	50.3	47.4
	Median	78.9	77.8	77.1		Median	47.2	50.7	49.1
	Range	52.6	56.9	56.3		Range	27.3	30.2	26.2
	Minimum	41.9	37.1	38.6		Minimum	30.3	30.8	31.5
	Maximum	94.5	94.0	94.9		Maximum	57.6	61.0	57.7
	Std. Error of Mean	1.6	1.7	1.7		Std. Error of Mean	1.2	1.1	1.0
6	N	52	52	59	Total	N	580	580	591
	Mean	67.9	66.3	68.2		Mean	54.9	55.1	55.2
	Median	69.5	68.2	72.7		Median	53.3	54.8	54.2
	Range	57.6	68.9	61.9		Range	100.0	100.0	100.0
	Minimum	35.2	27.3	32.1		Minimum	0.0	0.0	0.0
	Maximum	92.9	96.2	94.0		Maximum	100.0	100.0	100.0
	Std. Error of Mean	1.7	1.9	2.0		Std. Error of Mean	0.9	0.8	0.8

Figure 2: Boxplot showing district aggregations of the three recent PVIs



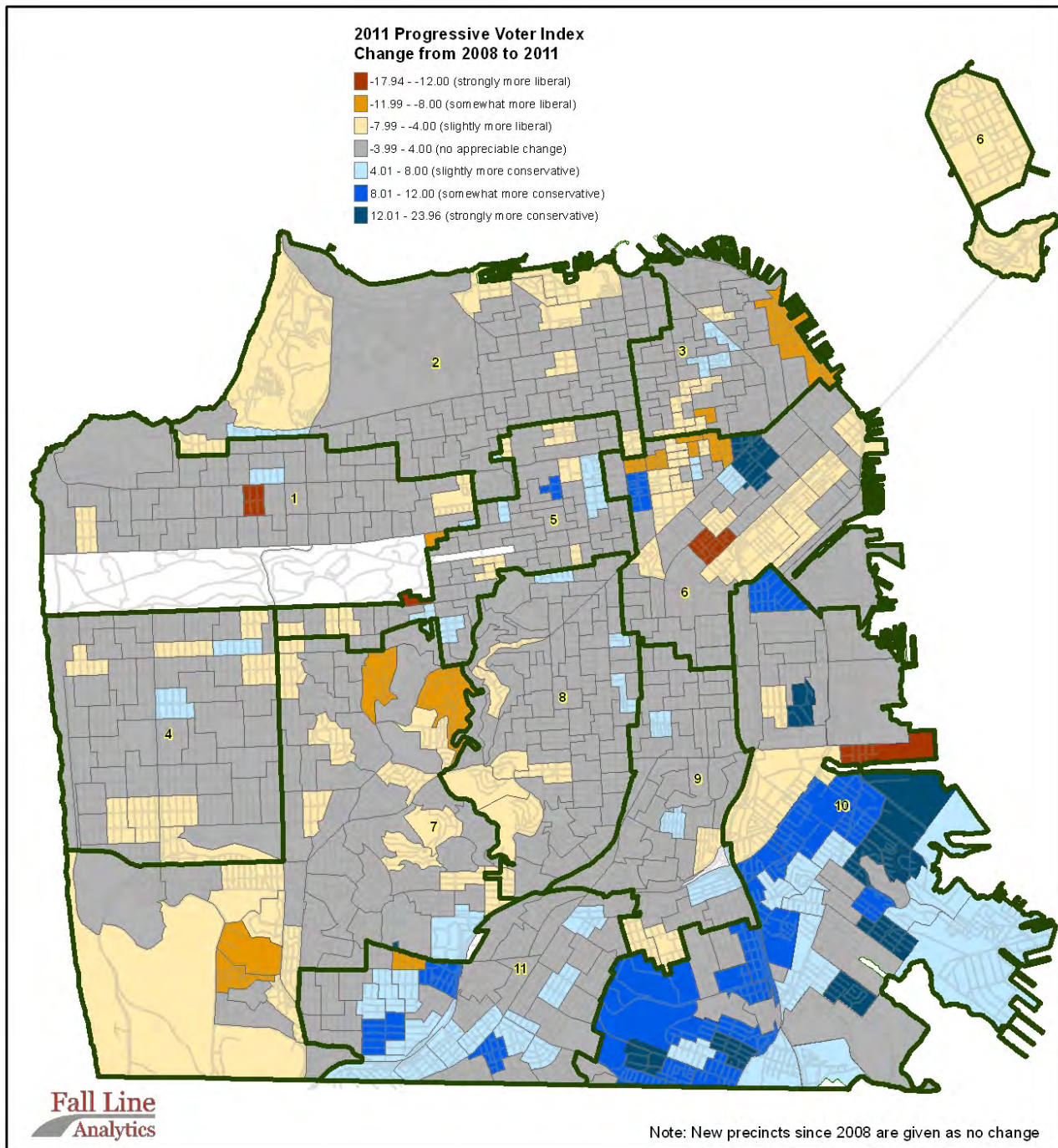
Discussion

The PVI measures the *relative* political positioning of precincts, and for the most part, the 2011 PVI looks a lot like the 2008 PVI. The main exception is that the southeast (Districts 10 and 11) has moved somewhat rightward. Also, parts of the Tenderloin and West of Twin Peaks have become slightly more liberal. In general, though, most of the city stayed about the same.

The parts of D10 and D11 that moved more strongly rightward are a mix of African-American and Asian neighborhoods. Bayview/Hunters Point and OMI - both with larger black populations - moved rightward, partially due, I believe, to opposition of some tax measures. These are poorer communities and in tight economic times, taxes aren't popular. Also in the southeast, there are an increasing number of more conservative Chinese residents - especially homeowners - which may also contribute to the shift. As the housing market collapsed in 2007-2008, many people bought houses in the southeast at the newly-reduced prices.

I looked at several regression models of the changes, and the variable that correlated best with the PVI changes was precinct percentage of households with children (see Appendix 3 for details). Percentage black correlated positively with a rightward shift to a lesser extent, but higher numbers of children is one variable that many of the minority communities of the southeast have in common.

Map 2: Map showing the precinct-level changes from the 2008 PVI to the 2011 PVI



As usual, Districts 2, 4, and 7 make up the rightward side of SF politics. Districts 5, 6, and 9 make up the left.³ And Districts 1, 3, 10, and 11 make up the "swing" vote. District 8 is difficult to place.

Conventional wisdom states that it has moved rightward for several years, but on ballot measures at least this has not shown to be the case (though there was a shift from 2006 to 2008). Yet, D8 consistently elects moderate Supervisors for its District seat. I believe this epitomizes an overall, *absolute* shift in the electorate.

Given recent electoral results, one can argue that the whole city was moved a little rightward in recent years. Most observers think this is due to the economy, but it's manifested itself in social issues as well, where some renter protection issues have recently failed, sit-lie passed, and a non-citizen voting initial failed by several points where it barely lost in 2004.⁴ Thus, while the PVI shows that for the most part the city has stayed the same in a relative sense, the overall politics of the city have nudged rightward.

