

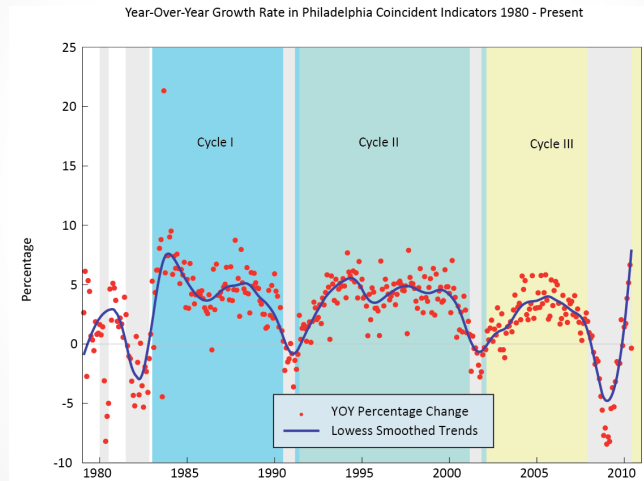
**Tax Revenue Synchronization with the Business Cycle:  
When Will State Tax Revenues Recover  
from the Great Contraction?**

Ray Nelson  
Romney Institute of Public Management  
Brigham Young University  
FTA Revenue Estimation Conference  
September 2010

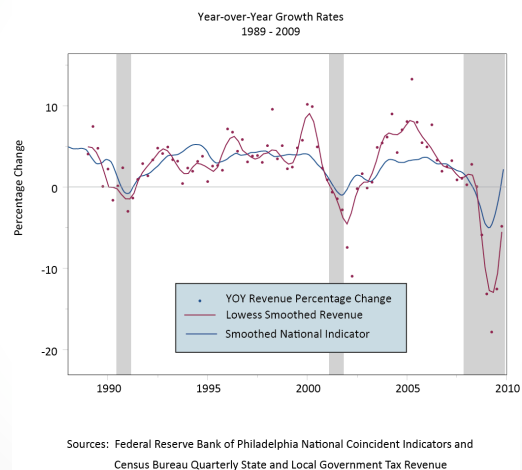
**The Great Contraction and State Revenues**

- Severity
- Duration
- Origin
- Employment
- Revenue

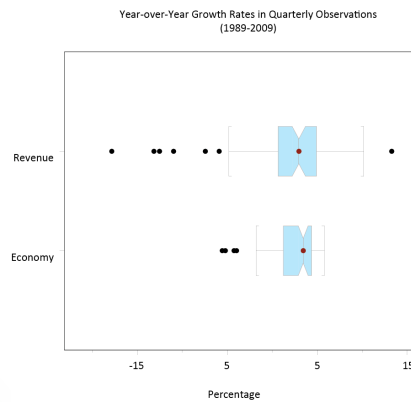
## US Business Cycles



## Total State Revenue



## Comparison

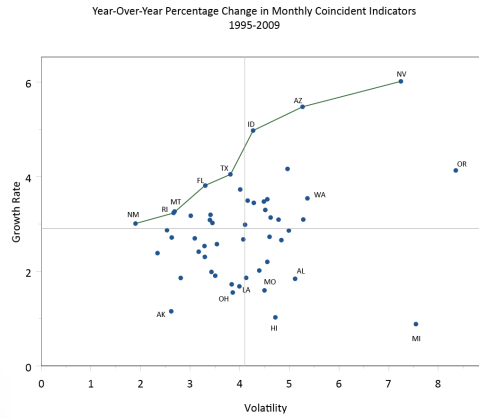


Sources: Federal Reserve Bank of Philadelphia National Coincident Indicators and  
Census Bureau Quarterly State and Local Government Tax Revenue

