II. Costs and Electoral Complexity

Electorates differ among California counties, and those differences impact the electoral process. Here we consider two communication-based differences – languages spoken and facility with English – as well as a third factor, residential mobility, which might influence electoral knowledge of and commitments to elections, and potentially registration rolls. Externally, we draw on two sources for these measures. The first, the American Community Survey, provides estimates of the population age 5 and older who primarily speak another language at home, and who speak English less than “well”, as well as the percent of the population who lived in a different county in the previous year. The second, the County Clerk/Registrar of Voters (CC/ROV) Memorandum #13132, identifies by county the “the number precincts where 3% or more of the voting-age residents are members of a single language minority and lack sufficient skills in English to vote without assistance”. In addition, we draw on the three election profile data items in which counties listed the languages they provide assistance for based on the VRA, CA EC 12303 and 14201, or by agreements with local jurisdictions.

From these internal and external sources, we create four summary measures: the number of languages assistance is provided for based on county self-report, the average number of languages assistance is provided for per precinct, the percent who speak English less than “well”, and the percent of residents who lived in a different county the previous year. After evaluation, a number of discrepancies in language assistance measures were evident. Several counties (e.g. Los Angeles, San Bernardino, Yolo) report “N/A” for the language measures from the election profile, and others had no data available. This internal source of data should be supplemented where possible with external sources for over time comparisons, which is not currently possible except for the most recent elections.

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| --- |
| **Correlations** |
|   | Canvas Cost Pct |  Pollworker Cost Pct |  Polling Place Cost Pct |  Postage Cost Pct | Ballot Printing Cost Pct | Multi-lingual Cost Pct | Provisional Ballot Processing Cost Pct | Cost per Vote Opportunity | Cost Per Registered Voter |
|   | Percent of Precincts with Non-English | .087 | -.014 | .103 | -.250 | -.158 | .393 | .052 | .494 | .045 |
| Languages required in at least 1 precinct | .260 | .187 | .244 | -.192 | -.331 | .425 | .359 | .637 | .065 |
| Pct Speaking English less Than Very Well | .118 | .007 | .222 | -.076 | -.455 | .244 | .133 | .345 | .097 |
|  Lived in Different County 1 year Ago | -.272 | -.235 | -.088 | -.169 | .141 | -.173 | -.205 | -.127 | .527 |

Simple correlations of these measures with suggest little association of linguistic diversity with cost per registered voter, but reasonably strong associations with cost per vote opportunity and, as can be expected, the fraction of costs identified with multi-lingual ballots or processes. The association with cost per vote opportunity, but not cost per registered voter may suggest that language diversity has stronger impacts on costs when ballots are longer or more complex, or it may be a relationship driven by the fact that, in general, larger counties are more diverse, have more complex ballots, have higher typical wages rates and labor costs, and are homes to more linguistically diverse populations. These kinds of relationships are difficult to disentangle with the number of counties for which there are data.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Languages Supported | Canvas Cost Pct |  Pollworker Cost Pct |  Polling Place Cost Pct |  Postage Cost Pct | Ballot Printing Cost Pct | Multi-lingual Cost Pct | Provional Ballot Processing Cost Pct | Costs Per Voter Opportunity |
|   | 1 | 0.2% | 13.3% | 6.3% | 7.9% | 30.5% | 0.9% | 0.1% | 3174.87 |
| 2 | 0.1% | 13.1% | 7.1% | 8.3% | 16.1% | 0.3% | 0.4% | 6136.61 |
| 3-5 | 0.5% | 10.6% | 15.2% | 8.7% | 14.5% | 3.0% | 0.4% | 10469.88 |
| 6-9 | 0.6% | 16.2% | 10.9% | 5.4% | 13.8% | 5.4% | 0.8% | 49383.74 |
| Total | 0.3% | 13.2% | 9.7% | 7.7% | 20.9% | 2.2% | 0.4% | 13479.97 |

