

Using Stata as a Computation/Estimation Companion in a Relational Database Environment

2008 Summer North America Stata Users Group Meeting, July 24, 2008, Chicago

Abstract:

Stata can be used as a companion to relational database software to compute and serve up information for live public use. We demonstrate how a Microsoft Access database of electoral data calls up Stata .do files to compute and/or estimate alternative measures of political party “nationalization.” More generally, where data reside live and for broad public consumption, Stata can play a valuable role operating behind the scenes for non-technical users where measures of conceptual value cannot be generated from within the database environment.

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Agenda

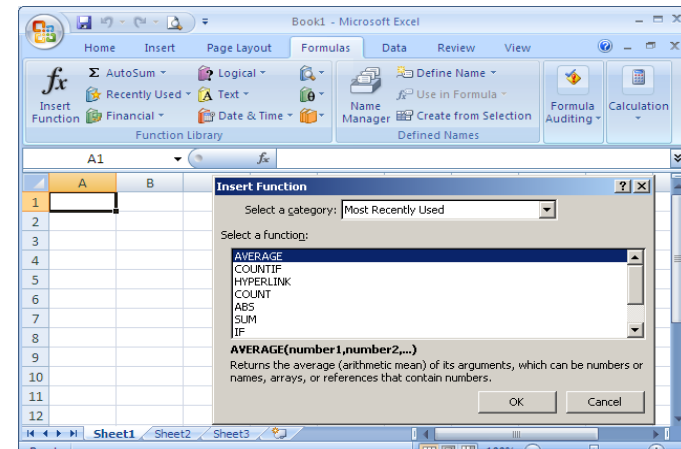
1. The Electoral Database
2. The Problem
3. The Stata/Access Interaction
4. A Demonstration
5. Outstanding Questions/Issues

1. The Electoral and Institutional Database of the World

1. The Contents
2. The Audience
3. A Dynamic System
4. Computing measures of conceptual value
5. Party Nationalization: Distribution of a political party's voter support over the geographic units of the territory.
 - Party Nationalization Score (Jones and Mainwaring 2003)
 - Components of Variance (Morgenstern and Potthoff 2005)

2. The Nature of the Problem

1. Translating electoral results into nationalization
2. The limited range of available functions
3. 2 Measures of Nationalization
 - **Party Nationalization Score (1-GINI):**
. egen gini=inequal(Vote%), by(Province Election)
 - **Components of Variance**
. by Party: xtmixed Vote% || _all: R.Province || _all: R.Election, var



3. The Stata/Access Interaction

1. Access as the user interface
2. On “Nationalization” measures, Access ...
 - i. selects and exports data
 - ii. calls up Stata .do file
 - iii. imports and serves up the result

4. A Demonstration of the Applications

5. Outstanding Questions/Issues

1. Licensing
2. Alternative database-Stata mechanisms
3. Performance
 - Timing
 - Web environment

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MainMenu

Ecuadorian Electoral Data: Main Menu

Close

Step 1: Select Criteria

Year Range: Start: 1978 End: 2006 Election Type: Provincial Deputies Exclude Provincial Movements?*

Step 2: View Results

- 1: National-level election results
- 2: Province-level election results (votes as percentage of total province votes)
- 3: Effective Number of Political Parties based upon Votes (ENPV)-National-level
- 4: Effective Number of Political Parties based upon Votes (ENPV)-Province-level
- 5: Party Nationalization Score (PNS) (Jones and Mainwaring 2003)
- 6: The Components of Variances (Morgenstern et al. 2005)

*Beginning in 1996, provincial electoral movements began to proliferate. These movements do not register with the national electoral authorities, and only complete in the province in which they register. Beginning in 1998, there were many dozens.