However, the PVI itself has no intrinsic meaning - it's a metric of how San Francisco voters vote on a scale that we ourselves have devised. Issues have no inherent PVI; voters of a particular political leaning either vote for a measure or against it. We then use the PVI to try to figure out who actually voted for a measure or a candidate. If precincts of PVI = 60 (liberal) vote for tenant protections for a number of years, then shift their position, we can infer that some liberals have changed their minds on the issue over time. But even that definition of "liberals" is ours, on a unique San Francisco scale. In short, don't overthink what the PVI represents.

³ Despite all of the fear/anticipation of the D6 rightward lurch, it never happened. While there are indeed new residents, it just hasn't been enough so far to change the districts' longstanding political culture.

⁴ See <http://flanalytics.com/Work%20files/Latterman%20measure%20results%202011-2010.pdf> for a write-up of the non-citizen voting measures.

Appendix 1: Detailed methodology

Below are the steps taken in creating the PVI. The methodology is very similar to that of 2008 and all prior years.

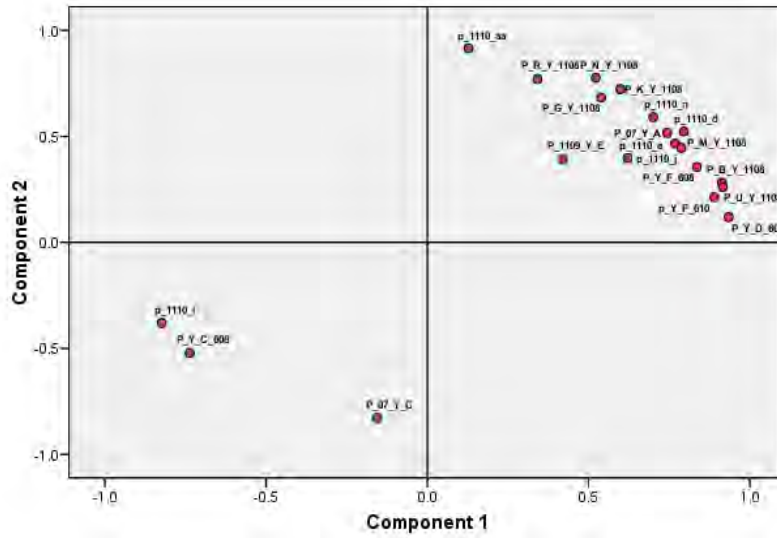
1. The timeframe for the initiatives was chosen to be from November 2007 to November 2010, around 3 years. 3 years is long enough to measure subtle directional shifts in the electorate but short enough to still represent the same business/demographic cycle, which I usually take to be 5-10 years. In this case, the 2011 PVI reflects the recession cycle and real estate crash, which started in San Francisco sometime in 2008.
2. It was more difficult than in previous years to come up with the issues to use for the PVI. Since 2006, there seem to be fewer strong ideological issues at the ballot. Instead, many deal with good governance, or labor issues. I played around with many combinations of issues, using internal consistency metrics and theory to select the final menu. Table 1 shows the issues that were selected. I also felt it was important to use at least one issue from each election in the time period. Therefore, I used one issue from November 2009 and one from June 2010. These generally met the usual criteria for inclusion in the PVI. However, there was no suitable issue from February 2010. At least June 2010 was close enough to this time.
3. In order to compute the PVI for new precincts (starting in June 2010), I used the election results from the old precincts then combined them with results from the new 2010 precincts. For example, new precinct 3654 was carved out of old precinct 3640. For calculating the PVI for 3654, results from 3640 were used until 2010, where results switched directly to 3654.
4. On directly competing issues, like the affordable housing bonds in June 2008 (Props F and G), and the hotel taxes in November 2010 (Props J and K), I only chose one. The issues are too closely related to use together, and while the PVI doesn't break down with violations of collinearity, we'd be effectively using the same issue twice, giving that issue more weight than others.
5. The final issues list has a Cronbach's Alpha of 0.91, and an inter-item correlation of 0.68. For those following the PVI through time, these are the lowest values we have yet. They are of course still very strong values and well above the cutoff for internally valid variables, but they are lower than in previous years. I think this is the result of, as I mentioned earlier, fewer purely "left-right" issues on the ballot. I could have used fewer issues altogether, but I wanted to keep the number of issues used consistent with previous PVI iterations.
6. When the list was complete, I ran a principal components factor analysis with varimax rotation. The solutions revealed two factors (groupings of issues), with rotated eigenvalues of 9.8 and 6.1 (unrotated = 14.1 and 1.8). Table 4 shows the loadings on each rotated factor.

Table 4: Factor loadings for the 2011 measures

Issue	Factor 1	Factor 2
Transit Reform, Parking Regulation and Emissions Reductions	0.744	0.516
Requiring Public Hearings on Proposed Measures	-0.156	-0.828
Forfeiture of Retirement Benefits for Conviction of a Crime involving Moral Turpitude in Connection with City Employment	-0.737	-0.521
Appointment to City Boards and Commissions	0.935	0.119
Affordable Housing Requirement for the Candlestick Point and Hunters Point Shipyard Mixed-Use Development Project	0.835	0.356
Establishing Affordable Housing Fund	0.913	0.282
Allowing Retirement System Credit for Unpaid Parental Leave	0.538	0.683
Changing Enforcement laws related to Prostitution and Sex Workers	0.599	0.723
Changing Residential Rent Ordinance to prohibit Acts of Harassment of Tenants by Landlords	0.768	0.467
Changing Real Property Transfer Tax Rates	0.522	0.776
Renaming Oceanside Water Treatment Plant	0.341	0.771
Policy Against funding of Armed Forces in Iraq	0.916	0.260
Advertisements on City Property	0.421	0.393
Renters' Financial Hardship Applications	0.890	0.213
Vehicle Registration Fee	0.795	0.523
Non-Citizen Voting in School Board Elections	0.128	0.915
Election Day Voter Registration	0.621	0.397
Hotel Tax Clarification and Temporary Increase	0.788	0.445
Sitting or Lying on Sidewalks	-0.823	-0.380
Real Property Transfer Tax	0.700	0.591

7. In previous years, Prof. DeLeon and I have tried to interpret the factor loadings into categories of overall issues that the voters care about. Here, it is clear that all of the issues, except three, lump closely together. Figure 3 shows the rotated loading plot. The three standout issues are sit-lie, moral turpitude, and hearing for public meetings.

Figure 3: Component plot in rotated space. the method of rotation didn't affect the issue distributions.