Residential migration, on the other hand, was associated with higher costs per registered voter, but had few associations with other cost measures. Table x , below, shows that, although residential migration is associated with higher costs per registered voter, it does not seem be associated with either higher levels of provisional ballots, which we would expect if issues of voter registration were the cause. Nor does the association with voter turnout among registered voters run in the direction expected – higher rates of migration from other counties is associated with higher voter turnout, rather than the lower levels which might result from unfamiliarity with local processes, candidates or general levels of engagement. Similarly, no association with mail return rates and migration was found.

|  |  |  |
| --- | --- | --- |
| Migration from Other County | Mean |   |
| Cost per registered Voter | Voter Turnout | % Provisional Ballots |
| bottom quintile | 4.70 | 47.0% | 3.9% |
| 2nd lowest quintile | 5.43 | 49.2% | 2.8% |
| middle quintile | 6.38 | 51.5% | 3.2% |
| second highest quintile | 7.82 | 53.6% | 2.9% |
| highest quintile | 8.77 | 65.3% | 2.6% |
| Total | 6.61 | 53.3% | 3.1% |

Association with other factors

 Size

 Jurisdictional complexity (see III)

 Labor Cost Indices (See IV)

 Technology Mix (see V)

 VBM (See VI)

Over-time comparisons

High Diversity Language county :(Orange County or LA county suggested. LA would need to have Language counts corrected on Election profile Survey from 2009s onward.)

vs Low Diversity Language county (Butte or Madera?)

Unfortunately, the quality of the language responses from the EP survey make this analysis difficult at this time.

III. Costs and Labor Cost Indices

When considering any issue that involves costs among California counties – and in particular costs which rely heavily on local resources – it is impossible to ignore the impacts of differing labor costs. Labor costs affect not only the election costs directly driven by salaries and wages of county employees or contractors, but also the cost of locally produced supplies and rents. Here we consider three external sources of labor costs – the Government Compensation in California (GCC) database produced by the California State Controller’s Office, the Quarterly Census of Employment and Wages (QCEW) database compiled by the U.S. Bureau of Labor Statistics, and the American Community Survey (ACS). The first two sources are based on administrative records. The GCC database contains individual level salary and compensation information for public employees from counties, cities, and a variety of other public entities. Both mean and median levels of compensation can be calculated from those data for the years 2009 through 2014. The QCEW data provides quarterly count of employment and wages reported by employers covering 98 percent of U.S. jobs, available at the county level in total and by sector from 1992 through 2014. Mean wages can be constructed from those records. The ACS provides aggregate wage and salary income and counts for households at the county level, from which mean household wage and salary income can be calculated.

For each of these sources, individual county wage rates were calculated, as well a statewide summaries for relevant employees, and indices created at the county level identifying county wages rates relative to state averages. For the mean and median indices from the GCC, county values range from around .50 (where employees earn about half the state average) to around 1.23 (where typical compensation is about a quarter above the state average). (Note: the mean county index is less than 1 in all cases, because the state average is across all employees, and more employees are found in the large, higher paying counties.) The QCEW Total Wage index tends toward a more bi-modal distribution (not shown) with some counties skewing higher; this is the only index which contains non-public employees, and likely reflects a relatively small group of extremely well-paid workers in the private sector. The QCEW local Government wage Index is quite similar to the GCC versions.

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| --- | --- | --- | --- | --- |
|  | GCC Mean Wage Index | GCC Median Wage Index | QCEW Total Wage Index | QCEW Local Government Wage Index |
| Mean | 0.84 | 0.89 | 0.79 | 0.87 |
| Median | 0.83 | 0.88 | 0.71 | 0.86 |
| Minimum | 0.49 | 0.51 | 0.59 | 0.60 |
| Maximum | 1.24 | 1.22 | 1.69 | 1.21 |

