Estimating the Consumer's Burden from Administered Markets
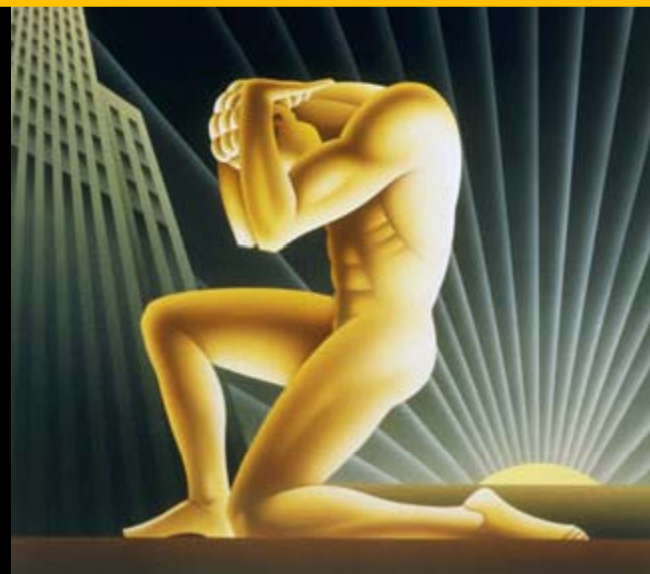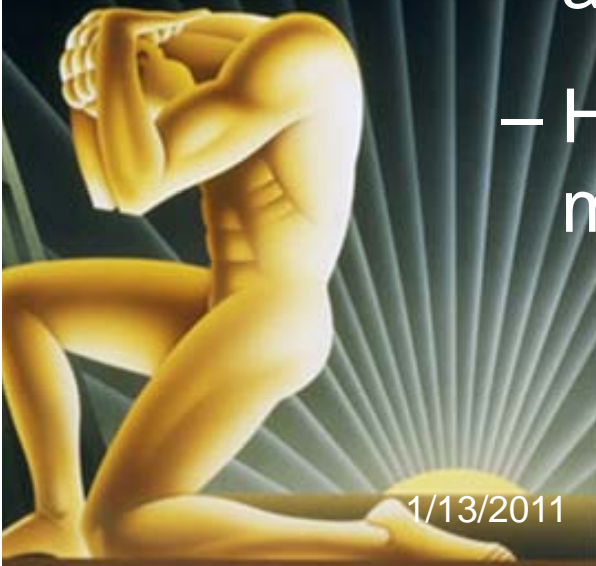
Robert McCullough, McCullough Research
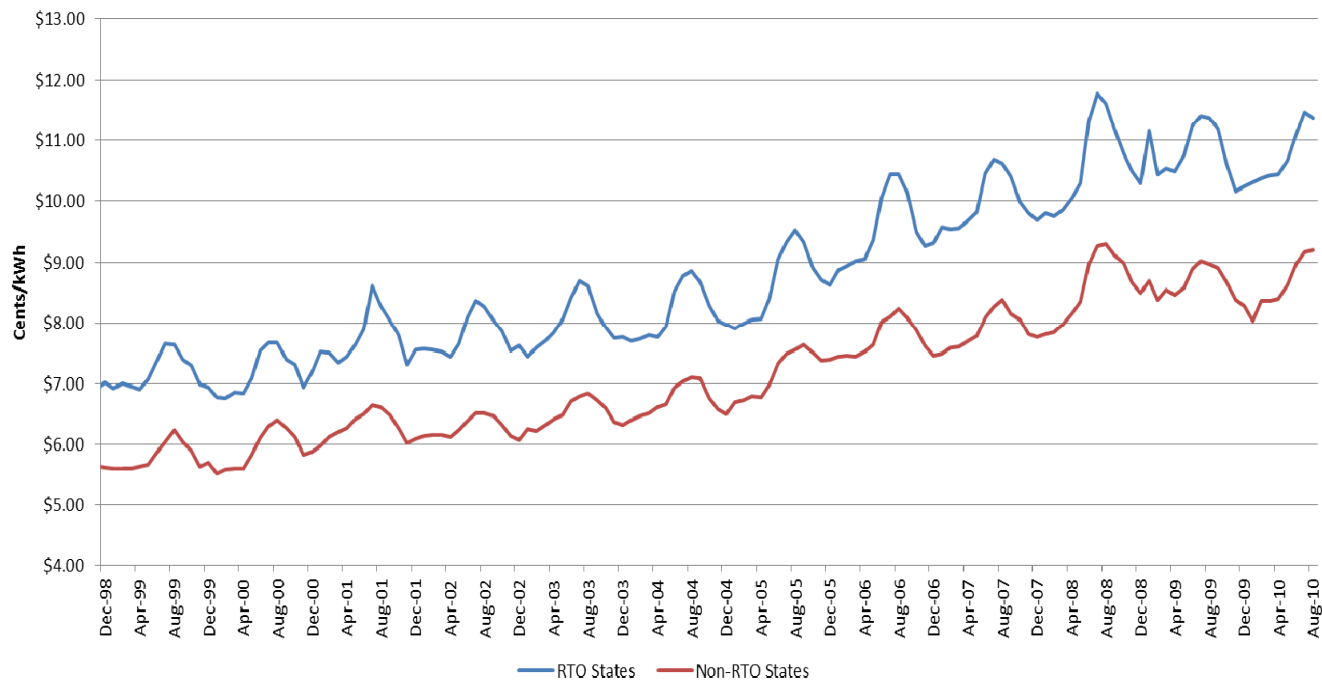http://www.mresearch.com