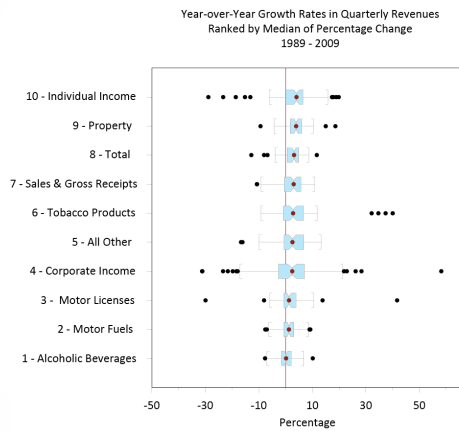
## Tax Revenues

- State economic characteristics
- Tax portfolio

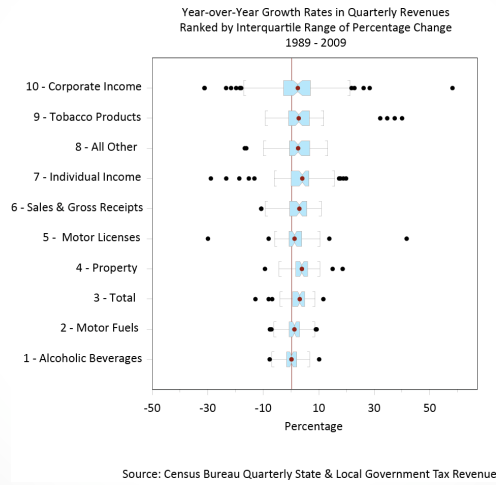
## State Efficiency Frontier



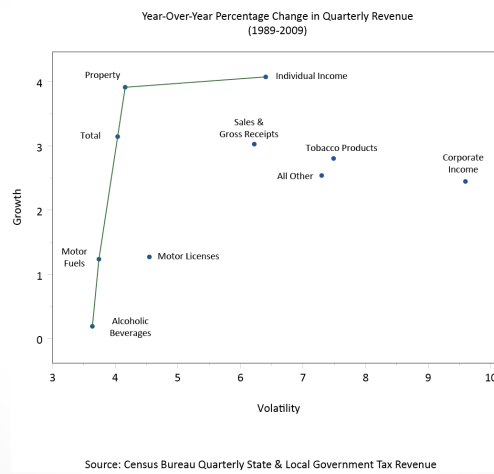