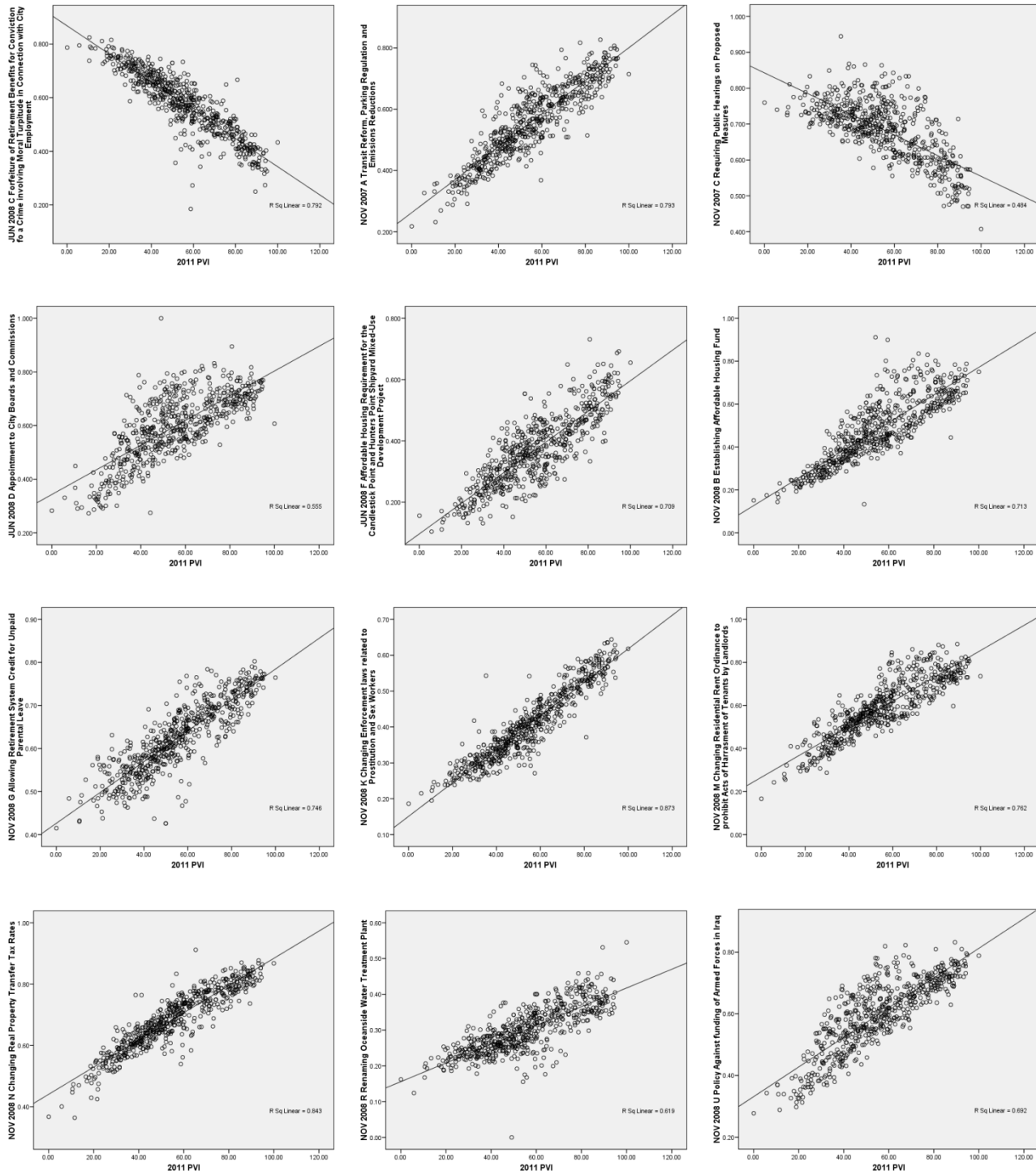


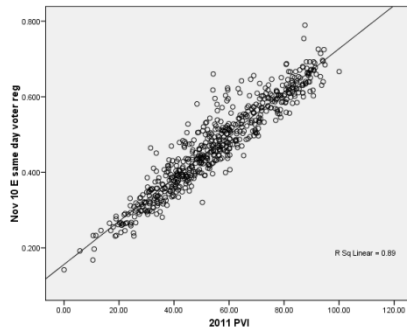
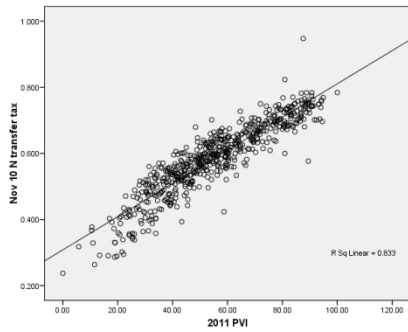
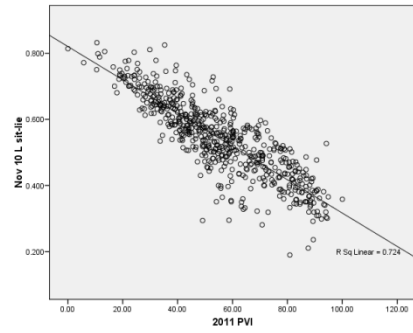
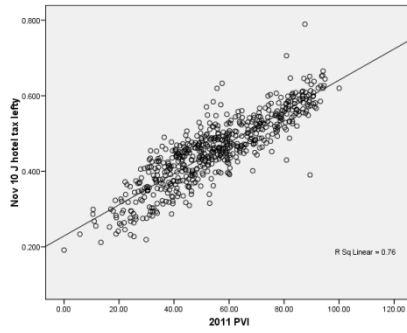
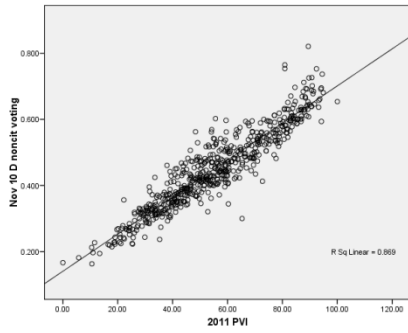
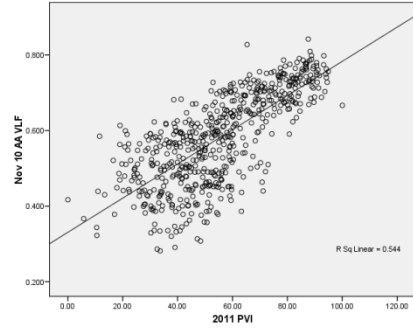
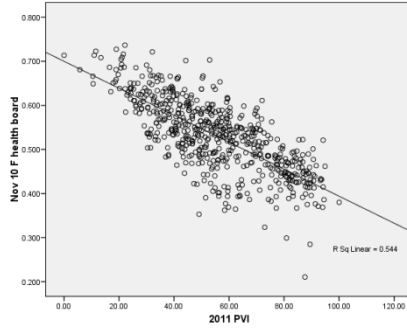
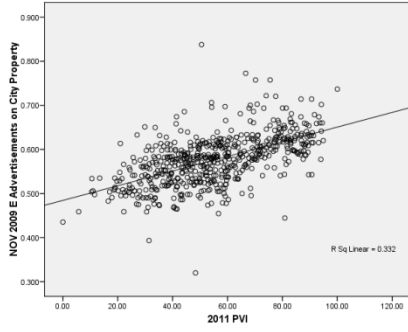
Admittedly, these are difficult to interpret as to some category of issue or voter. The three issues may have something to do with 'behavior' or judging the actions of others (sit-lie and moral turpitude are at least somewhat related - it is harder to fit in public hearings). I also tried different factor analysis rotations (and unrotated) and the distribution of components stayed the same. That is, those three issues always stood out.

