The Limits of Economic Data And Forecasts for State Revenue Projections

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The Canonical View of Revenue Projections (for a "large" diverse state)

- Economists produce a forecast for the state.
- The forecast is detailed enough to project the growth of the bases for various revenue items (income tax, sales tax, corporate tax, various excise taxes, etc.).
- Models have been estimated that allow revenue projectors to plug in the forecast base figures to come up with the anticipated amounts.
- Of course, there are the obvious discussions about the details of the forecast and revenue models.
  - Enough wiggle-room to permit alternative views, which leads to the pleas for "consensus forecasts."

New Jersey Revenues, FY14

Item	Billions of Dollars	Percent of Total
Income Tax	12.312	38.8
Corporate Tax	2.101	6.6
Sales Tax	8.640	27.3
Lottery	.965	3.0
Transfer Inheritance Taxes	.687	2.2
Casinos	.208	.7
Total (including items not detailed)	31.699	

The Reality

- There is no meaningful technical way to produce forecasts of large state revenues that allows for more than a broad brush view.
- The true margins of error are extraordinarily large.
- The implication is that to avoid revenue crises, states should, ideally, rethink important aspects of their budgeting practices.

The Data Problems

- The U.S. statistical system produces no useful timely data on state economies other than the monthly payroll counts (and the QCEW numbers on aggregate wages).
- Everything else of substance is really extrapolation of the wage numbers, or based on detailed tax information.
  - The latter is clearly of little use for estimating current activity and revenues!
- Initial estimates of "State GDP" are largely allocations of national industry outputs by the distribution of wages.
  - Estimates can produce absurdities, such as the early reports of a 2011 plunge in NJ's "real estate output."
  - Very hard to understand the rationale for "quarterly state GDP" estimates.
    - The national quarterly industry figures will be weaker than the annual ones.
- "State consumption" is even weaker.
  - Spending on many items is allocated across states by the estimates of wages paid in various retail outlets!
- Housing permit data is also available, but this covers a fairly small part of economic activity and state revenue bases.
- Essentially, state economic forecasts are little more than fairly crude interpolations from national outlooks.
  - For states with very narrow industrial bases, such forecasts may have fair accuracy. Hard to see that they can be very reliable for more diverse states.

The Revenue Estimation Problems

- States are always changing the details of their tax systems.
- This means the sample size for estimating any sort of relationship (traditional structural models, pure time series, etc.) is going to be limited, implying substantial errors in out of sample forecasts.
- Worse, even if one believes the sample size is adequate, there is often simply no data to estimate relationships of key interest.
- This is pretty clearly true for corporate taxes: state corporate tax bases are highly idiosyncratic, and hard to square with any sort of macro data.

Income Tax Problems

- Likely, nobody will really claim to have a good handle on state corporate taxes. Are income taxes (usually much larger) more manageable?
- Not really.
  - A fundamental problem is that income tax bases usually include capital gains realizations. The statistical system does not have data on these. State have no reliable way to know how much will be coming in from this source until April 15 (which for most states, is close to the end of the fiscal year).
  - This problem is worse for states with very unequal income distributions (eg., NY, CT) or very progressive income tax structures (eg., NJ, CA).
  - NJ note: The state's revenue shortfalls really have stemmed from this factor, not unexpectedly slow economic growth (likewise, windfalls haven't reflected surprisingly good activity).

