



Institute for Economic Research

108 John Pappajohn Business Building, W362
Iowa City, IA 52242-1000
Phone: 319-335-0865
Fax: 319-335-1956

To: Revenue Estimating Conference: Holly Lyons, David Roderer, David Underwood
Cc: Joel Lunde
From: Charles Whiteman
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Subject: Revenue Predictions

Table 1. Iowa Accrued Revenue Growth Forecasts, %

<i>Loss Factor</i>	<i>FY12</i>	<i>FY13</i>	<i>FY14</i>	<i>FY15</i>	<i>FY16</i>
1	3.9	6.2	4.8	4.4	4.5
2	3.0	5.0	3.5	3.2	3.2
3	2.6	4.3	2.8	2.4	2.5
4	2.2	3.8	2.3	1.9	2.0
5	2.0	3.5	2.0	1.5	1.6
6	1.8	3.2	1.7	1.2	1.3
7	1.6	2.9	1.5	1.0	1.1
8	1.5	2.7	1.3	0.7	0.9
9	1.4	2.5	1.1	0.6	0.7
10	1.3	2.4	0.9	0.4	0.5

The tables indicate optimal forecasts corresponding to a loss function in which a deficit is regarded as being n times as costly as a surplus, dollar-for-dollar. The first column indicates the values of n . Entries are percentages. As n increases, the forecasts become more conservative. The revenue forecasts were made using a Bayesian autoregressive model for total receipts and personal income. The model exploits contemporaneous and dynamic correlations among quarterly income and monthly revenue data. The revenue data used for fiscal year 2012 include receipts through September 2011; the income data are through the second quarter of calendar year 2011, the most recent quarter available.

The new revenue forecast is for growth in Total Receipts, on a cash basis, which currently stand at \$1,622,658 through September, and builds on the most recent *Iowa Economic Forecast*, which can be found at the Institute website <http://www.biz.uiowa.edu/economics/econinst/>.

Beginning in fiscal year 2012, the first \$106 million in Cigarette and Tobacco tax receipts go into the Health Care Trust Fund rather than the General Fund. To account for this, the forecasts in the table were initially made for total receipts inclusive of Cigarette and Tobacco taxes, and then \$106 was netted out annually. This approach has two positive features: 1) it makes use of the information in

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Cigarette and Tobacco tax receipts regarding economic conditions, and 2) it avoids mistaking the legislated decline in banked receipts early in the fiscal year for an economic decline.

I regard the forecasts for FY2012 and FY2013 as relatively strong. (Without the Cigarette and Tobacco tax diversion, median predicted revenue growth in FY2012 would have been 5.5%.) This strength can be traced to the recent growth in personal income in Iowa. In late September, the U.S. Commerce Department released revised personal income data through the first quarter of 2011, as well as the first indication of personal income for the second quarter of 2011. These new statistics indicate that personal income grew by more than 7% (annualized) in each of the first two quarters of the year relative to the same periods a year earlier. This is the strongest personal income growth Iowa has seen since the onset (in Iowa) of the recent recession. It also produces relatively strong revenue growth predictions, as the model used by the Institute is responsive to recent income and revenue data. The tables suggest that a prudent forecast for FY2012 is in the 2.6-3.9% range, while one for FY2013 is in the 4-6% range.