8. Standardized factor scores were constructed for both factors in each precinct. These two scores were summed, and then calibrated to the familiar 0-100 scale. 0 was assigned to the most “conservative” precinct and 100 was assigned to the most “liberal” precinct. The resulting 0-100 scale is the PVI.

9. To test the new PVI, I correlated it with each of its constituent issues (20 of them). By inspection, and by the R^2 value, the new PVI matches very well, collectively, to its components (Figure 4).

Figure 4: Individual correlations of constituent issues vs. the 2011 PVI. R² included.





Appendix 2: Chart of precinct PVI values for 2008 and 2011, and 2011 factor loadings

Precinct	District	PVI 2008	PVI 2011	Factor 1	Factor 2	Precinct	District	PVI 2008	PVI 2011	Factor 1	Factor 2
1101	11	47.32	49.65	0.400	-0.800	3206	2	27.08	29.21	-2.020	0.159
1102	11	45.92	49.16	0.111	-0.547	3207	2	10.27	13.43	-2.118	-0.871
1103	11	52.5	51.68	0.820	-1.075	3208	2	22.01	24.19	-1.818	-0.402
1104	11	48.67	46.66	-0.012	-0.602	3209	2	27.95	32.6	-1.201	-0.418
1105	11	48.39	48.92	0.799	-1.251	3210	2	22.76	20.18	-1.772	-0.735
1106	11	61.01	53.29	0.951	-1.091	3211	2	32.23	33.87	-1.217	-0.311
1107	11	60.77	57.69	0.837	-0.662	3212	2	32.94	35.2	-1.210	-0.223
1108	11	53.19	52.18	0.612	-0.832	3213	2	25.15	26.09	-1.443	-0.641
1109	11	58.83	56.02	0.462	-0.407	3214	2	24.12	24.15	-1.520	-0.703
1111	11	48.72	51.28	0.183	-0.466	3215	2	15.58	16.55	-2.202	-0.564
1112	11	44.7	52.96	0.968	-1.132	3216	2	27.49	25.4	-1.639	-0.495
1113	11	46.34	45.53	0.482	-1.177	3217	2	27.99	31.06	-1.246	-0.483
1114	11	51.99	49.88	0.611	-0.995	3218	2	30.89	33.88	-0.901	-0.626
1115	11	56.08	53.97	0.588	-0.679	3219	2	36.34	38.32	-0.964	-0.247
1116	11	53.32	49.25	0.405	-0.833	3221	2	37.67	39.12	-1.514	0.361
1117	11	54.83	49.08	1.058	-1.499	3222	2	28.42	30.02	-1.820	0.016
1118	11	55.3	46.45	1.153	-1.782	3223	2	9.34	11.57	-2.240	-0.883
1119	11	38.6	37.95	0.129	-1.365	3224	2	21.05	22.16	-2.241	-0.125
1121	11	50.18	46.69	0.980	-1.592	3225	2	15.63	19.72	-1.922	-0.618
1122	11	54.62	53	0.993	-1.153	3226	2	25.93	28.42	-1.525	-0.393
1123	11	57.92	53.68	0.709	-0.822	3227	2	29.01	32.39	-1.512	-0.122
1124	11	47.96	50.26	0.601	-0.958	3228	2	34.15	37.09	-1.069	-0.229
1125	11	54.58	50.96	1.181	-1.487	3229	2	46.02	45.55	-0.964	0.271
1126	11	58.07	56.03	1.134	-1.077	3231	2	32.09	31.49	-1.803	0.104
1127	11	56.49	52.04	1.028	-1.257	3232	2	23.68	26.17	-1.999	-0.080
1128	11	59.68	50.68	1.131	-1.457	3233	2	21.58	25.41	-1.973	-0.160
1129	11	58.29	55.93	1.073	-1.024	3234	2	31.66	33.54	-1.613	0.061
1131	11	59.04	54.82	1.204	-1.234	3235	2	47.49	44.96	-1.077	0.342
1132	11	56.13	48.34	0.967	-1.461	3236	2	45.5	41.61	-1.008	0.033
1133	11	37.92	34.48	-0.231	-1.254	3237	2	35.71	35.96	-1.218	-0.161
1134	11	46.17	41.75	0.708	-1.674	3238	2	36.65	39.53	-1.272	0.149
1135	11	47.77	40.41	0.419	-1.480	3239	2	35.7	39.57	-1.140	0.019
1136	11	37.29	31.49	-0.070	-1.629	3241	2	45.94	46.67	-0.883	0.270
1137	11	42.86	41	0.392	-1.411	3242	2	42.31	41.28	-0.901	-0.098
1138	11	43.82	45.56	0.389	-1.081	3243	2	40.57	45.45	-0.820	0.120
1139	11	53.13	47.17	0.751	-1.328	3301	3	56.66	53.76	0.445	-0.551
1141	11	56.35	48.59	1.239	-1.715	3302	3	42.44	45.23	-0.909	0.193
1142	11	43.61	37.69	0.284	-1.539	3303	3	49.37	46.68	-0.472	-0.141
1143	11	47.58	45.07	1.001	-1.729	3304	3	38.44	38.72	-1.046	-0.136
1144	11	47.29	38.03	0.404	-1.634	3305	3	38.2	38.61	-0.946	-0.244
1145	11	30.79	33.65	0.136	-1.680	3306	3	41.38	43.12	-1.081	0.214
1146	11	50.66	43.8	0.298	-1.116	3307	3	51.35	48.85	-0.227	-0.230
1147	11	38.61	36.97	0.181	-1.488	3308	3	51.49	55.5	-0.268	0.287
2001	10	53.39	41.55	1.408	-2.387	3309	3	41.11	40.81	-1.134	0.102
2002	10	53.16	51.54	0.329	-0.594	3311	3	11.79	20.97	-1.880	-0.571