## Comparison by Growth Rates



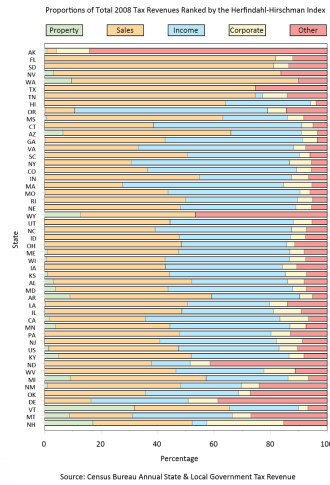
## Comparison by Volatility



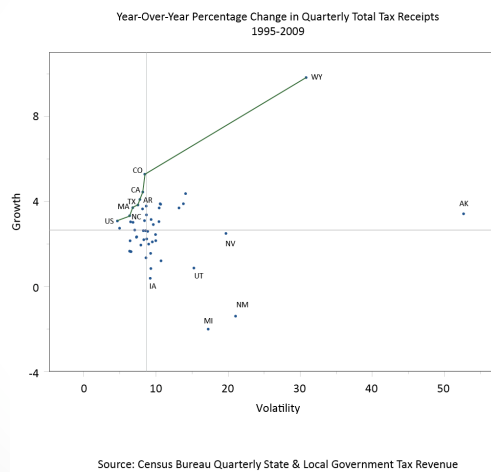
## Tax Efficiency Frontier

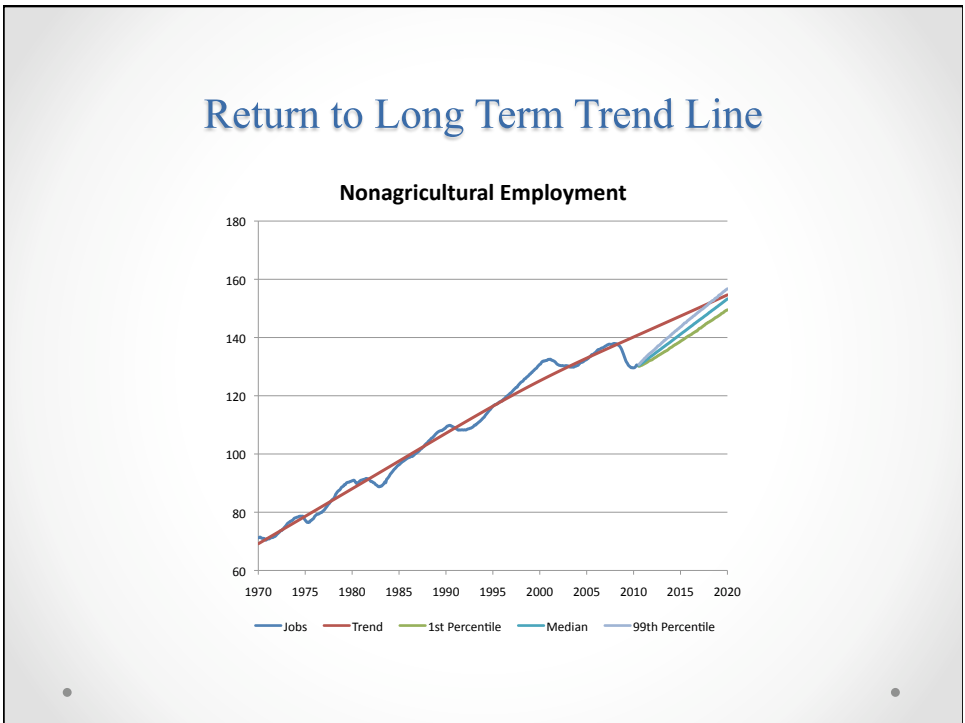
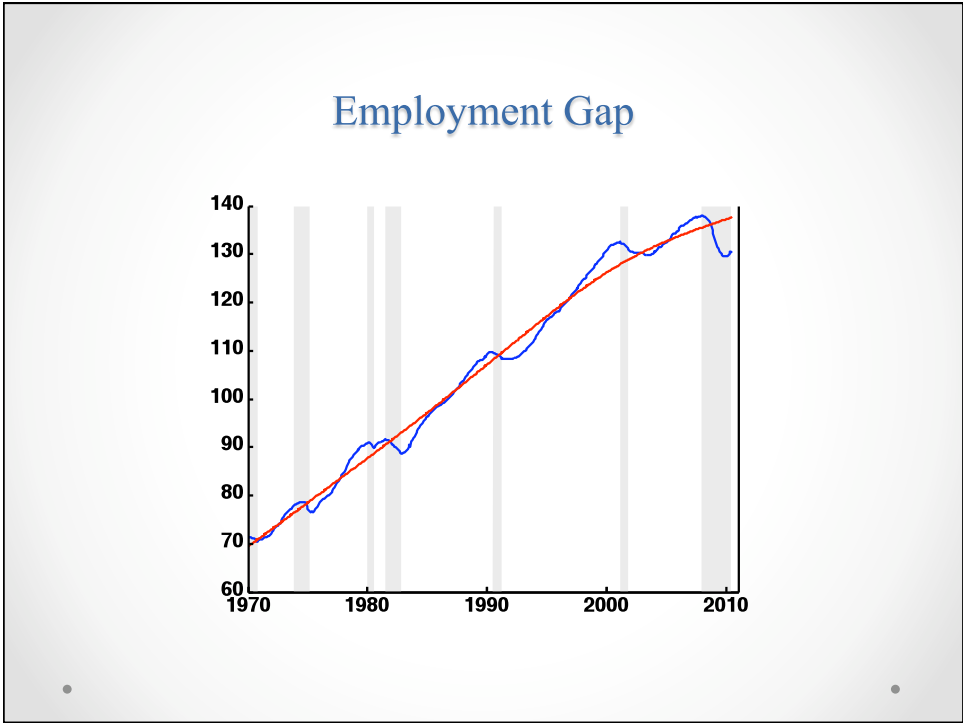


