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Forecasting in Times of Increased Volatility

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September 17, 2015

THE
CENTER
FOR
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AND
LOCAL
FINANCE

Dr. Laura Wheeler

Forecasting in Times of Increased Volatility



What Makes a Good Forecast?

Accuracy

Timing

Assessment of Risk



Accuracy in Forecasts

Actual receipts vs. forecasted receipts

Overestimates vs. underestimates

Measure and size of bias



Timing of Receipts

Forecast on a quarterly basis, convert to monthly estimates

Adjust for seasonal differences

Payment of tax liabilities vs. county receipts



Assessment of Risk

Confidence in forecasted values

Sensitivity analysis

Matching revenues to expenditures based on risk assessment



Why volatility is a problem?

Most economic forecasts are based on historical patterns and recent trends

Difficult to match volatility of receipts with volatility of expenditures



Sources of Revenue Volatility

Changes in economic conditions

Legislative changes to the tax base

Changes in consumption patterns



Strategies for Dealing with Increased Volatility

Forecast major revenue sources separately

Pay attention to timing of receipts

Update forecasts often

Analyze past forecasting errors

Talk with local business leaders



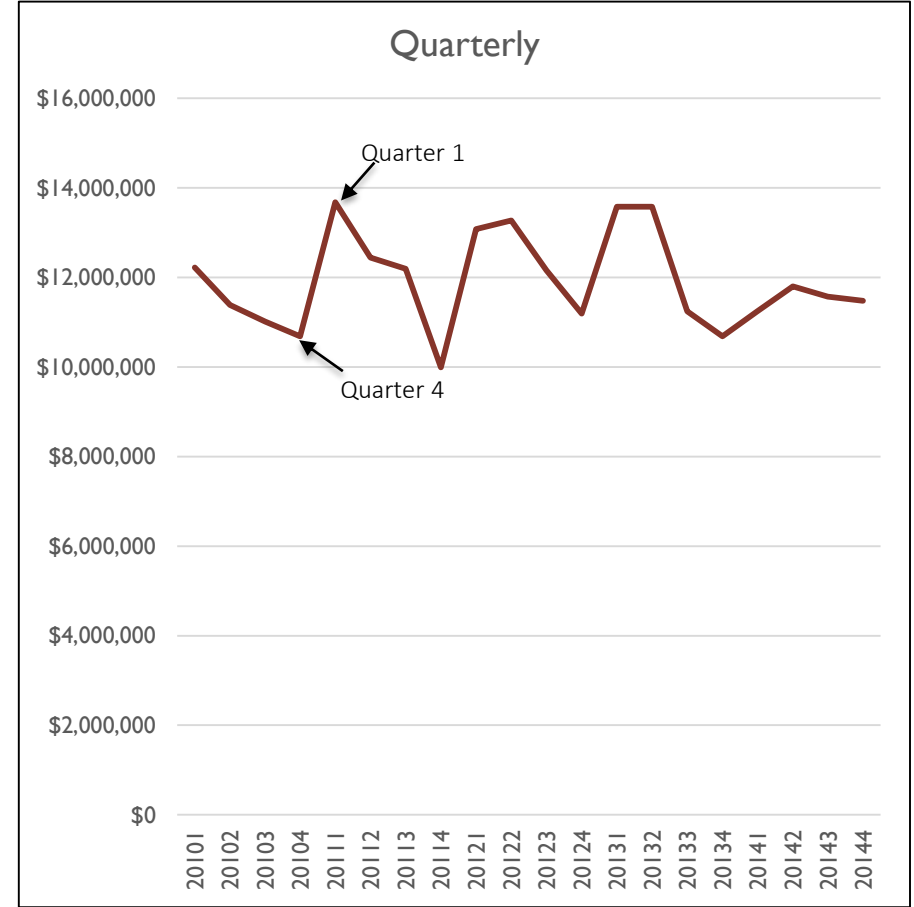
Volatility in Sales Tax Revenues

Monthly variation in revenues

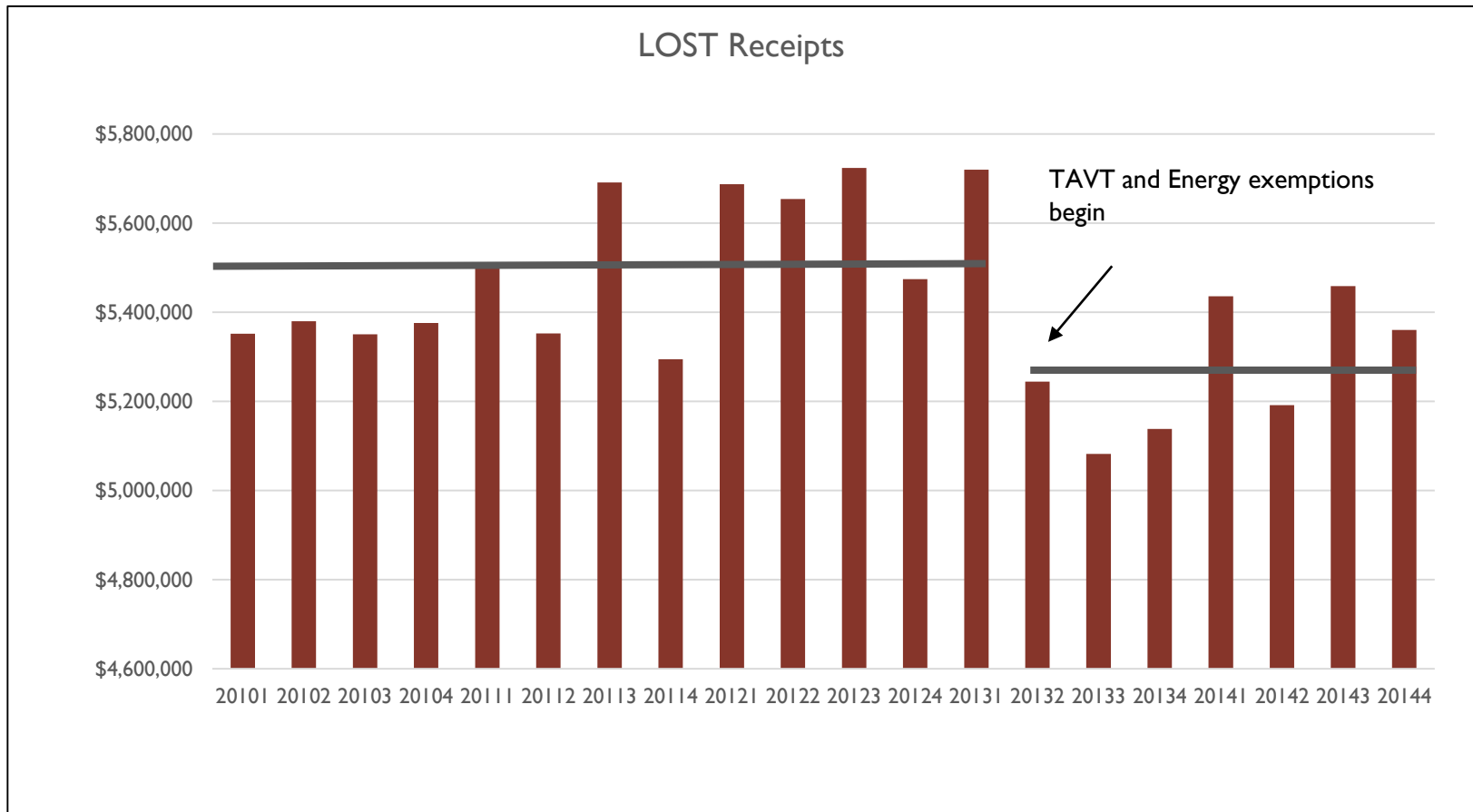
Legislative changes in base

Changes in consumption patterns over time

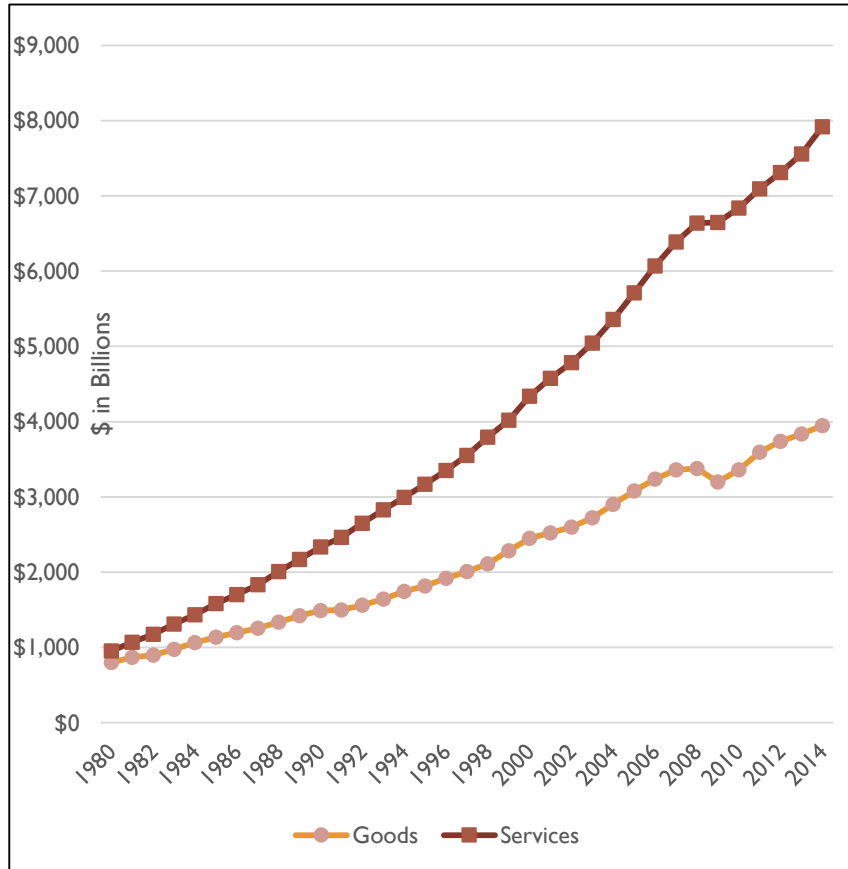
Monthly vs Quarterly Variation



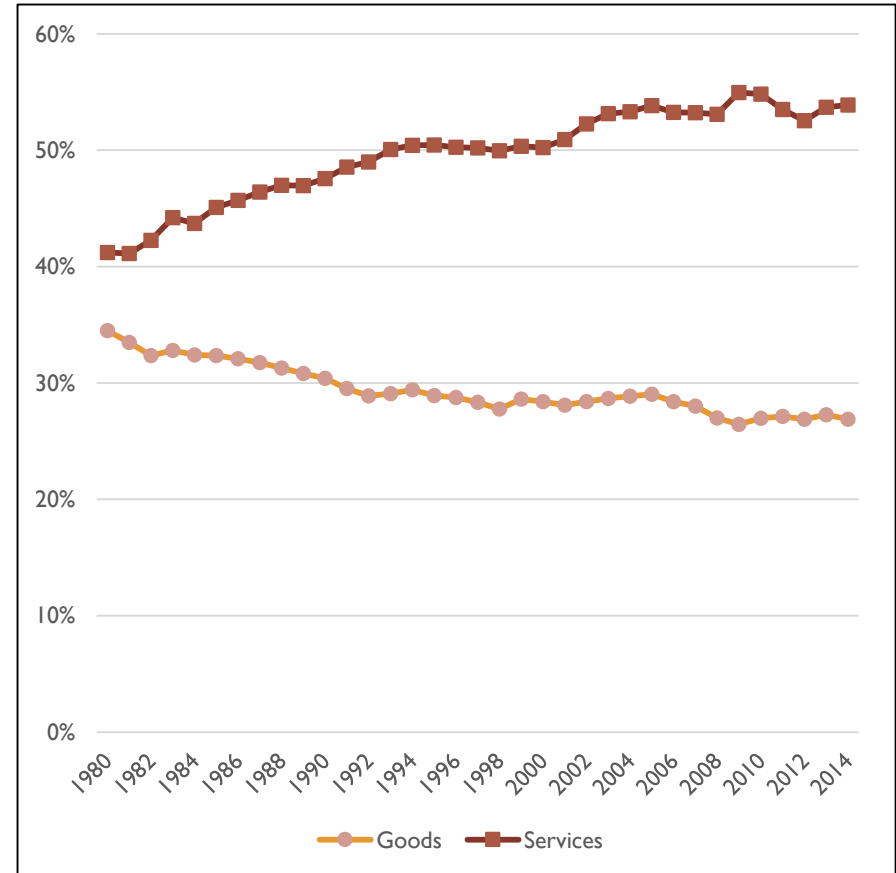
Elimination of Sales Tax on MV and Energy Used in Agriculture and Manufacturing