2003	10	32.85	31.68	-0.147	-1.538	3312	3	53.11	54.17	0.381	-0.458
2004	10	52.62	44.31	0.824	-1.606	3313	3	49.2	48.29	-0.716	0.219
2005	10	59.25	50.46	0.838	-1.180	3314	3	42.58	45.34	-0.920	0.212
2006	10	43.4	41.98	0.475	-1.424	3315	3	28.76	31.91	-1.542	-0.126
2007	10	51.4	52.16	1.204	-1.425	3316	3	60.67	59.1	0.959	-0.683
2008	10	45.72	43.35	0.394	-1.244	3317	3	60.78	55.24	0.724	-0.724
2009	10	49.09	50.54	1.276	-1.612	3318	3	57.45	60.46	0.542	-0.170
2011	10	50.99	39.05	1.461	-2.619	3319	3	63.42	60.38	0.579	-0.212
2012	10	76.22	54.13	2.560	-2.640	3321	3	61.37	60.17	0.200	0.152
2013	10	81	59.53	2.294	-1.987	3322	3	48.69	52.31	-0.258	0.048
2014	10	65.88	54.7	2.015	-2.054	3323	3	55.69	56.84	0.191	-0.077
2015	10	50.94	43.21	0.987	-1.848	3324	3	51.14	54.28	0.025	-0.094
2016	10	43.54	33.54	0.632	-2.184	3325	3	50.88	46.17	-0.356	-0.293
2017	10	44.78	32.56	0.387	-2.009	3326	3	61.02	57.01	1.314	-1.187
2018	10	48.93	39.48	0.956	-2.083	3327	3	56.1	57.47	1.447	-1.288
2019	10	44.07	38.91	0.449	-1.617	3328	3	48.34	49.97	0.765	-1.142
2101	1	46.21	46.31	-0.317	-0.322	3329	3	33.31	35.71	-1.139	-0.258
2102	1	38.34	38.08	-0.660	-0.568	3331	3	55.47	52.77	-0.079	-0.098
2103	1	39.24	40.75	-0.256	-0.780	3332	3	66.68	65.44	0.285	0.444
2104	1	48.68	50.03	-0.252	-0.121	3333	3	59.61	62.68	0.120	0.411
2105	1	41.65	41.05	-0.711	-0.303	3334	3	35.55	39.84	-1.008	-0.093
2106	1	43.52	44.41	-0.551	-0.224	3335	3	32.37	36.76	-0.951	-0.370
2107	1	45.02	47.7	-0.239	-0.300	3336	3	54.89	55.63	1.175	-1.148
2108	1	43.55	44.99	-0.198	-0.535	3337	3	48.34	49.97	0.765	-1.142
2109	1	52.31	48.26	-0.353	-0.146	3338	3	69.41	69.46	0.713	0.304
2111	1	51.4	51.36	-0.414	0.136	3339	3	69.58	69.65	0.844	0.185
2112	1	50.05	50.5	-0.114	-0.225	3341	3	51.67	56.82	0.184	-0.072
2113	1	53.96	55.05	0.104	-0.117	3342	3	60.32	62.54	0.050	0.472
2114	1	62.44	62.36	0.063	0.446	3343	3	46.35	49.71	-0.931	0.535
2115	1	56.29	54.39	-0.350	0.289	3344	3	45.45	44.69	0.402	-1.157
2116	1	56.34	57.38	0.305	-0.152	3345	3	71.27	75.78	0.604	0.864
2117	1	48.27	47.49	-0.220	-0.335	3346	3	55.47	64.64	-0.075	0.747
2118	1	46.95	49.22	-0.329	-0.102	3347	3	61.5	63.08	0.540	0.021
2119	1	43.83	41.69	-0.216	-0.753	3348	3	63.24	62.94	0.636	-0.085
2121	1	38.75	41.61	-0.063	-0.912	3349	3	72.71	78.05	0.970	0.661
2122	1	46.56	46.44	-0.048	-0.581	3351	3	73.18	77.42	0.700	0.886
2123	1	45.16	44.57	-0.265	-0.499	3501	5	56.22	52.48	-0.541	0.343
2124	1	52.41	49.36	0.033	-0.454	3502	5	42.67	47.22	-1.004	0.430
2125	1	43.97	60.32	0.862	-0.500	3503	5	51.91	53.74	-0.782	0.675
2126	1	44.34	40.45	-0.307	-0.751	3504	5	51.37	52.19	-0.229	0.010
2127	1	41.22	43.57	-0.479	-0.356	3505	5	58.8	60.09	0.505	-0.159
2128	1	51.06	48.67	-0.238	-0.232	3506	5	37.07	38.61	-0.678	-0.511
2129	1	48.74	49.97	-0.068	-0.309	3507	5	65.79	68.28	0.641	0.292
2131	1	56.5	58.95	0.294	-0.030	3508	5	66.2	70.65	0.974	0.128
2132	1	50.87	50.44	-0.524	0.181	3509	5	71.98	64.76	1.319	-0.638
2133	1	47	49.24	-0.427	-0.003	3510	5	73.71	74.33	1.626	-0.262
2134	1	40.44	44.55	-0.825	0.060	3511	5	88.02	84.65	0.625	1.477
2135	1	43.69	47.79	-0.250	-0.283	3512	5	93.49	88.03	0.880	1.464

2136	1	43.04	43	-0.260	-0.615	3513	5	81.29	80.49	0.577	1.228
2137	1	45.31	45.66	-0.327	-0.358	3514	5	79.99	83.72	1.204	0.833
2138	1	42.7	40.72	-0.144	-0.894	3515	5	81.83	72.95	2.126	-0.860
2139	1	37.79	38.51	-0.762	-0.434	3516	5	85.36	85.28	0.984	1.163
2141	1	53.4	54.29	0.123	-0.191	3517	5	93.98	91.67	0.759	1.845
2142	1	42.27	42.06	-0.559	-0.384	3518	5	89.66	90.5	1.013	1.508
2143	1	47.02	47.83	0.053	-0.583	3519	5	72.89	70.92	1.125	-0.004
2144	1	39.33	37.79	-0.850	-0.398	3520	5	83.14	86.76	0.496	1.758
2145	1	40.72	39.07	-0.930	-0.227	3521	5	84.44	80.75	0.978	0.846
2146	1	59.04	57.92	-0.570	0.761	3522	5	69.67	62.35	2.097	-1.589
2147	1	59.25	57.96	-0.108	0.302	3523	5	73.53	72.2	1.295	-0.083
2148	1	58.89	56.52	-0.086	0.177	3524	5	76.98	80.93	0.417	1.420
2149	1	61.1	62.78	0.152	0.387	3525	5	78.97	78.77	0.374	1.308
2150	1	54.81	57.62	-0.406	0.575	3526	5	82.43	81.55	0.396	1.485
2151	1	81.11	80.88	1.538	0.295	3527	5	92.94	94.88	1.413	1.421
2152	1	61.98	56.72	-0.721	0.826	3528	5	80.41	77.56	0.781	0.815
2200	2	18.88	18.93	-2.236	-0.360	3529	5	90.16	93.18	0.991	1.722
2201	2	23.76	19.03	-2.035	-0.554	3531	5	92.01	91.13	0.801	1.764
2202	2	24.88	29.4	-1.529	-0.319	3532	5	82.58	84.2	1.415	0.655
2203	2	39.64	42.81	-1.111	0.222	3533	5	83.39	83.9	0.952	1.097
2204	2	40.81	43.27	-1.230	0.374	3534	5	85.87	86.79	0.852	1.403
2205	2	37.23	33.92	-1.208	-0.316	3535	5	91.39	94.19	0.659	2.126
2206	2	22.22	21.86	-1.898	-0.489	3536	5	78.78	83.05	0.501	1.487
2207	2	29.16	28.66	-1.566	-0.335	3537	5	83.97	83.49	0.347	1.673
2208	2	21.24	21.57	-2.283	-0.124	3538	5	81.09	81.97	0.342	1.568
2209	2	30.18	31.17	-1.734	0.013	3539	5	83.05	85.95	0.530	1.666
2211	2	33.87	35.81	-1.198	-0.192	3541	5	90.06	90.67	0.824	1.709
2212	2	36.42	37.3	-1.158	-0.125	3542	5	84.43	88.78	0.162	2.236
2213	2	38.44	38.91	-0.764	-0.404	3543	5	90.36	89.56	1.198	1.256
2214	2	42.72	40.53	-0.493	-0.559	3544	5	91.04	89.28	0.919	1.514
2215	2	42.97	42.11	-1.151	0.212	3545	5	83.65	85.4	0.607	1.549
2216	2	50.21	50.3	-1.480	1.126	3546	5	86.71	90.65	0.594	1.937
2217	2	58.11	56.38	-0.270	0.352	3547	5	81.71	86.78	0.754	1.500
2218	2	42.42	46.35	-0.821	0.185	3548	5	78.61	76.66	0.010	1.522
2219	2	79.95	80.2	0.719	1.066	3549	5	68.25	69.02	-0.307	1.293
2401	4	63.46	66.9	0.363	0.471	3551	5	79.59	78.36	0.033	1.620
2402	4	57.89	58.77	0.087	0.165	3552	5	70.86	67.77	-0.349	1.245
2403	4	40.87	40.85	-0.081	-0.948	3553	5	63.93	59.32	-0.965	1.257
2404	4	41.91	44.98	-0.364	-0.369	3554	5	55.98	56.25	-0.986	1.058
2405	4	36.16	39.94	-0.733	-0.361	3555	5	45.53	44.27	-2.026	1.241
2406	4	48.2	46.85	-0.193	-0.407	3601	6	72.78	75.5	1.316	0.132
2407	4	43.81	49.97	-0.013	-0.364	3602	6	74.12	80.61	1.059	0.755
2408	4	60.25	59.28	0.268	0.020	3603	6	76.32	84.6	0.920	1.178
2409	4	51.32	56.21	-0.018	0.087	3604	6	71	79.08	1.236	0.468
2411	4	45.23	43.23	-0.342	-0.517	3605	6	68.04	74.16	1.459	-0.106
2412	4	40.15	42.96	-0.197	-0.681	3606	6	63.66	74.05	1.135	0.210
2413	4	37.02	41.51	-0.510	-0.472	3607	6	54.73	35.29	-0.227	-1.200
2414	4	40.15	35.7	-0.525	-0.873	3608	6	55.52	55.74	0.368	-0.333

