**Step One to Understanding the Vote-Buy Gap: A look at county level outcomes in recent ballot initiatives**

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## Motivation

Economists have focused a great deal of attention to understanding consumers' changing preferences by studying their buying behaviors. However, farmers and agribusinesses are increasingly meeting the consumer outside the usual marketplace: the voting booth. Blamey, Common, and Quiggin (1995) suggest individuals have two selves: a consumer and a citizen. People put on a "good citizen" hat in the voting booth, but watch their wallet when playing the consumer role at the grocery store. Examples where voting residents send signals divergent from observed consumption behavior are growing and increasing political tension between producers and consumers. The clearest demonstrative and high-profile example is cage-free eggs. Cage-free eggs hold less than 5% of U.S. market share, yet the majority of voting residents have supported restricting use of laying hen cages on recent ballots (Norwood and Lusk, 2011). When voting behavior for restrictions on production practices are stronger than parallel signals provided by consumers in retail environments (the vote-buy gap), producers face an unfunded mandate. The vote-buy gap and unfunded mandates are most likely to arise because of state-level initiatives. There are 23 states that allow initiative processes (Smithson et al., 2014). The first step in this project of investigating the vote-buy gap is studying actual voting behavior on recent ballot initiatives.

**Table 1. Percent of U.S. Production in States Allowing Initiative Process**

| | |
|---|---|
| Wheat (Bushels production, 2013) | 61.3% |
| Cow-Calf (Beef Cows, 2014) | 55.2% |
| Dairy (Pounds milk production, 2012) | 49.1% |
| Feedlots (Cattle on feed in lots with 1000+ capacity, 2014) | 48.0% |
| Soybean (Bushels production, 2013) | 39.9% |
| Corn (Bushels production, 2013) | 35.1% |
| Eggs (Dozen production under contract, 2007) | 33.8% |
| Broilers (Head production under contract, 2007) | 31.9% |
| Hogs (Pounds prodution, 2012) | 23.9% |

## Objectives

Use actual voting behavior, obtained from county level records on recent ballot initiatives in specific states to deepen our understanding of drivers of voting support for restrictions or prohibitions on various food production practices. Only two voting outcomes are shown here, but in total nine initiatives will be investigated as study progresses.

**GM Food Labeling**
- 2002 OR ballot (Measure 27)
- 2012 CA ballot (Proposition 37)
- 2013 WA ballot (Initiative 522)
- 2014 OR ballot (Measure 92)
- 2014 CO ballot (Proposition 105)

**Animal Welfare Housing**
- 2002 FL ballot (No. 10)
- 2006 AZ ballot (Proposition 204)
- 2008 CA ballot (Proposition 2) (confirmation of Smithson et al., 2008)

## Methodology

- Approach extends Smithson et al. (2014)

- County level demographic data and voting outcome

- Observations were weighted to account for more populated counties having larger impact on state-level voting outcomes

- Econometric model: weighted least squares

$$Y_i = \ln\left(\frac{V_i}{1-V_i}\right) = X_i B + e_i$$

  where weight is $w_i$

- What is unique about our approach?
  - Not been broadly applied to several different votes
    - CA Prop 37 and CO Prop 105 are investigated here

| Variable name | Variable Description |
|---|---|
| V | Votes in favor of ban |
| Y | ln[V/(1-V)] |
| W | County population/state population |
| **Explanatory Variables** | |
| Obama | Vote for Obama in presidential election (%) |
| PopDensity | People per square mile |
| Pop per farm | Population per farm |
| Household Income | Median household income |
| House Value | Median value of owner-occupied housing units |
| Poverty | % of people of all ages in poverty |
| Education | % persons 25+ with a Bachelor's degree or higher |
| Age | Median age |
| Male | Males per 100 females (sex ratio) (%) |
| White | White alone, not hispanic % |
| Black | Black % |
| Hispanic | Hispanic % |
| MainProt | Mainline Protestants (per 1000 population) |
| EvanProt | Evangelical Protestants (per 1000 population) |
| Catholic | Catholic (per 1000 population) |

## Results

| | California- 2012 Prop 37 | | | | Colorado- 2014 Prop 105 | | | |
|---|---|---|---|---|---|---|---|---|
| | Model A | Model B | Model C | Model D | Model E | Model F | Model G | Model I |
| Intercept | - | - | - | NS | - | - | - | - |
| Obama | + | + | + | | + | + | + | + |
| PopDensity | NS | NS | + | | NS | NS | NS | |
| Pop per farm | NS | NS | NS | | NS | NS | NS | |
| Household Income | - | - | NS | | NS | NS | + | |
| House Value | + | + | | | + | + | | |
| Poverty | NS | NS | | | + | + | | |
| Education | + | NS | | | NS | NS | | |
| Age | NS | - | | | + | NS | + | |
| Male | + | + | NS | | NS | NS | NS | |
| White | | NS | | | NS | NS | | |
| Black | | NS | + | | NS | NS | | |
| Hispanic | | NS | NS | | NS | | | |
| MainProt | | NS | | | - | | | |
| EvanProt | | NS | - | | NS | | | |
| Catholic | | - | NS | | NS | | | |
| Adj R² | 0.7792 | 0.8845 | 0.9078 | 0.6802 | 0.6503 | 0.8924 | 0.915 | 0.7828 |

**CA Results**
- Results not robust across models
- Voting for Obama, higher house value and higher male populations increased likelihood of voting for Prop 37
- Higher household income decreased the likelihood of voting for Prop 37

**CO Results**
- Voting for Obama, higher house value, higher poverty percentage, and higher median age increased the likelihood of voting for Prop 105

## Implications

Finding of positive relationship between voting for Obama and voting for the initiative is similar to Smithson et al. (2014). Additionally, the positive relationship between housing value and voting for the initiative is similar. Thus these relationships are found to hold true across states, and across topic of initiative (animal welfare in Smithson et al. (2014) and labeling of genetically modified food here).

## Future Work

Future work will look at the other ballot initiatives listed under objectives. Additionally, pooled models should be conducted to test the robustness of drivers of voting support and examine how robust these determinants are across issues and time. Estimation results can also be used to forecast voting outcomes in other states. Other demographic characteristics and explanatory variables should be investigated.

## References

Blamey, R., M. Common, and J. Quiggin. "Respondents to Contingent Valuation Surveys: Consumers or Citizens?" *Australian Journal of Agricultural Economics.* 39(1995), 263-288.

Norwood, F.B. and J.L. Lusk. *Compassion by the Pound: The Economics of Farm Animal Welfare.* Oxford, UK:Oxford University Press, 2011.

Smithson, K., M. Corbin, J.L. Lusk, and F.B. Norwood. "Predicting State-Wide Votes on Ballot Initiatives to Ban Battery Cages and Gestation Crates." *Journal of Agricultural and Applied Economics.* 46(2014): 107-124.

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