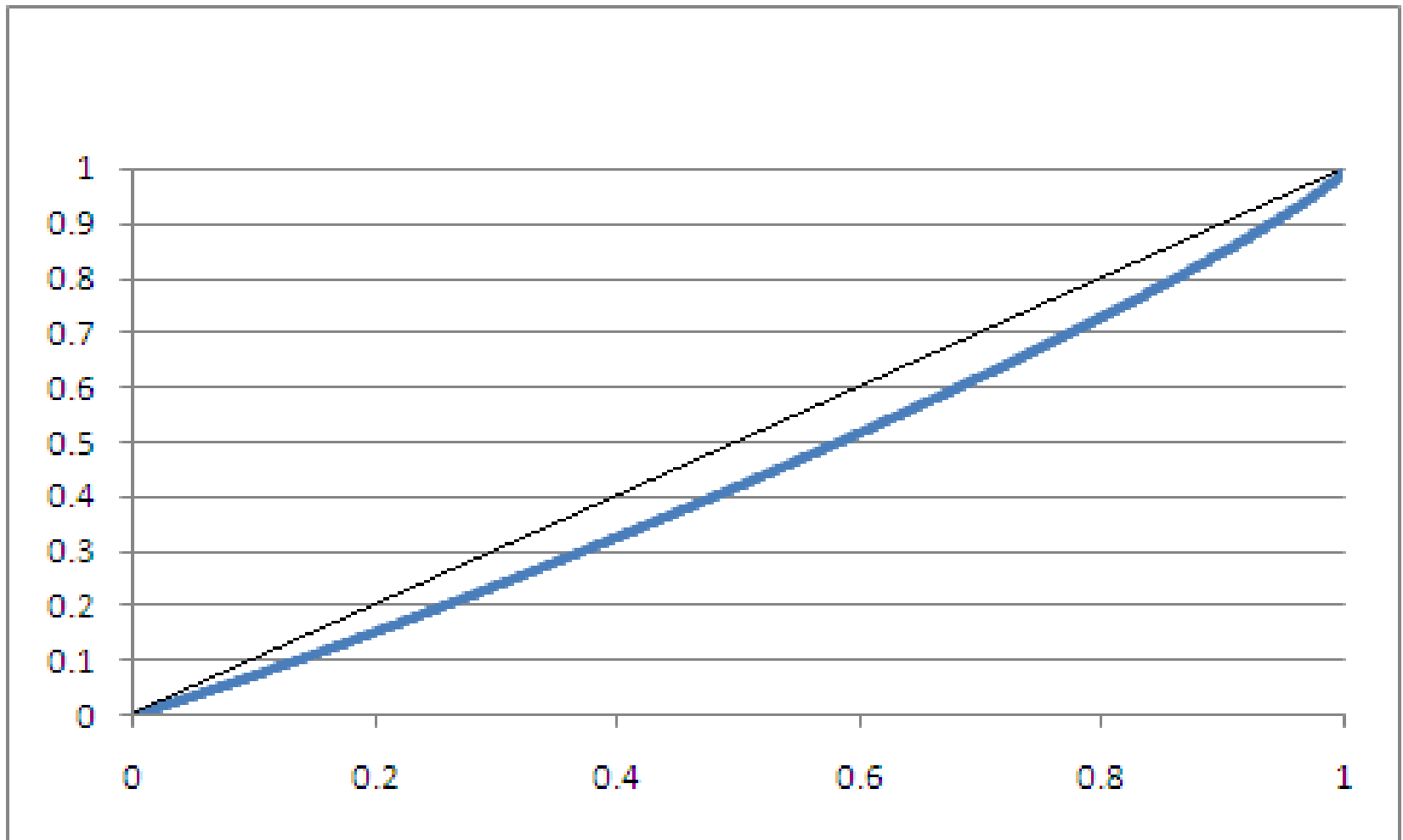
GINI-Display

PartyAbrev	Election	ElectionType	PNS
PAN	1998	Provincial Deputies	0.1801147
PCD	1984	Provincial Deputies	0.3824756
PCD	1986	Provincial Deputies	0.2179274
PCD	1988	Provincial Deputies	0.348901
PCD	1990	Provincial Deputies	0.2229995
PCD	1992	Provincial Deputies	0.2807213
PCD	1994	Provincial Deputies	0.2442956
PD	1984	Provincial Deputies	0.2805608
PD	1986	Provincial Deputies	0.3241243
PD	1988	Provincial Deputies	0.1914697
PDP	1988	Provincial Deputies	0.3332277
PDP	1990	Provincial Deputies	0.1611536
PDP	1992	Provincial Deputies	0.1266659
PL	2002	Provincial Deputies	0.1253909
PLN	1990	Provincial Deputies	0.3221827
PLN	1992	Provincial Deputies	0.4117238