2415	4	51.99	51.04	0.097	-0.397	3609	6	58.72	69.44	0.391	0.624
2416	4	41.85	38.08	-0.065	-1.162	3610	6	76.58	80.74	1.836	-0.013
2417	4	27.41	28.15	-0.465	-1.473	3611	6	74.44	82.82	1.189	0.782
2418	4	29.34	30.39	-0.709	-1.068	3612	6	72.97	77.7	0.682	0.924
2419	4	22.16	22.4	-1.353	-0.995	3613	6	73.19	67.86	1.037	-0.135
2421	4	25.45	24.05	-0.847	-1.384	3614	6	73.6	73.23	1.739	-0.453
2422	4	35.11	31.4	-0.751	-0.954	3615	6	80.77	79.23	0.434	1.281
2423	4	35.72	39.79	-0.664	-0.441	3616	6	64.15	68.61	0.398	0.558
2424	4	34.99	31.98	-0.432	-1.232	3617	6	71.46	76.95	1.202	0.349
2425	4	31.94	27.56	-0.673	-1.306	3618	6	73.49	77.11	1.203	0.360
2426	4	36.18	35.01	-0.526	-0.921	3619	6	65.94	61.35	1.351	-0.914
2427	4	38.79	34.93	-0.544	-0.908	3620	6	72.34	78.99	0.987	0.710
2428	4	45.1	42.98	-0.159	-0.718	3621	6	75.66	77.2	1.634	-0.065
2429	4	38.94	36.61	-0.306	-1.026	3622	6	83.68	83.78	0.646	1.395
2431	4	28.6	29.18	-0.613	-1.251	3623	6	67.32	71.43	0.325	0.833
2432	4	35.04	31.1	-0.394	-1.332	3624	6	75.08	73.42	0.691	0.609
2433	4	28.02	30.28	-0.772	-1.014	3625	6	78.51	77.54	0.742	0.853
2434	4	31.86	33.66	-0.385	-1.159	3626	6	71.46	67	1.390	-0.550
2435	4	44.71	43.66	-0.175	-0.654	3627	6	64.01	51.79	1.102	-1.349
2436	4	32.36	33.84	-0.497	-1.034	3628	6	45.17	45.43	-1.385	0.683
2437	4	33.86	33.14	-0.306	-1.274	3629	6	39.33	39.51	-1.449	0.323
2438	4	26.13	27.86	-0.690	-1.268	3630	6	68.24	70.92	0.674	0.448
2439	4	29.83	31.02	-0.566	-1.165	3631	6	64.59	71.15	1.319	-0.182
2441	4	42.63	41.16	-0.215	-0.792	3632	6	90.43	89.06	1.156	1.262
2442	4	35.85	42.96	-0.087	-0.792	3633	6	84.45	87.18	1.497	0.787
2443	4	23.51	28.2	-0.458	-1.476	3634	6	79.88	83.03	0.651	1.336
2444	4	30.75	36.54	-0.495	-0.842	3635	6	65.41	79.53	0.424	1.313
2445	4	30.95	34.31	-0.767	-0.730	3636	6	77.71	79.39	1.496	0.230
2446	4	32.82	33.93	-0.698	-0.826	3637	6	60.73	60.7	0.510	-0.120
2447	4	39.19	37.44	-0.451	-0.821	3638	6	55.79	52.57	0.106	-0.298
2448	4	26.64	30.26	-0.481	-1.305	3639	6	53.78	59.99	-0.690	1.029
2449	4	22.88	27.06	-1.071	-0.944	3640	6	38.45	41.13	-1.599	0.590
2451	4	26.08	28.83	-1.185	-0.704	3641	6	53.78	60.31	-0.761	1.123
2501	5	60.98	66.02	0.565	0.205	3642	6	42.47	43.32	-0.923	0.071
2502	5	59.75	52.82	-0.268	0.095	3643	6	56.67	59.47	-0.206	0.508
2503	5	66.5	68.27	-0.412	1.344	3644	6	96.25	94	1.654	1.117
2504	5	57.97	61.28	-0.160	0.591	3645	6	81.68	81.66	1.144	0.745
2505	5	53.56	58.7	-0.389	0.636	3646	6	79	82.28	0.922	1.011
2506	5	59.98	60.24	0.022	0.335	3647	6	78.53	81.38	0.538	1.330
2507	5	69.42	74.08	0.262	1.085	3648	6	38.49	38.17	-0.992	-0.229
2508	5	69.12	75.11	0.293	1.127	3649	6	85.79	81.97	1.521	0.389
2509	5	66.33	67.59	-0.078	0.961	3650	6	80.77	72.72	0.346	0.903
2511	5	67.55	69.36	-0.117	1.126	3651	6	64.44	71.12	1.236	-0.101
2512	5	69.25	70.65	-0.155	1.257	3652	6	27.31	32.1	-1.736	0.081
2513	5	74.51	70.86	0.129	0.988	3653	6		59.47	-0.775	1.077
2514	5	68.57	80.88	0.704	1.129	3654	6		59.28	-0.004	0.292
2515	5	70.98	66.2	-0.386	1.169	3655	6		72	1.013	0.185
2701	7	49.57	54.76	-0.407	0.372	3656	6		39.22	-1.280	0.134