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|  | GCC Mean Wage Index | GCC Median Wage Index | QCEW Total Wage Index | QCEW Local Government Wage Index |
| Ratio of largest to Smallest | 2.55 | 2.39 | 2.85 | 2.00 |
| Ratio of Mean/Median | 1.01 | 1.02 | 1.11 | 1.00 |
|  |  |  |  |  |
|  | GCC Mean Wage Index | GCC Median Wage Index | QCEW Total Wage Index | QCEW Local Government Wage Index |
| Top 3 counties | Santa Clara | Santa Clara | Santa Clara | Alameda |
|  | 1.24 | 1.22 | 1.69 | 1.21 |
|  | Los Angeles | Marin | San Mateo  | Santa Clara |
|  | 1.16 | 1.00 | 1.60 | 1.19 |
|  | Alameda | Napa | Alameda | Marin |
|  | 1.07 | 1.15 | 1.13 | 1.14 |
| Bottom 3 counties |   |   |   |   |
|  | Siskiyou | Butte | Tulare | Del Norte |
|  | 0.60 | 0.65 | 0.60 | 0.63 |
|  | Plumas | Plumas | Siskiyou | Modoc |
|  | 0.55 | 0.58 | 0.60 | 0.62 |
|  | Modoc | Modoc | Modoc | Plumas |
|  | 0.49 | 0.51 | 0.59 | 0.60 |

Focusing on the three indices that are based on public employees, Table x below shows the association between those indices and the cost composition and standardized costs measures. All three indices tell a similar story regarding labor costs and standardized total costs: those costs are strongly associated for costs per ballot cast and costs per vote opportunity, and weakly associated with costs per capita and costs per registered voter. These results suggest a role for labor costs in election costs, but also suggest that some of the county level association may be driven by other factors associated with the larger more electorally complex counties, and not solely as a direct result of labor costs.

This story is reinforced by the association of the indices with the composition of costs: positive associations exist between labor indices and multi-lingual, provisional ballot processing, and canvassing components, but a negative association with ballot printing costs, and no association with pollworker costs. It may be that the former are more labor intensive, or influenced by such costs – but the lack of association with the pollworker component argues against a purely labor cost driven explanation.

|  |  |
| --- | --- |
|   | Correlation |
| GCC Mean Wage Index | GCC Median Wage Index | QCEW Local Government Wage Index |
| Canvas Cost Pct | .354 | .315 | .224 |
|  Pollworker Cost Pct | .055 | .037 | -.012 |
|  Polling Place Cost Pct | .097 | .081 | .324 |
|  Postage Cost Pct | -.141 | -.127 | -.114 |
| Ballot Printing Cost Pct | -.324 | -.247 | -.336 |
| Multi-lingual Cost Pct | .358 | .369 | .347 |
| Provional Ballot Processing Cost Pct | .350 | .299 | .198 |
|   |   |   |   |
| Total Costs Per Capita  | .202 | .208 | .230 |
| Total Costs Per Registered Voter | .265 | .250 | .242 |
| Total Costs Per Ballot Cast | .467 | .423 | .509 |
| Total Costs Per Vote Opportunity | .470 | .411 | .589 |

Association with other factors

 Size

 Electorate complexity (see II)

 Labor Cost Indices (See IV)

 Technology Mix (see V)

 VBM (See VI)

Association with non-cost outcomes

 Voter Turnout

 Mail Return Rates

 Challenged Ballot rates

Over-time comparisons

III. Costs and Jurisdictional Complexity

 2010 Decennial Census

 Number of incorporated cities and towns in county

 Number of Census-Designated places in county

 Person-weighted blockgroup-level population density

Ballot Diversity from Election Profile,

 Number of Ballot Types

 Number of Candidates on the Ballot

 Number of Measures on the Ballot

 Total Vote opportunities: Candidates and measures

 Percent of Total Vote opportunities sub-county

Discussion of inconsistencies, suggested fixes.

2014 Cross-section:

Association with Costs, Standardized Costs

Association with other factors

 Size

 Electorate complexity (see II)

 Labor Cost Indices (See IV)

 Technology Mix (see V)

 VBM (See VI)

Association with non-cost outcomes

 Voter Turnout

 Mail Return Rates

 Challenged Ballot rates

Over-time comparisons

High jurisdictional complexity county vs Low jurisdictional complexity county

Within county high complexity elections vs low complexity elections (vote opportunities, sub-county portion of vote opportunities).