Introduction

- For the last decade we have seen the prices to consumers diverge between RTO and non-RTO states

  – How much of this is the inefficiency of administered markets?

  – How much of the cost is fuel and how much is divestiture?

RTO Electric Rates Versus Non-RTO States
Source: Table 5.6.A
EIA Electric Power Monthly

RTO and non-RTO Average Rates

Data

- Is at a premium – RTO data is especially difficult to find
- FERC generally does not check required reports for timeliness or accuracy
- EIA data is basically all that is left

1/13/2011

4

Times Series/Cross Sectional Analysis

- We can extend the data set by looking at both states and months
- From 1996, this gives a universe of almost 9,000 observations
- Specification of the question is always a problem, but the right answer is a simple hypothesis without data mining
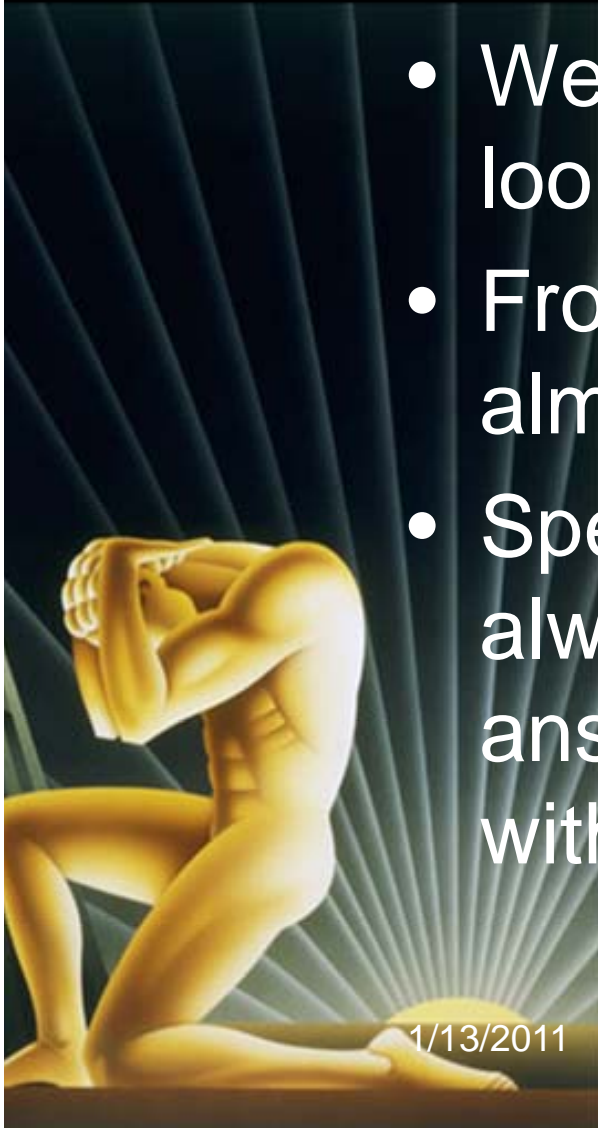
A Nice Counterexample
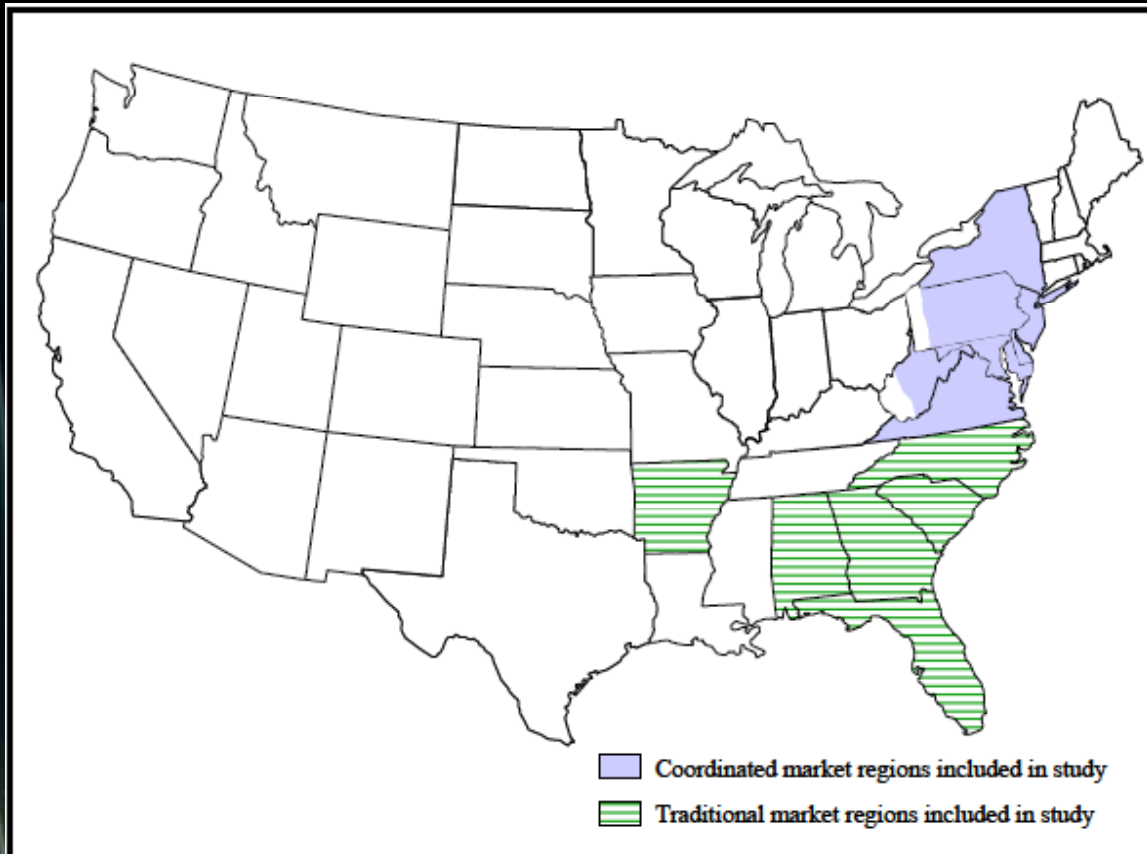
- In 2006, Harvey, McConihe, and Pope conducted a "similar" study to show that RTOs lowered prices
- As usual, the study posed an odd question, used cherry-picked data, and seemingly reflected a clear bias
- How often do you compare Arkansas with New York?