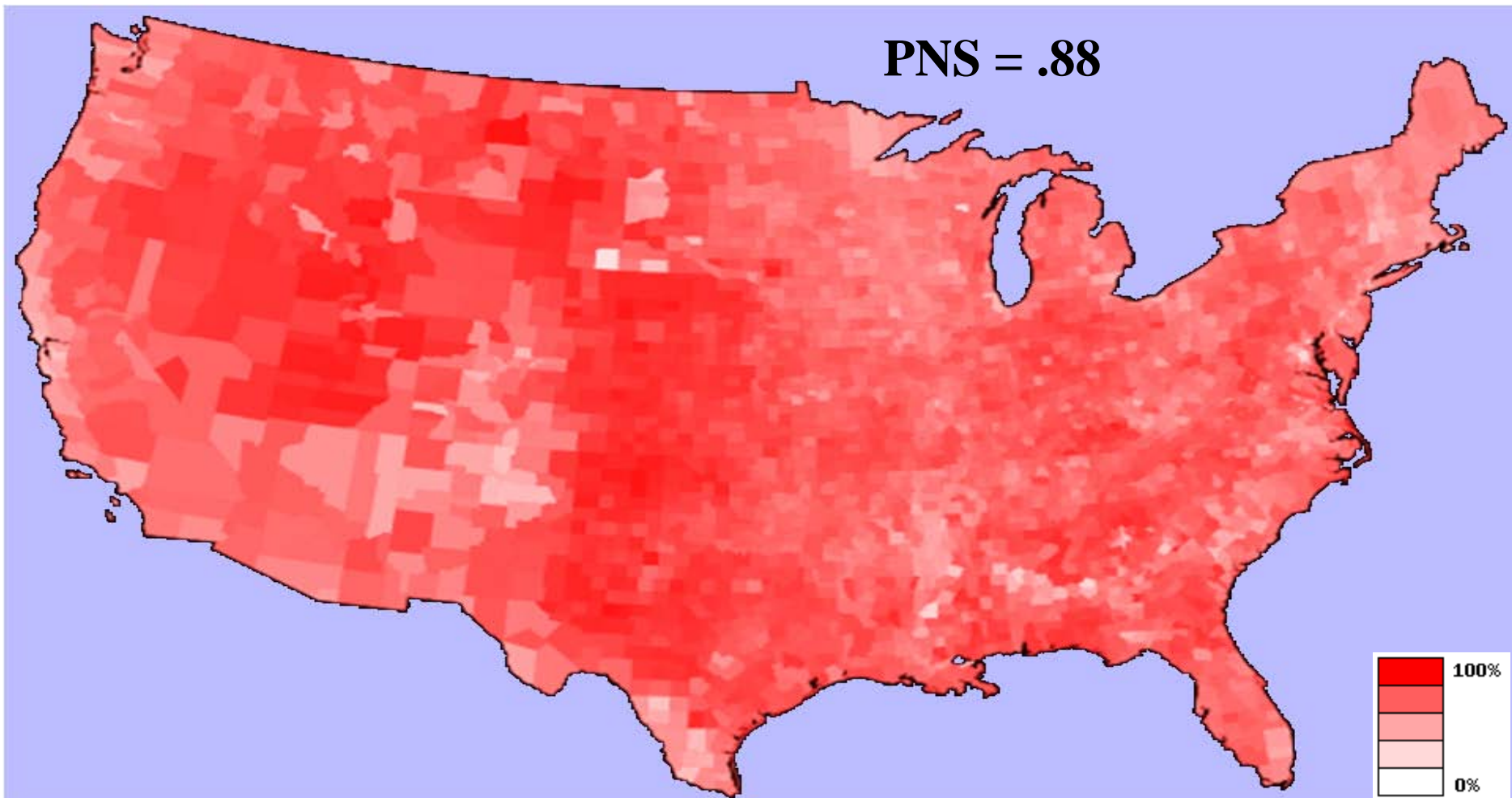
Record: 1 of 286 No Filter Search

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