General Economic Outlook

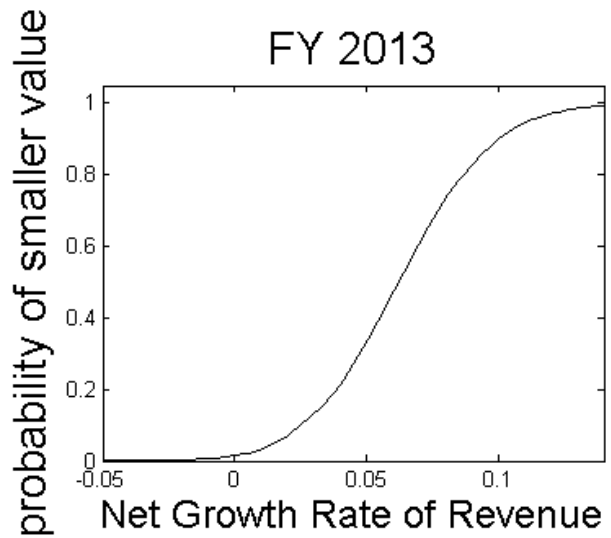
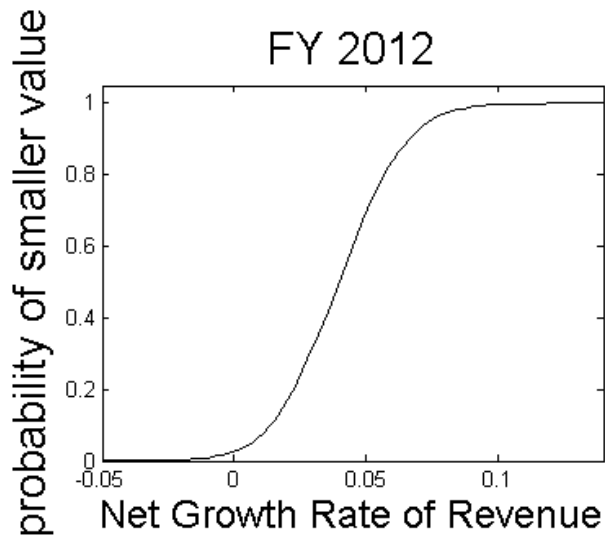
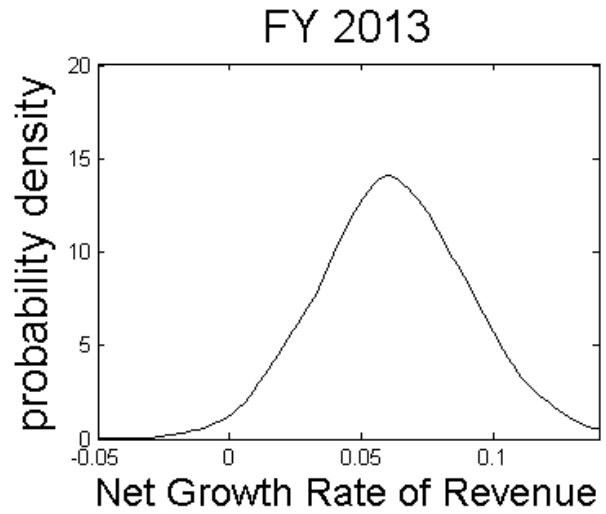
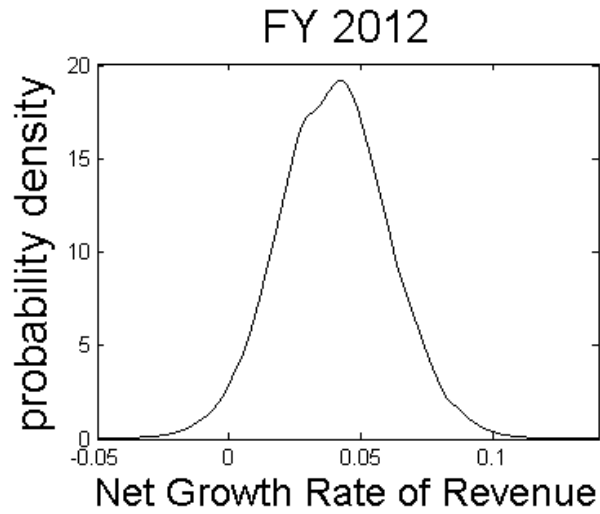
The consensus forecast published in the Blue Chip Economic Indicators (October 10th, 2011) is for **real GDP** growth of 1.7% in 2011 (down from 1.8% in August 2011) and for 2.0% growth in 2012 (up from 1.8% in August). The Blue Chip consensus forecast is for a 2011 **unemployment rate** of 9.1% (down from 9.0% in August) and a 2012 unemployment rate of 9.0% (up from 8.7% in August). The **Consumer Price Index** is predicted to increase by 3.1% in 2011 (up from 3.0% in August) and by 2.2% in 2012 (unchanged from August). The **GDP Deflator** is predicted to increase by 2.1% in 2011 (unchanged from August) and by 1.8% in 2012 (down from 1.9% in August).

The Institute for Economic Research income forecasts are based on the data through the second quarter of 2011 for the state and the nation. **Personal Income in Iowa** is expected to grow by 6.4% in 2011 (up from 4.2% in July), 2.9% in 2012 (up from 2.8% in July), and 2.8% in 2013. The forecast for **Real Personal Income** growth (personal income growth adjusted for inflation) is 4.2% in 2011 (up from 2.4% in July), 0.8% in 2012 (down from 1.4% in July), and 1.5% in 2013 (down from 1.9% in July).

Our **employment growth** forecast for 2011 (based on the data through July 2011 for the state and September 2011 for the nation) is 1.1% (down from 1.2% in July), and for 2012, the employment growth forecast is 1.4%, down from 1.5% in July

Interpreting “Loss Ratio” forecasts: The usual assessment device for the quality of an economic forecast is squared error or “quadratic” loss. This penalizes positive and negative forecast errors equally, at a rate that rises rapidly (as the square) with the size of the forecast error. The best prediction under such a loss function is the mean. If a dollar of deficit is regarded as (say) 3 times as costly as a dollar of surplus, and the costs rise at a constant rate with the size of the forecast error, the loss function is “asymmetric” and linear. The table indicates optimal forecasts under various loss factors (deficits are “loss factor” times as costly as surpluses).

Likely Growth in Iowa Tax Revenue



Mean: 4.0%
Standard Deviation: 2.1%

Mean: 6.2%
Standard Deviation: 2.9%