Coordinated market regions included in study

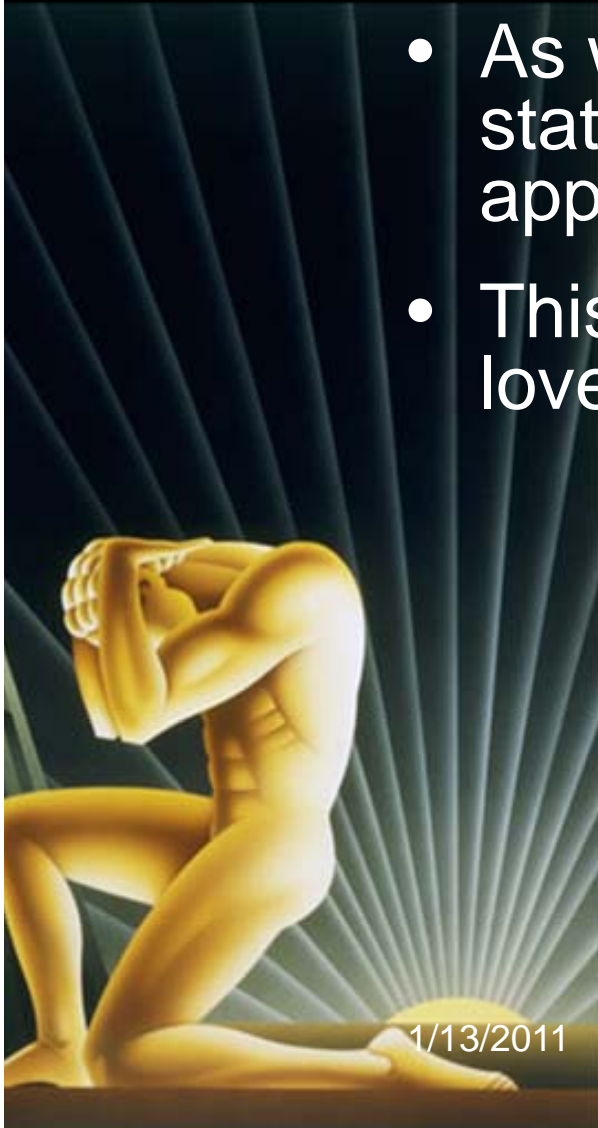Traditional market regions included in study

Harvey, McConihe, and Pope states analyzed

Why Avoid Louisiana?

- As we will see in a moment, eliminating states allows one to select the appropriate conclusion