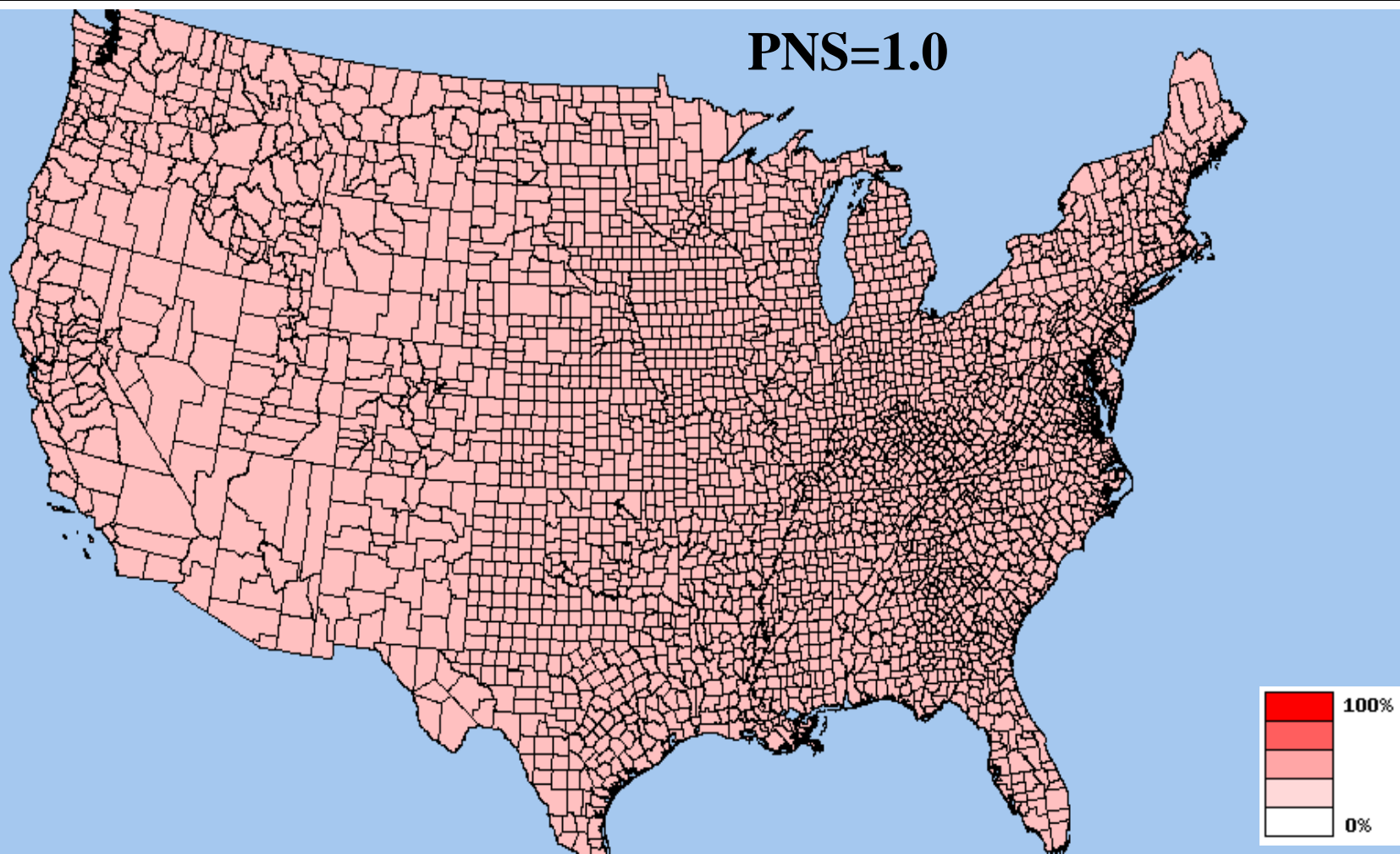
US 2004 Republican Presidential, GINI, County-Level, GINI=.11699