U.S. Consumption in Goods and Services, 1980-2014



U.S. Consumption in Goods and Services per \$ of Personal Income, 1980-2014





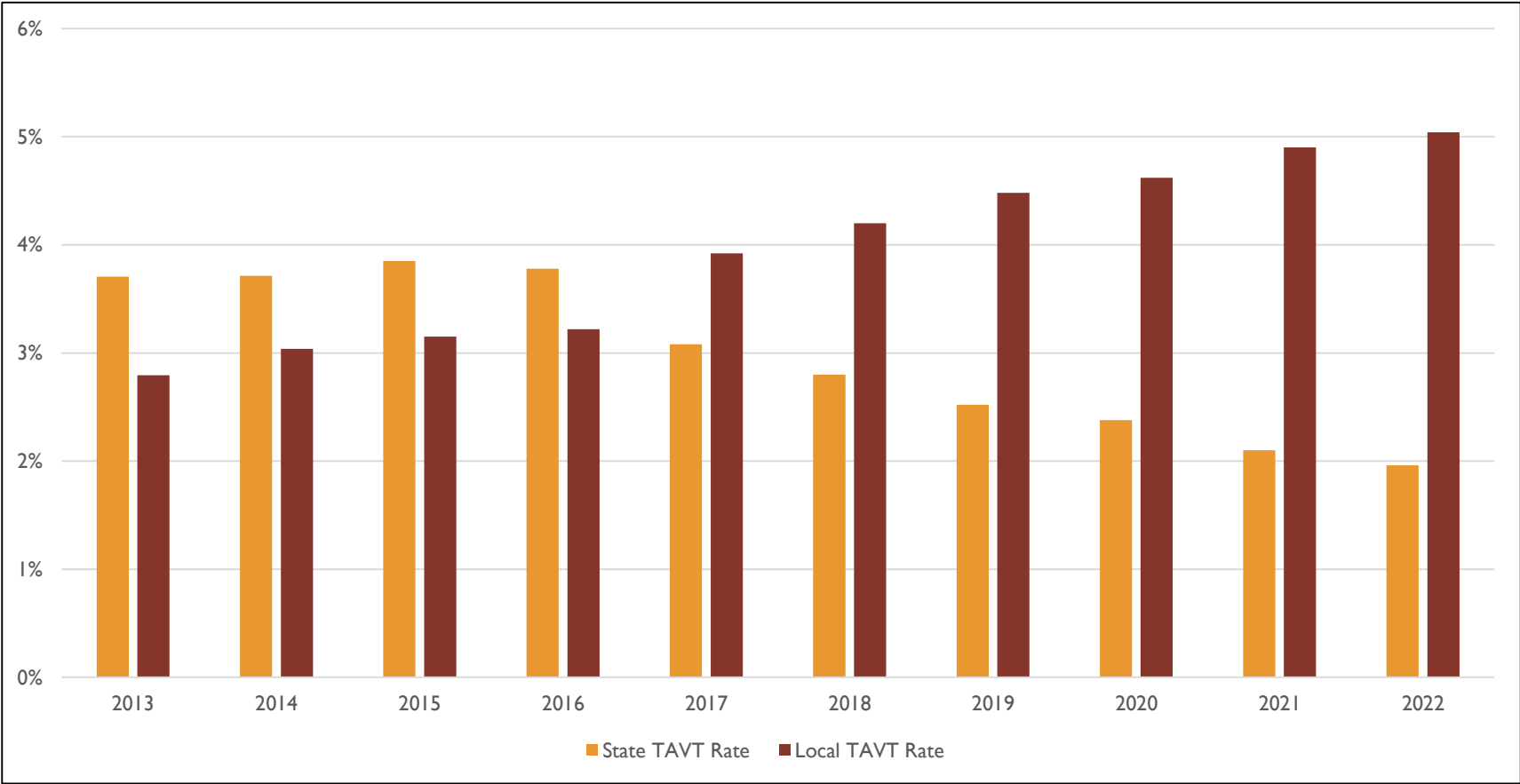
Volatility in TAVT Revenues

Annual effective tax rate changes

Annual reviews of revenues against revenue targets with the potential for rate and share adjustments