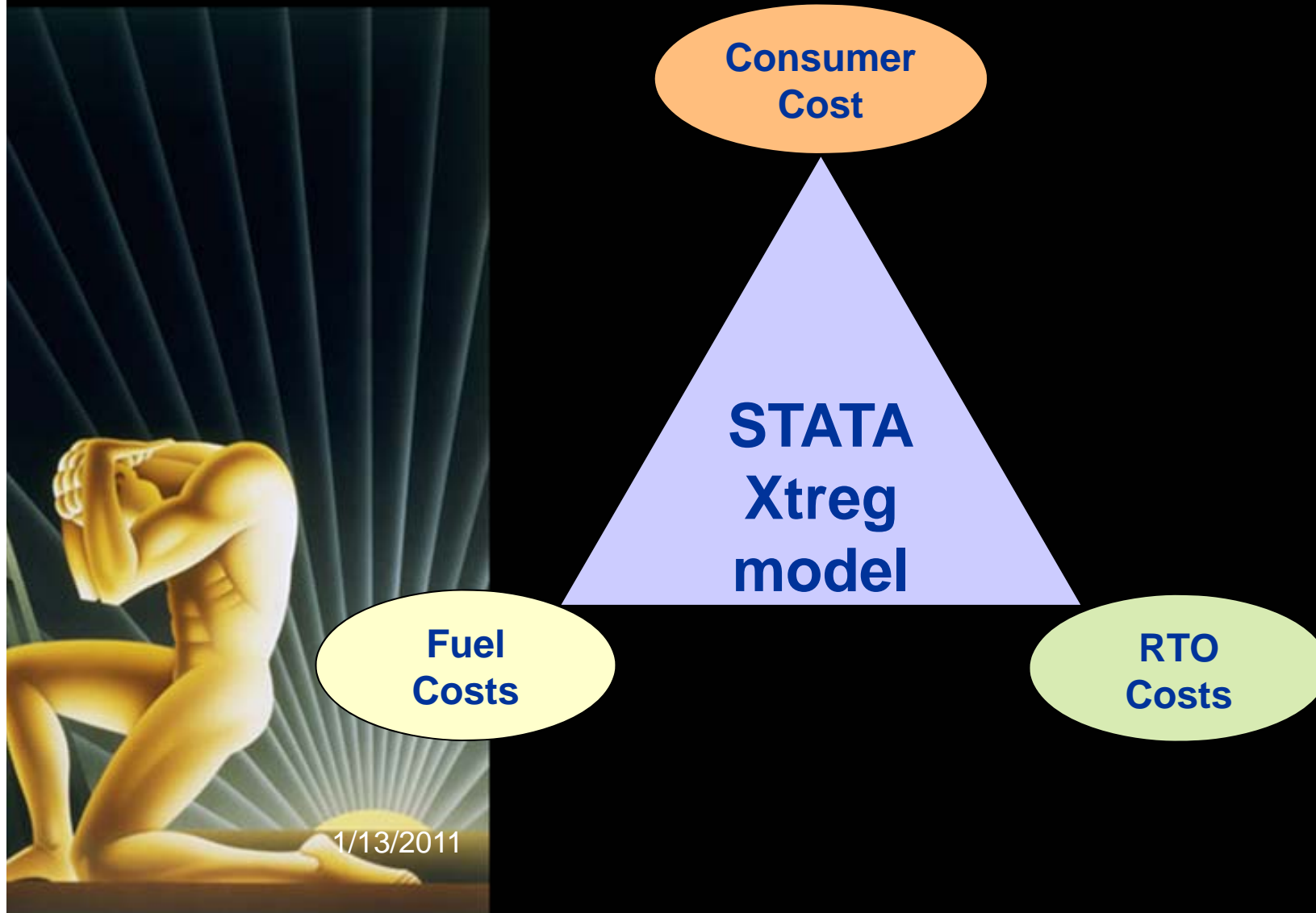- This is the statistician's version of "he loves me, he loves me not"

McCullough Research's Sample

A Simple Specification

Consumer Cost

STATA Xtreg model

Fuel Costs

RTO Costs

Model Results

```
. xtreg  rate gas coal rto rtogas, fe level(99.9)

Fixed-effects (within) regression              Number of obs      =        8976
Group variable: state                          Number of groups   =          51

R-sq:  within  = 0.3354                         Obs per group: min =         176
       between = 0.7282                                        avg =       176.0
       overall = 0.6325                                        max =         176

                                                F(4,8921)          =     1125.49
corr(u_i, Xb)  = 0.6468                          Prob > F           =      0.0000
```