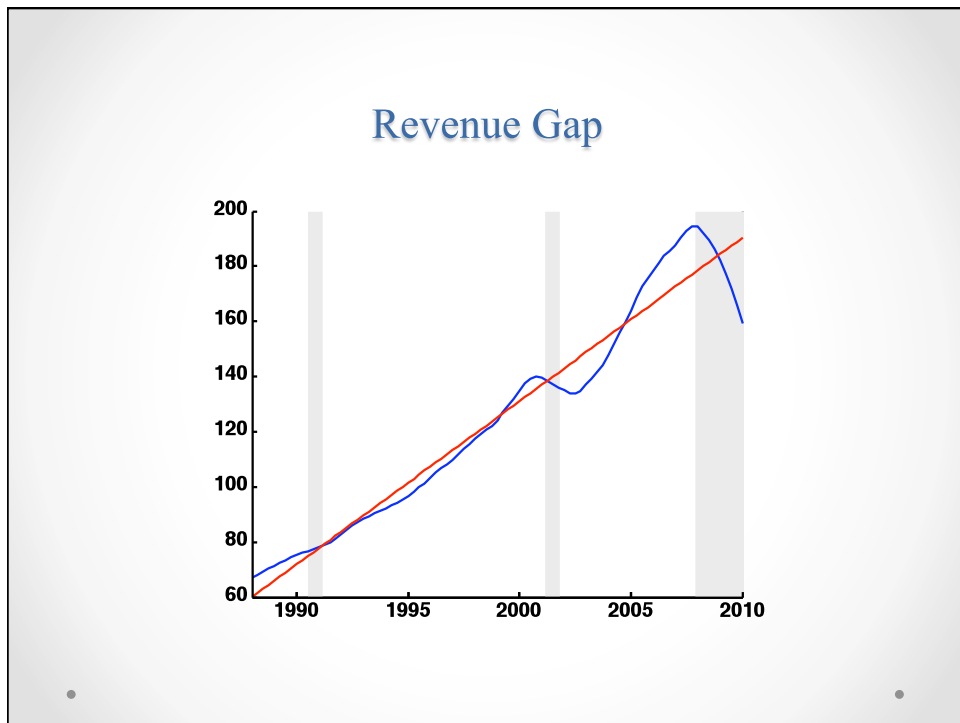
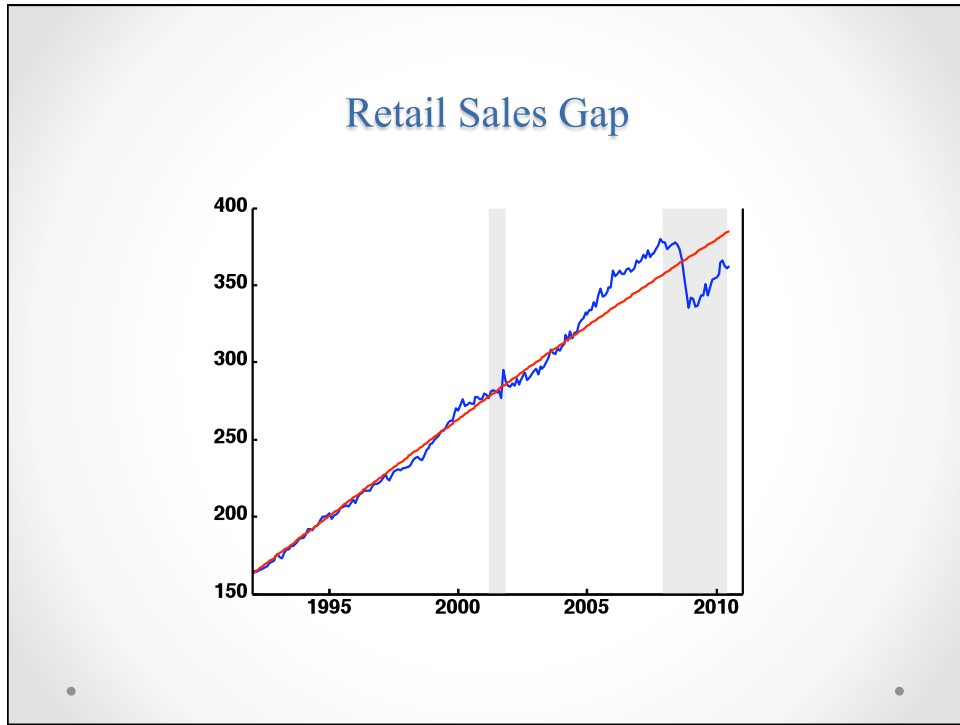
## State Tax Portfolios