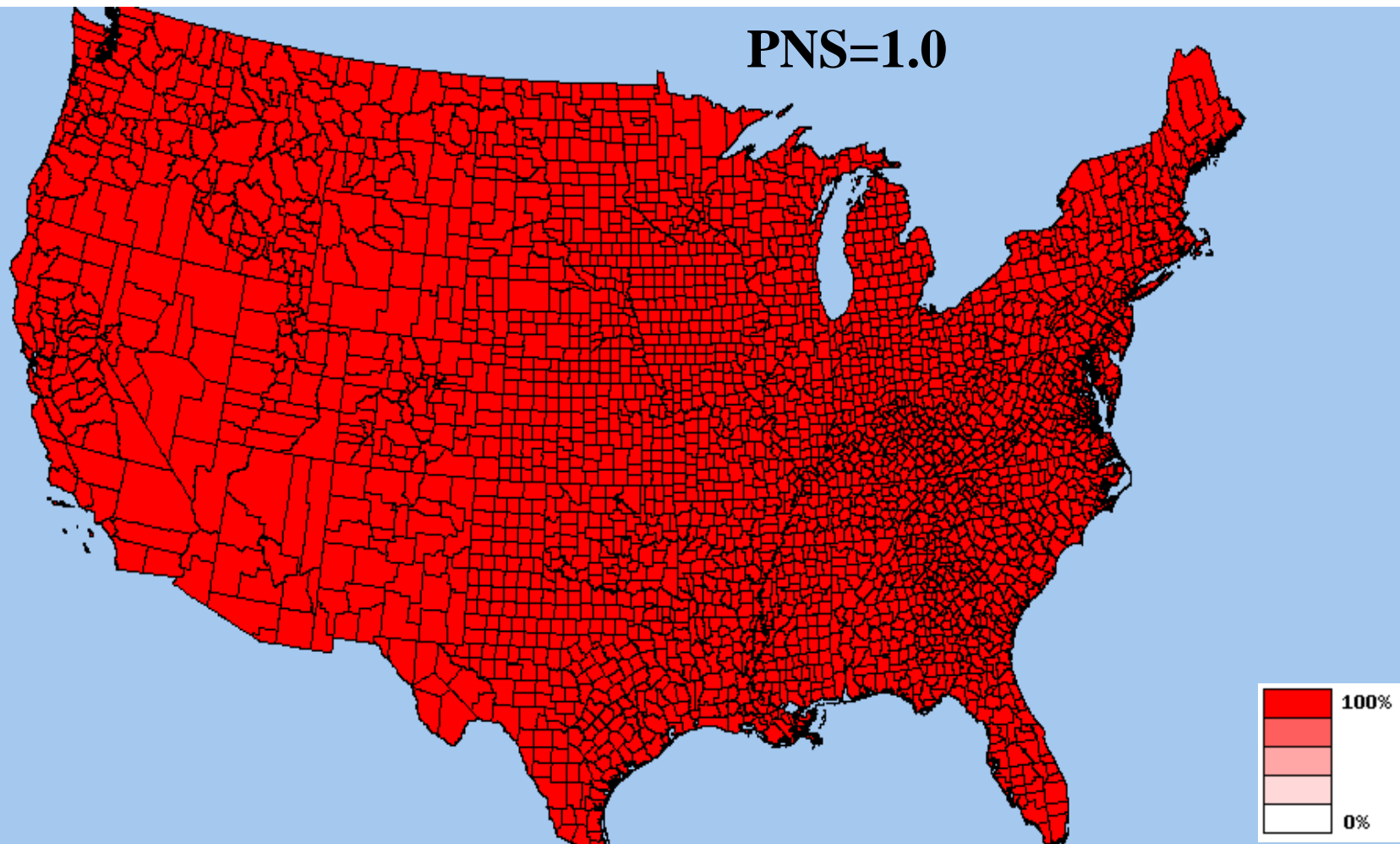
PNS Illustrated (Actual): Strongly Nationalized Support US 2004 Republican Presidential Votes, by County