Cyclical nature of vehicle purchases

State and Local TAVT Rates





Complexity of TAVT

Forecast also depends on rate of decline of property taxes from motor vehicles

Review of state revenue collections in CY2015, CY2018, CY2022

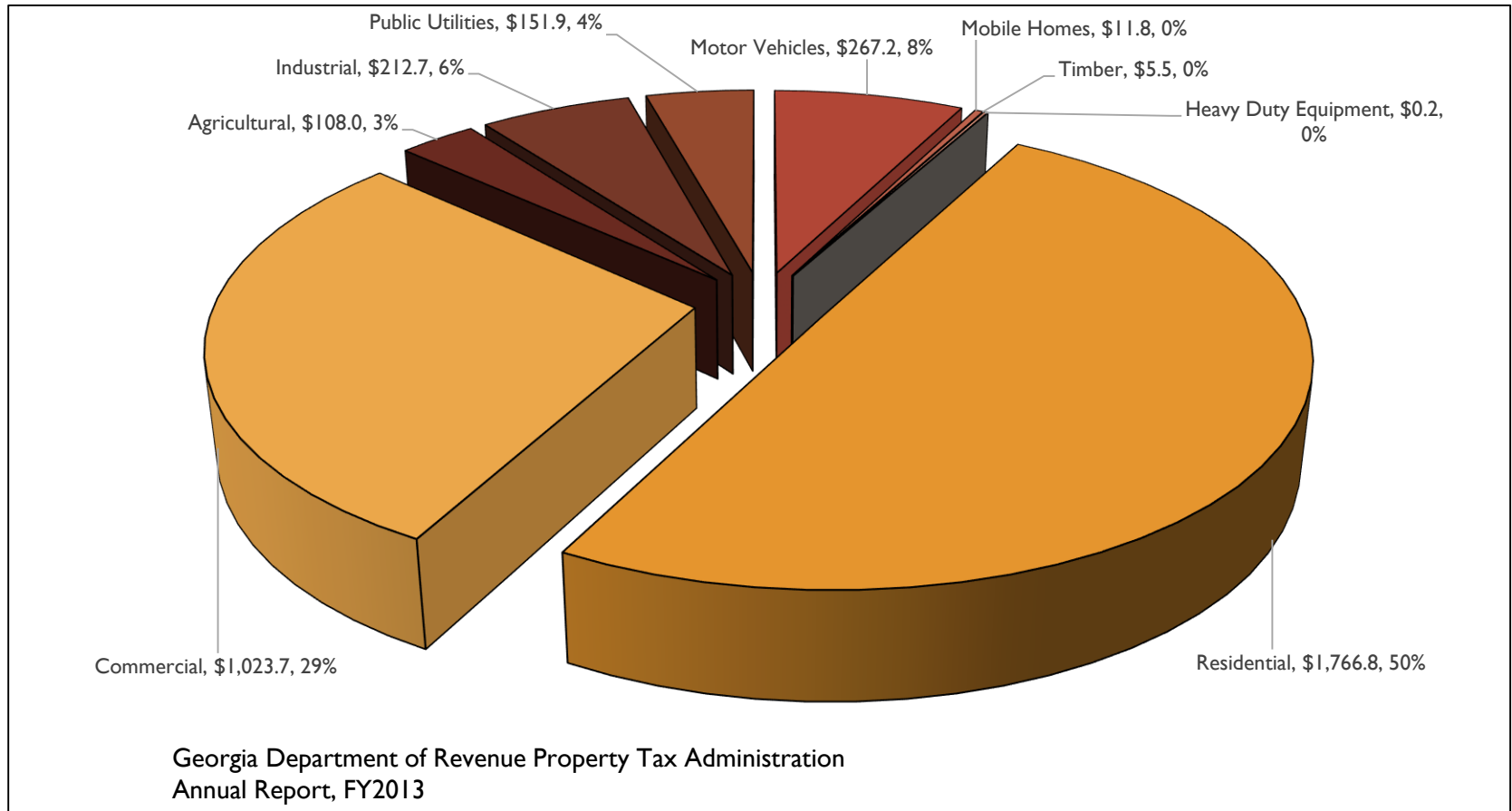
Annual review of local revenue collections beginning CY2016-CY2022