rate	Coef.	Std. Err.	t	P>|t|	[99.9% Conf. Interval]	
gas	.7359134	.024912	29.54	0.000	.6539128	.8179141
coal	1.402388	.074015	18.95	0.000	1.158759	1.646017
rto	17815.46	4701.038	3.79	0.000	2341.44	33289.48
rtogas	.2668397	.0224521	11.88	0.000	.1929361	.3407433
_cons	387113.4	4415.377	87.67	0.000	372579.6	401647.1
sigma_u	445780.14					
sigma_e	125677.57					
rho	.92636941	(fraction of variance due to u_i)				

```
F test that all u_i=0:       F(50, 8921) =   1264.81          Prob > F = 0.0000
```
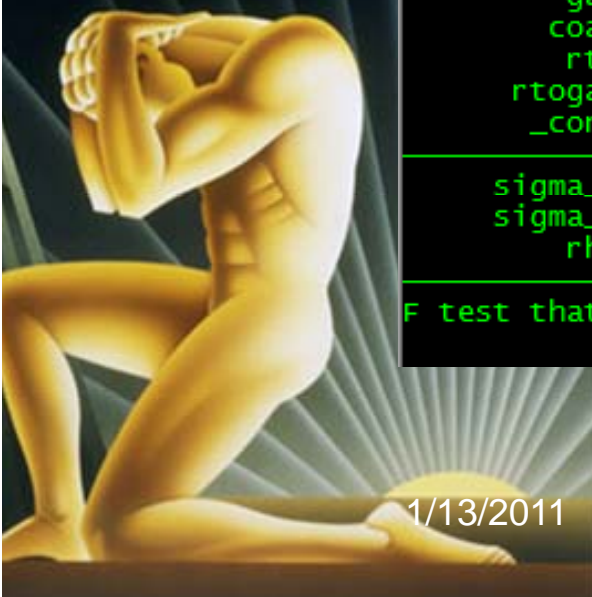
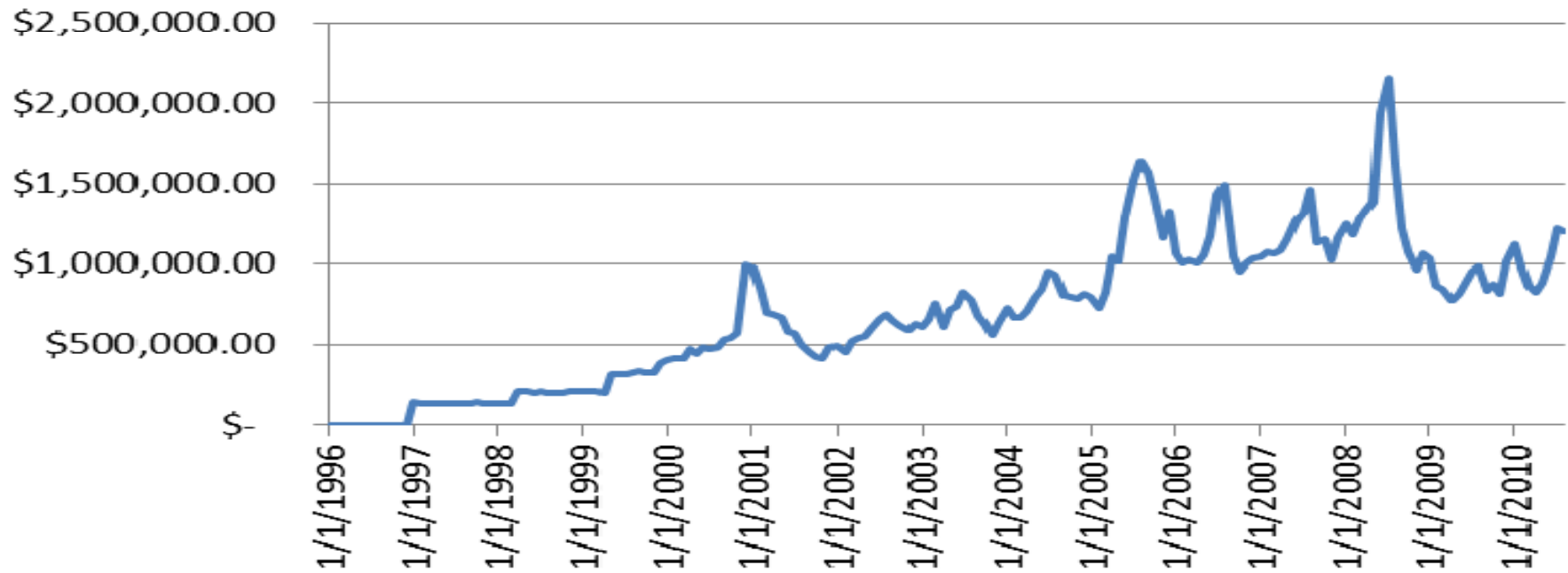# How many alternative models were run?