New Jersey Marginal Income Tax Rates

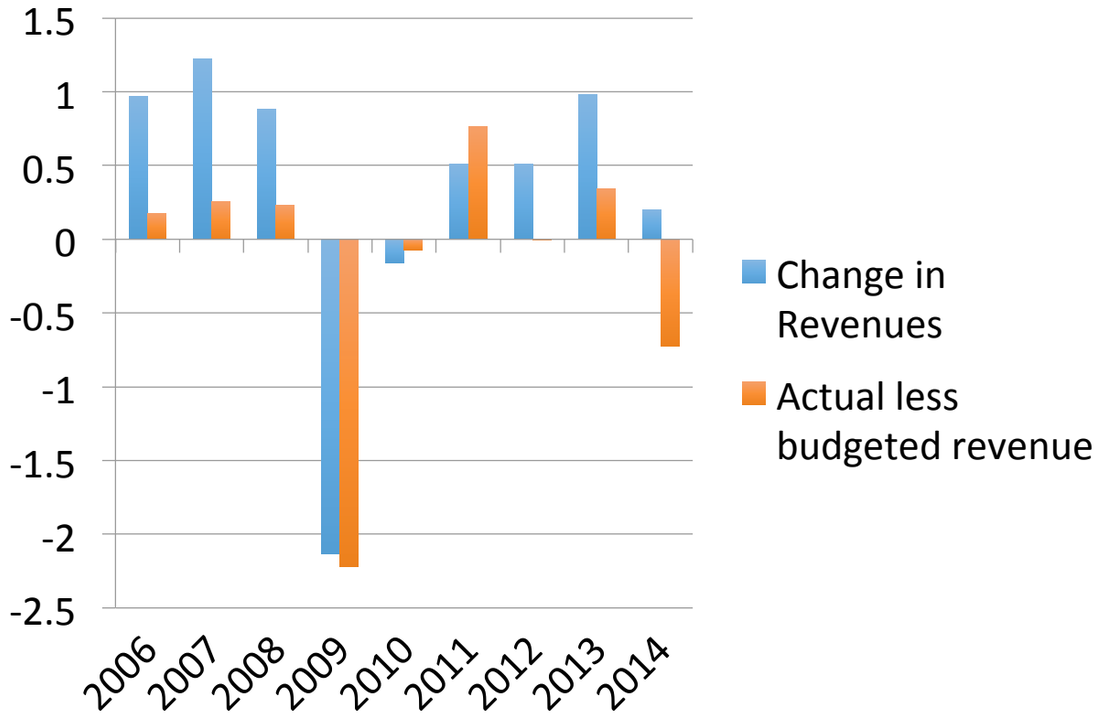
Taxable Income	
Under $20,000	1.4%
$20,000-$50,000	1.75%
$50,000-$70,000	2.45%
$70,000-$80,000	3.5%
$80,000-$150,000	5.525%
$150,000-$500,000	6.37%
Over $500,000	8.97%

In 2009 there was a temporary boost to the top bracket. There are continual proposals to reinstate and make permanent a boost to the top end.

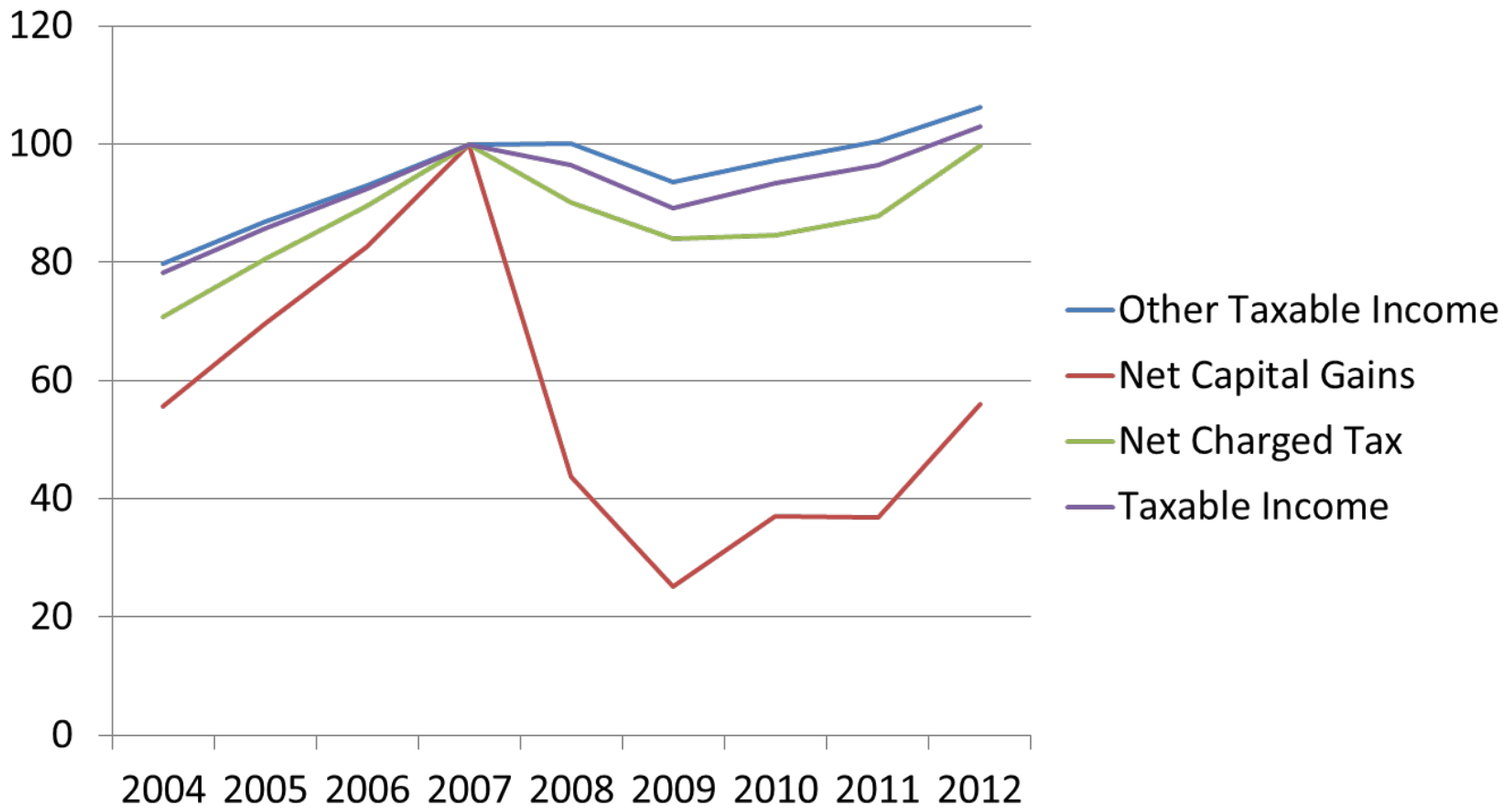
2012 Capital Gains Shares of Federal AGI