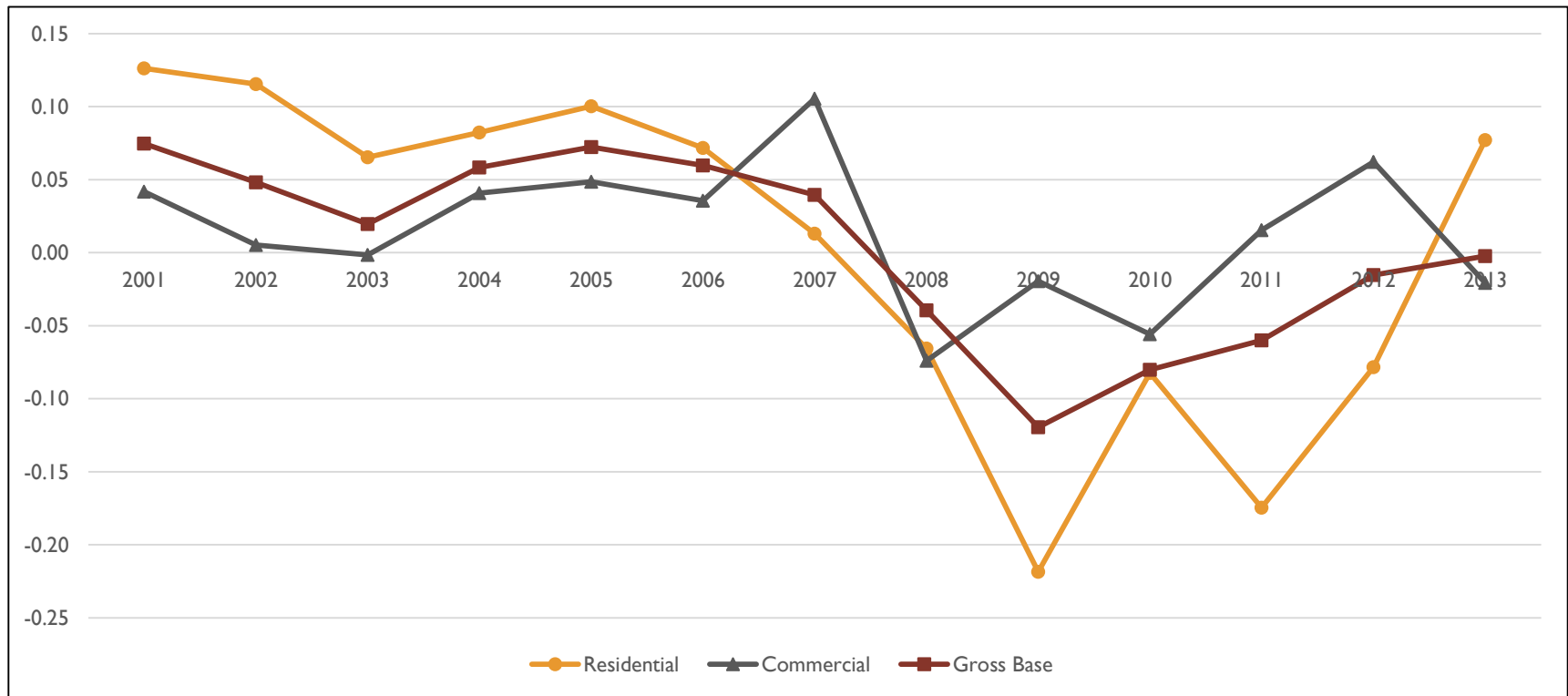
Volatility in Property Tax Revenues


Different types of property in the tax base
Presence of foreclosures and short sales
Modifications to the appeal process

County Property Tax Revenue by Property Class



Growth Rates in Assessed Value by Property Class





Are forecasts useful to policymakers and to the policy making process?

Informed estimation is better than uninformed estimation.

Even though forecasts are subject to margins of error, they have the ability to guide policy makers.



It's tough to make predictions, especially about
the future.

(Yogi Berra)

izquotes.com



Thank You
and
Happy Forecasting!!