- None
- One model, one data set, one result

Peaks in 2001 and 2008 reflecting adverse conditions

1/13/2011

13

Conclusions

- RTOs are costing consumers approximately $1 billion a month
- While much of the cost comes from overall cost increases, the largest single impact appears to be a high response to natural gas price hikes – even though the percentage use of gas is comparable with non-RTO states
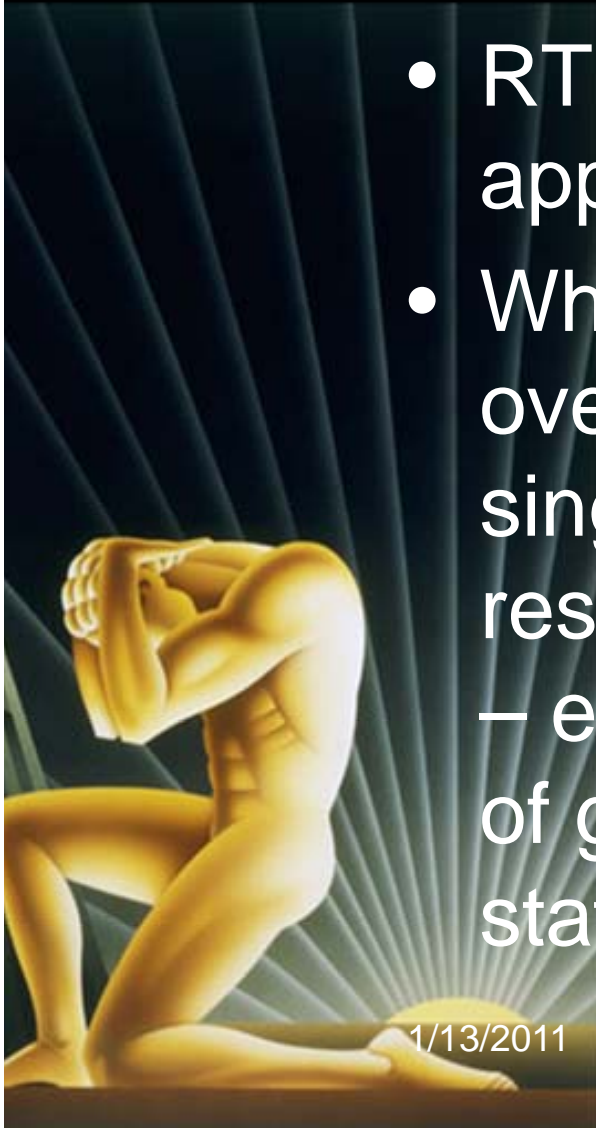
```
. xtreg  rate gas coal rto rtogas, fe level(99.9)

Fixed-effects (within) regression            Number of obs     =        2293
Group variable: state                        Number of groups  =          18

R-sq:  within  = 0.4777                      Obs per group: min =           1
       between = 0.5780                                      avg =       127.4
       overall = 0.6236                                      max =         176

                                             F(4,2271)          =      519.18
corr(u_i, Xb)  = 0.6353                       Prob > F          =      0.0000

------------------------------------------------------------------------------
        rate |      Coef.   Std. Err.      t    P>|t|     [99.9% Conf. Interval]
-------------+----------------------------------------------------------------
         gas |     1.2719   .0376444    33.79   0.000     1.147869    1.395932
        coal |    .755276   .0977221     7.73   0.000     .4332996    1.077252
         rto |  -2054.428   13381.43    -0.15   0.878    -46143.77    42034.91
      rtogas |    .362831   .0729983     4.97   0.000      .122315     .6033471
       _cons |   562222.5   10278.11    54.70   0.000       528358      596087
-------------+----------------------------------------------------------------
     sigma_u |  413429.07
     sigma_e |  119256.22
         rho |  .92318455   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(17, 2271) =    852.21            Prob > F = 0.0000
```
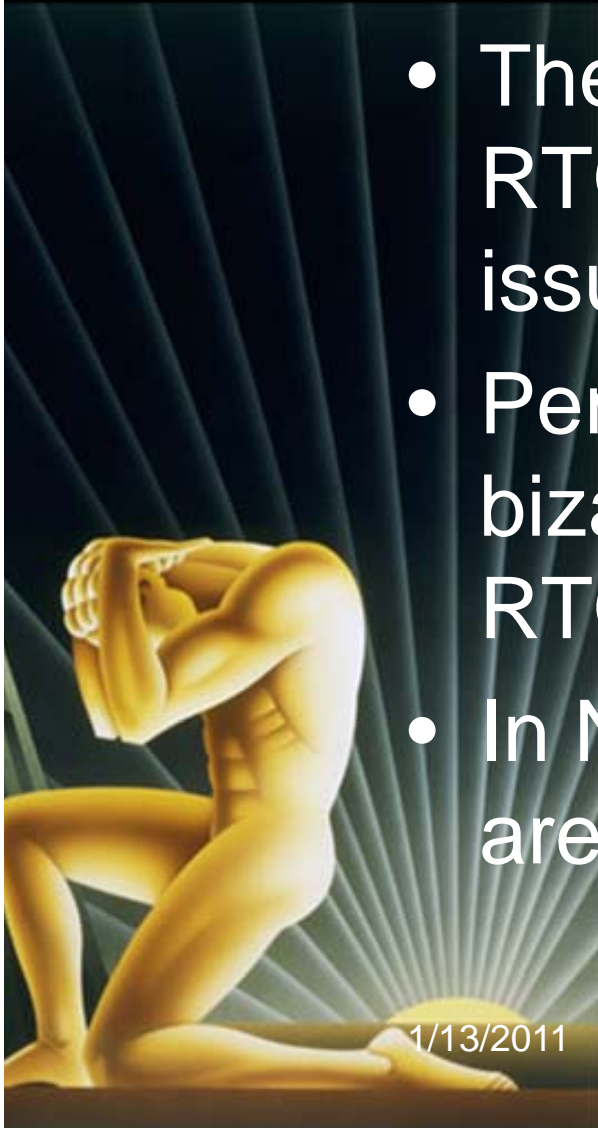
Adding Harvey's missing states back in