2702	7	60.35	62.17	-0.189	0.684	3657	6		46.28	-1.272	0.631
2703	7	54.6	52.89	-0.566	0.397	3658	6		52.94	-0.494	0.329
2704	7	24.61	30.8	-1.004	-0.744	3659	6		80.04	0.513	1.260
2705	7	44.25	43.87	-1.024	0.210	3701	7	33.66	29.87	-1.187	-0.627
2706	7	47.85	51.11	-0.680	0.385	3702	7	49.61	54.98	-0.753	0.734
2707	7	44.15	52.46	-0.565	0.366	3703	7	46.63	52.01	-0.208	-0.023
2708	7	27.22	30.43	-1.341	-0.433	3801	8	50.67	54.27	-0.921	0.851
2709	7	17.28	25.65	-1.653	-0.463	3802	8	69.3	64.63	-0.556	1.227
2711	7	26.55	26.83	-1.615	-0.416	3803	8	90.71	88.76	0.565	1.832
2712	7	24.28	27.4	-1.245	-0.746	3804	8	82.15	81.86	0.187	1.716
2713	7	52.69	50.1	-0.388	0.020	3805	8	69.5	68.92	-0.256	1.234
2714	7	24.75	30.98	-1.339	-0.396	3806	8	84.47	82.86	0.654	1.321
2715	7	20.22	20.77	-2.153	-0.312	3807	8	84.57	88.1	0.379	1.970
2716	7	69.72	70.2	1.631	-0.562	3808	8	54.4	53.62	-0.875	0.759
2717	7	29.2	36.02	-1.464	0.089	3809	8	58.95	59.18	-0.650	0.932
2718	7	33.54	33.25	-0.714	-0.859	3811	8	75.81	78.63	-0.095	1.767
2719	7	24.92	27.93	-1.247	-0.705	3812	8	83.32	86.99	0.439	1.831
2721	7	18.73	20.71	-2.040	-0.430	3813	8	88.89	85.66	0.717	1.458
2722	7	16.43	22.91	-1.863	-0.448	3814	8	82.06	84.34	0.330	1.750
2723	7	24.2	26.1	-1.262	-0.821	3815	8	79.78	81.67	0.758	1.131
2724	7	20.58	26.18	-1.312	-0.766	3816	8	58.76	59.35	-0.802	1.096
2725	7	27.08	24.31	-1.447	-0.764	3817	8	63.54	64.36	-0.472	1.124
2726	7	18.5	21.16	-1.979	-0.458	3818	8	64.36	68.83	-0.457	1.428
2727	7	27.42	30.55	-1.422	-0.344	3819	8	64.04	63.98	-0.785	1.410
2728	7	8.92	10.59	-1.721	-1.472	3821	8	70.74	73.53	-0.066	1.373
2729	7	11.18	10.52	-1.718	-1.480	3822	8	73.88	75.1	0.215	1.204
2730	7	51.55	56.41	0.697	-0.613	3823	8	74.03	74.11	-0.186	1.535
2731	7	9.78	17.01	-1.650	-1.084	3824	8	88.87	86.89	0.743	1.519
2732	7	7	5.8	-1.996	-1.539	3825	8	91.58	86.73	0.943	1.308
2733	7	18.44	18.63	-1.630	-0.987	3826	8	52.59	57.01	-0.642	0.768
2734	7	0	0.05	-2.453	-1.493	3827	8	58.51	59.87	-0.612	0.942
2735	7	9.5	10.98	-2.291	-0.874	3828	8	66.57	65.36	-0.766	1.489
2736	7	30.29	36.14	-1.280	-0.086	3829	8	59.9	59.27	-0.640	0.928
2737	7	28.97	32.94	-1.367	-0.228	3831	8	48.8	52.22	-1.136	0.920
2738	7	15.88	17.89	-1.706	-0.965	3832	8	71.06	71.81	-0.192	1.376
2739	7	16.04	23.3	-1.688	-0.596	3833	8	95.99	93.27	0.986	1.733
2741	7	38.29	42.12	-0.860	-0.078	3834	8	91.67	88.27	0.671	1.690
2742	7	34.13	36.78	-1.255	-0.064	3835	8	50.33	53.52	-0.369	0.246
2743	7	49.16	53.27	-0.132	-0.009	3836	8	56.47	60.19	-0.159	0.513
2744	7	38.82	44.08	0.055	-0.854	3837	8	52.85	56.39	-0.850	0.932
2745	7	78.61	89.42	2.062	0.382	3838	8	57.4	57.63	-0.557	0.727
2746	7	17.69	22.23	-1.043	-1.318	3839	8	64.31	63.46	-0.428	1.015
2747	7	20.65	24.46	-1.506	-0.695	3841	8	71.08	72.38	0.120	1.105
2748	7	39.88	41.43	-0.338	-0.650	3842	8	72.53	69.84	-0.054	1.098
2749	7	34.59	34.35	-0.747	-0.747	3843	8	90.47	85.26	0.283	1.864
2751	7	29.89	32.51	-1.069	-0.557	3844	8	87.51	86.5	0.342	1.893
2752	7	43.02	44.33	-0.450	-0.331	3845	8	61.98	60.26	-0.669	1.028
2753	7	50.04	53.74	-0.512	0.404	3846	8	63.65	61.64	-0.541	0.998

