

THE NEXT STEP IN ELECTORAL FORENSICS

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PURPOSE:

One of the recent developments is that democracy is almost a prerequisite for legitimacy. Because of this requirement, many States are holding elections simply to appear democratic—elections that those States assert are free and fair.

- ◆ How do we determine which of these elections are democratic, which elections are free and fair?

Here, I introduce distributional checks as a method, and I refine the linear regression technique to account for inherent characteristics of the dependent variable.

FREE AND FAIR:

The definition of ‘free and fair’ is under much discussion. However, one consistent requirement underlies all such definitions.

- ◆ An election is fair if votes are equally weighted

This reduces in one way to:

- ◆ An election is fair if the probability of a vote being declared invalid is independent of demographic factors and of the vote recipient

This last statement can easily be tested using regression techniques—as long as the necessary information is present.

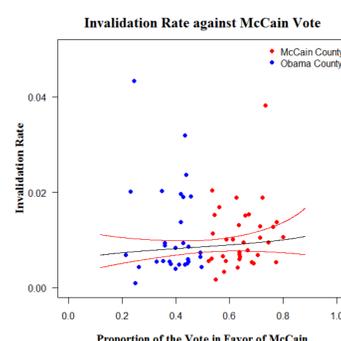
CURRENT METHODS:

Thus far, the methods utilized for testing claims of electoral fairness include:

- ◆ Digit Frequency Tests
- ◆ Lowess Graphing
- ◆ Simple Linear Regression
- ◆ Multinomial Models

NEW ADDITION:

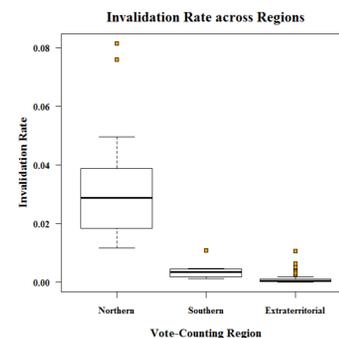
- ◆ Currently, linear regression is frequently used to detect dependence between the proportion of vote for a candidate and the proportion of the vote invalidated.
- ◆ This method ignores the non-linearities inherent in proportion variables. The logit transformation (or similar) should be used to account for these aspects.
- ◆ The results of the 2008 US Presidential election in Colorado exemplifies this result.



APPLIED TO SOUTH SUDAN:

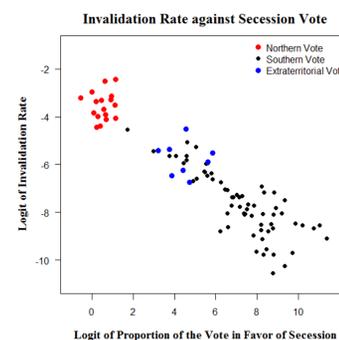
In 2011, the region of South Sudan held a referendum to determine if the region would become independent of Sudan.

The referendum was held in three regions: southern Sudan, northern Sudan, and out-of-country. The boxplot shows that the process producing the data differs in the three regions.



The government of South Sudan reported that over 98% of the votes were in favor of independence.

The bi-logit plot of the vote proportions (invalidated vote against pro-independence) shows a very strong relationship. This relationship translates as dependence between the two variables.



In other words, there is strong evidence that:

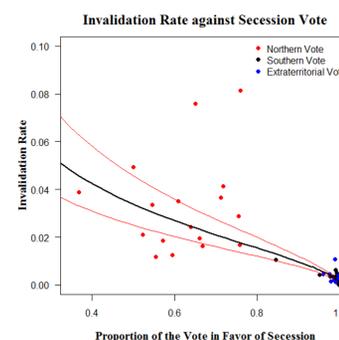
- ◆ Those voting for unity had a higher probability of having their votes invalidated.

The *prima facie* evidence of unfairness was not evident in the votes counted in northern Sudan, nor in the extraterritorial votes. The votes counted in southern Sudan strongly show dependence.

The level proportion plot dramatically shows this relationship in the three Sudanese regions.

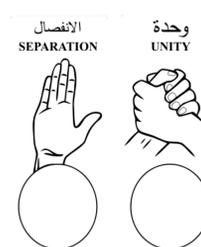
The proportion of the vote declared invalid in northern Sudan is comparable to other elections around the world.

The invalidation rate in the South is *highly suspect*.



The ballot was designed to be easily understood and used by all Sudanese. The official language of South Sudan is English; of Sudan, Arabic. Additionally, symbols were used for illiterate voters.

The ballot was well created to be usable by all peoples of Sudan.



CONCLUSIONS:

- ◆ The assumption of electoral fairness is easily tested.
- ◆ The test requires counts of votes for each candidate as well as counts of invalidated votes in the electoral district.
- ◆ The South Sudanese independence referendum of 2011 shows significant evidence of electoral unfairness.
- ◆ This unfairness is manifest only in the south of Sudan—the new Republic of South Sudan.
- ◆ The ballot was designed for the needs of the various peoples of Sudan.
- ◆ There is strong evidence for vote tampering in the South Sudanese Independence Referendum of 2010.

RELEVANT LITERATURE:

- ◆ Walter R. Mebane, Jr. (2004). “The Wrong Man is President! Overvotes in the 2000 Presidential Election in Florida.” *Perspectives on Politics* 2(3): 525 – 535.
- ◆ Walter R. Mebane, Jr. (2010). “Fraud in the 2009 Presidential Election in Iran?” *Chance* 23(1):6 – 15.
- ◆ Walter R. Mebane, Jr., and Kirill Kalinin (2009). “Comparative Election Fraud Detection.” Presentation at the Annual Meeting of the American Political Science Association.
- ◆ Walter R. Mebane, Jr., and Jasjeet S. Sekhon (2004). “Robust Estimation and Outlier Detection for Overdispersed Multinomial Models of Count Data.” *American Journal of Political Science* 48(2): 392 – 411.

FOR FURTHER INFORMATION:

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This poster can also be downloaded from

- ◆ <http://www.electoralforensics.org/reports/>

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