National	6.72%
New Jersey	4.86
New York	10.66
Connecticut	8.26

New Jersey Income Tax Revenues by Fiscal Year (billions of dollars)



New Jersey Taxable Income and Tax Liabilities (2007=100) (full-year residents)



2009 Net Charged Tax boosted by temporary tax increase for that year.

Sales Tax Not Exempt from these Problems

- As noted, the “consumption” data now being provided is not really consumer spending, or usual sales tax bases (not to mention that B to B spending is often taxable).
- The data also lags.
- Early work suggests the connection between the consumption numbers and NJ sales tax revenue hasn’t been all that accurate.

Percentage Growth in New Jersey Sales Tax and Base Proxies (fiscal year)

	Sales Tax Revenue	NJ Consumption Subaggregate	Retail Sales Tax Base	Aggregate Sales Tax Base
1999	6.0	7.6	7.1	6.8
2000	9.0	7.6	7.5	6.0
2001	4.5	5.6	6.0	4.8
2002	2.5	6.0	5.4	4.9
2003	-1.0	7.2	5.7	4.8
2004	5.1	5.0	5.1	4.0
2005	4.5	3.2	4.0	4.2
2006	4.0	3.4	2.1	3.7
2007	5.0	1.9	1.4	4.8
2008	2.6	-2.0	-1.4	1.5
2009	-8.0	-5.0	-5.4	-4.6
2010	-2.6	-1.3	-2.6	-2.3
2011	3.2	4.1	4.1	5.0
2012	3.9	4.4	4.0	4.3

Actual and Predicted Growth in NJ Consumption Subaggregate

Remedies

- Better data?
  - Very expensive proposition for states to do on their own, and also doesn't eliminate the problem that tax laws frequently change.
  - Efforts to collect better national data on capital gains realizations likely to be helpful, if it can be done.
- Shifting fiscal years.
  - NY starts its fiscal year on April 1—means there is a long time to deal with a bad April surprise.
  - A two-year fiscal cycle may also aid in dealing with these issues.
- Higher cash reserves.
  - An obvious need in the light of inherent revenue volatility and unpredictability.
  - But…
    - Once used, a reserve needs to be rebuilt (CT is coping with this now: reserve was dissipated in 2014).

The Role of the Forecasters

- Humility is always desirable.
- A major problem could be the desire for precise point estimates.
  - This suggests that the figures are either “science” (excess faith in them, especially if they are accompanied by many tables and charts) or ”manipulated” (fancy tables and charts can be seen cynically).
- Consensus forecasts?
  - Supposedly, given all these difficulties, having a group, including “disinterested” parties, issue the official revenue estimates will sidestep some problems. Labelled “best practice.”
  - Perhaps. But can give a deceptive gloss to the numbers. (Kansas does “best practice” revenue estimation).