2754	7	73.06	49.1	1.066	-1.506	3847	8	64.54	62.86	-0.407	0.951
2755	7	61.03	56.36	0.130	-0.050	3848	8	75.93	74.4	0.112	1.258
2756	7	55.75	63.81	0.716	-0.104	3849	8	81.62	81.36	0.615	1.252
2757	7	55.47	58.18	0.558	-0.348	3851	8	65.71	66.59	-0.339	1.150
2758	7	54.76	59.82	0.890	-0.563	3852	8	41.39	48.64	-0.841	0.369
2759	7	57.81	58.7	0.686	-0.439	3853	8	58.76	59.52	-0.636	0.942
2761	7	48.88	46.51	0.311	-0.935	3854	8	52.39	57.32	-0.727	0.876
2901	9	44.28	43.9	0.746	-1.558	3855	8	59.63	60.62	-0.443	0.827
2902	9	43.87	39.33	0.758	-1.896	3856	8	68.96	71.61	0.051	1.119
2903	9	40.67	45.11	0.043	-0.768	3857	8	22.24	30.11	-1.422	-0.376
2904	9	26.92	34.2	-0.097	-1.407	3858	8	57.33	57.16	-0.188	0.325
2905	9	40.87	44.24	0.492	-1.279	3859	8	67.51	68.77	-0.039	1.006
2906	9	39.58	40.86	0.516	-1.544	3861	8	70.43	71.77	0.192	0.990
3000	10		59.02	-0.252	0.522	3862	8	27.62	33.58	-1.082	-0.467
3001	10	67.08	66.47	-0.111	0.913	3863	8	46	49.59	-0.589	0.184
3002	10	70.09	68.37	-0.281	1.220	3864	8	57	55.31	-0.868	0.873
3003	10	79.95	82.82	0.603	1.369	3865	8	71.03	71.4	0.403	0.753
3004	10	60.29	60.98	-0.553	0.963	3866	8	54.5	58.02	-0.076	0.274
3005	10	65.93	64.02	-0.528	1.155	3867	8	54.27	57.9	-0.780	0.969
3006	10	65.33	66.89	-0.202	1.035	3868	8	67.63	66.1	-0.388	1.164
3007	10	67.55	69.05	-0.035	1.022	3869	8	60.95	65.31	-0.549	1.269
3008	10	65.91	71.14	-0.126	1.262	3871	8	59.85	64.66	0.207	0.466
3009	10	81.63	68.97	1.890	-0.909	3872	8	52.26	54.54	-0.440	0.390
3010	10	61.18	64.99	0.295	0.402	3901	9	92.61	88.95	0.921	1.489
3011	10	69.64	70.13	-0.379	1.443	3902	9	92.1	89.86	1.048	1.428
3012	10	93.19	100	0.646	2.554	3903	9	84.97	83.08	1.493	0.497
3013	10	64.16	55.76	1.477	-1.441	3904	9	92.43	94.17	1.160	1.624
3014	10	71.12	58.38	1.756	-1.532	3905	9	85.76	84.68	1.189	0.916
3015	10	75.07	70.8	2.055	-0.942	3906	9	93.74	91.33	1.325	1.255
3016	10	79	58.72	2.120	-1.871	3907	9	87.9	87.8	1.256	1.071
3017	10	57.16	47.23	1.142	-1.715	3908	9	85.91	88.54	1.173	1.208
3018	10	59.78	55.04	0.941	-0.955	3909	9	91.49	89.64	1.570	0.889
3019	10	66.15	59.21	1.667	-1.383	3911	9	88.41	88.42	1.143	1.229
3020	10	76.48	63.95	2.024	-1.402	3912	9	100	94.5	1.672	1.135
3021	10	66.19	63.76	1.132	-0.523	3913	9	95.08	93.65	1.398	1.348
3022	10	59.46	56.27	1.571	-1.498	3914	9	93.54	92.4	1.473	1.183
3023	10	54.62	49.73	1.009	-1.404	3915	9	89.51	90.86	1.286	1.261
3024	10	63.18	55.75	1.448	-1.412	3916	9	82.04	80.71	1.401	0.420
3025	10	68.29	64.52	1.850	-1.187	3917	9	92.11	90.72	1.356	1.180
3026	10	76.38	67.43	2.198	-1.327	3918	9	84.71	84.56	1.593	0.503
3027	10	66.05	59.46	2.413	-2.112	3919	9	86.93	86.86	0.782	1.478
3028	10	44.7	36.43	0.580	-1.925	3921	9	89.66	87.79	0.888	1.438
3029	10	56.94	54.24	1.349	-1.421	3922	9	89.09	89.3	1.063	1.373
3031	10	57.53	51.48	1.384	-1.653	3923	9	73.76	77.5	0.281	1.310
3032	10	66.8	63.31	2.066	-1.489	3924	9	79.71	78.83	0.560	1.127
3033	10	76.62	63.25	1.808	-1.236	3925	9	75.49	76.72	0.130	1.406
3034	10	57.5	51.44	0.887	-1.159	3926	9	79.12	78.04	0.386	1.245
3035	10	68.81	54.88	1.459	-1.486	3927	9	82.24	78.67	0.416	1.259

3036	10	58.97	59.66	1.155	-0.839	3928	9	90.34	83.23	0.736	1.265
3037	10		69.67	-0.175	1.207	3929	9	76.84	77.05	0.541	1.019
3038	10		87.58	0.829	1.482	3931	9	86.16	83.27	1.245	0.759
3039	10		54	0.394	-0.483	3932	9	80.85	82.41	0.741	1.202
3101	1	66.91	75.52	-0.074	1.523	3933	9	77.81	77.15	0.856	0.711
3200	2	64.55	69.46	0.339	0.678	3934	9	69.86	75.28	0.819	0.613
3201	2	49.83	47.83	-0.978	0.448	3935	9	66.96	69.04	0.593	0.394
3202	2	14.38	18.94	-1.965	-0.631	3936	9	58.45	59.88	0.296	0.036
3203	2	16.71	24.26	-1.807	-0.408	3937	9	73.37	74.99	0.778	0.634
3204	2	20.52	25.28	-1.685	-0.458	3938	9	70.52	66.63	1.978	-1.164
3205	2	38.5	41.09	-1.260	0.248						

Appendix 3 - OLS model for understanding PVI change

This is one OLS among many that I ran in trying to figure out who accounts for PVI movement. It covers most of the major variables I tend to examine in understanding politics. This isn't a very strong model, meaning that the model doesn't explain everything that is going on. However, it is a valid model as displayed by the residual plot. Also, I am accepting the ecological fallacy in this work, so the precinct values are uncorrected. This is just meant to shed some light on precinct demographics.

In the model, positive coefficients indicate a *rightward* movement from 2008 to 2011. We see that the largest coefficient by far is for percent of precinct with children.⁵ Percent of naturalized immigrants also correlates somewhat strongly positively. This generally indicates naturalized Chinese citizens, and is an indication of the newer Asian residents in parts of D10 and D11 making their districts more conservative. Finally, percent black weakly correlates positively. None of the other variables, used in this model, are that important in explaining PVI shifts.

This model would indicate that many of the D10 and D11 (rightward) changes are due to not only a bad economy, but to a political shift as more Asian residents move in, who are themselves more conservative than who lived there before.

Model Summary(2)

		R	R Square	Adjusted R Square	Std. Error of the Estimate
Model	1	.518(1)	.268	.255	4.02121

Coefficients(1)

			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Model	1	(Constant)	-4.886	2.039		-2.396	.017
		Black Precinct Percentage	1.723	.583	.197	2.956	.003
		API Precinct Percentage	-.715	.377	-.147	-1.897	.058
		Hispanic Precinct Percentage	-.152	.398	-.020	-.382	.703
		% Bachelors Degree	-.056	2.816	-.001	-.020	.984
		% Under 17	23.639	4.684	.381	5.047	.000
		% Over 60	.694	2.571	.012	.270	.787
		LGBT_dummy	.554	.490	.048	1.131	.259
		% Owned Homes	-1.886	1.080	-.106	-1.747	.081
		Median HH income	-4.17E-006	.000	-.021	-.338	.735
		% Naturalized immigrants	9.613	3.327	.226	2.889	.004

⁵ Demographic data is based on the 2000 Census - 2010 data aren't out yet at this level.

1.00 Dependent Variable: change_0811