PNS Illustrated (hypothetical): Completely Nationalized Support US Votes, by County



PNS Illustrated (hypothetical): Completely Nationalized Support US Votes, by County



PNS Illustrated:

Strongly Localized Support (PNS \approx 0)

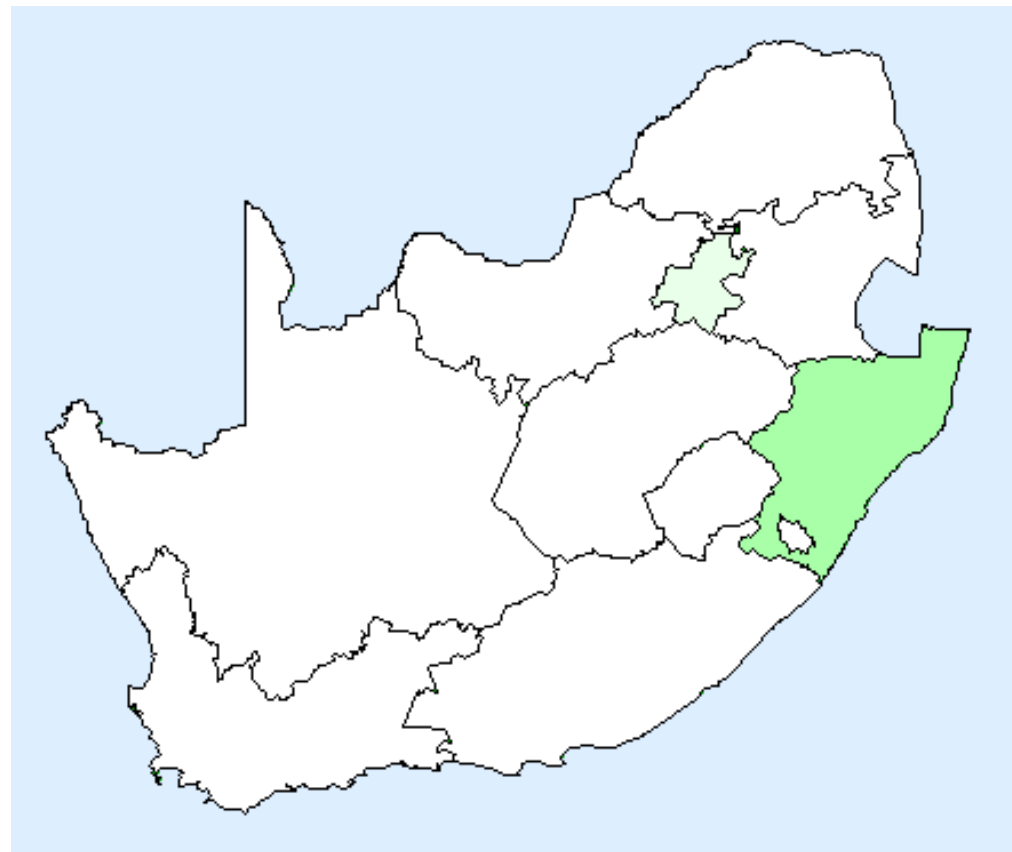
South African Votes, by Province

South Africa, 2004

Inkatha Freedom Party

34% of the vote in KwaZulu-Natal

<1% almost everywhere else



PNS Illustrated:

Strongly Localized Support (PNS \approx 0)

UK Votes, by District

United Kingdom, 2005

Sinn Fein

Strong in N. Ireland

Weak elsewhere