1/13/2011   15
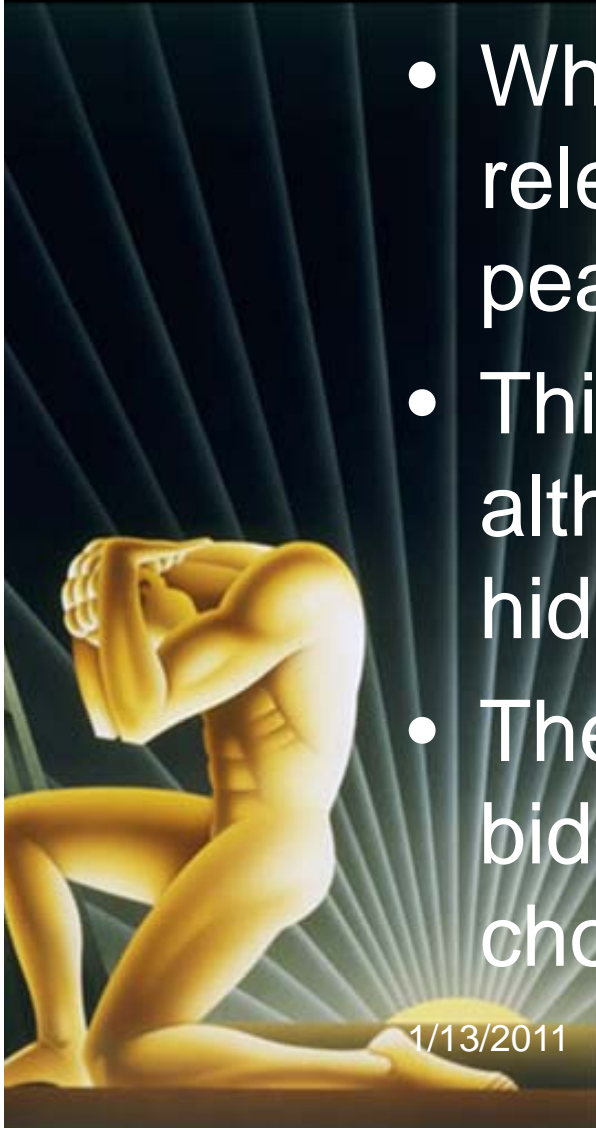
Solutions?

- The volatility of customer bills in RTO states reflects a number of issues
- Perhaps the most significant is the bizarre pricing policies in many RTOs
- In New York, almost 10% of bids are so-called "hockey stick bids"

1/13/2011

16

Substantial Evidence Exists that Secrecy is Very Expensive

- When Texas reduced the lag in releasing bid data, average and peak bids fell immediately

- This is not true in New York, although New York continues to hide bidders' identities

- The clear conclusion is that hiding bidders from the market is a costly choice