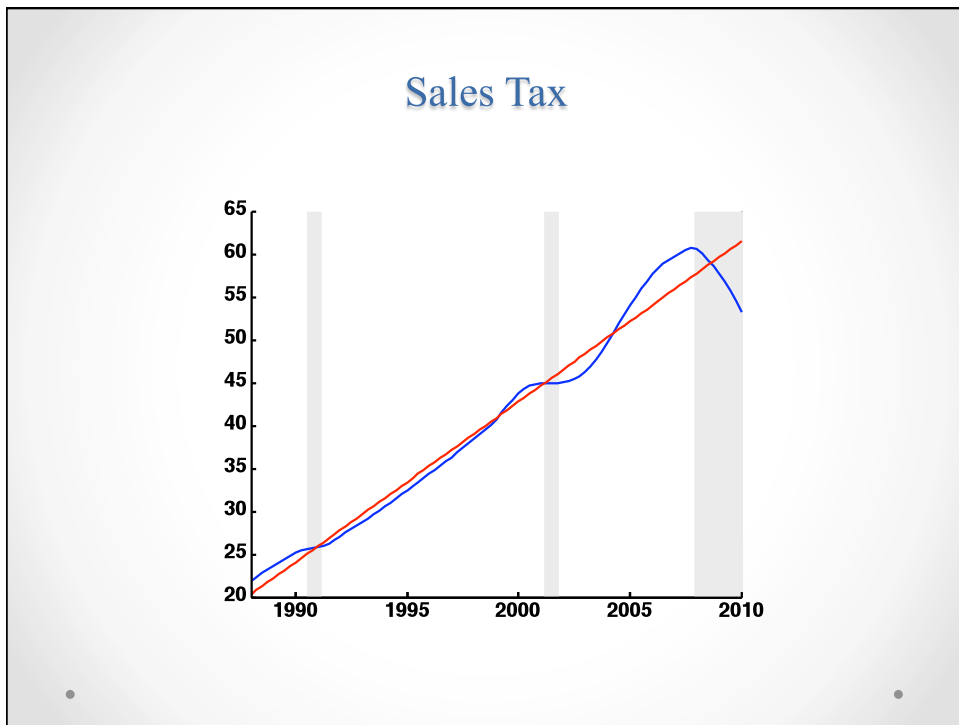
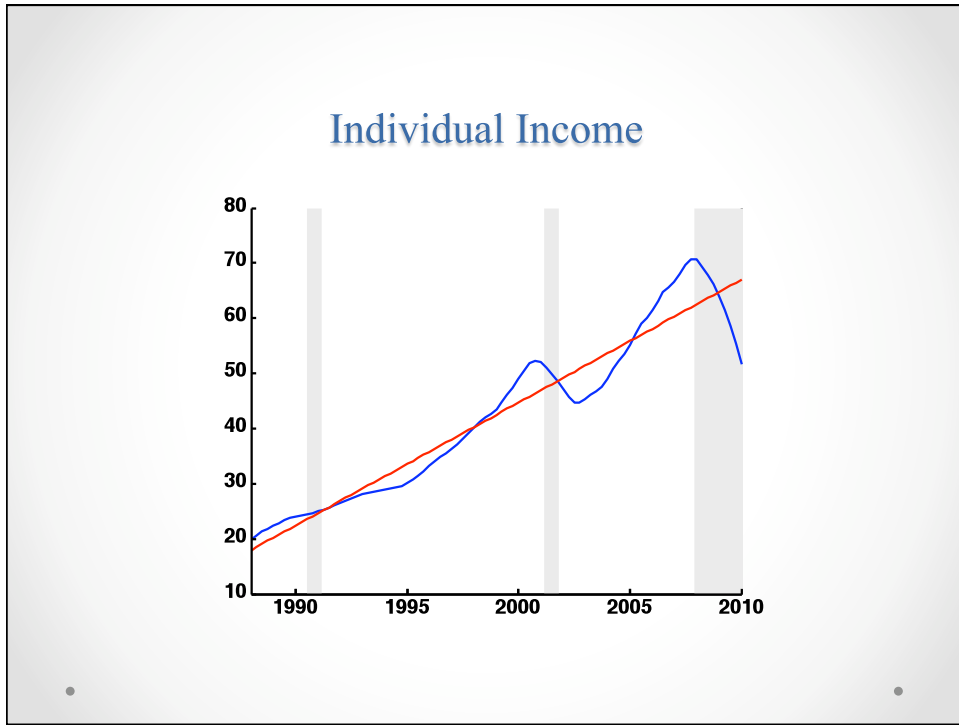
## Tax Revenue Efficiency Frontier











## Summary and Conclusions

- Severity
- Duration
- Origin
- Employment
- Revenue