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REVENUE FORECASTING METHODOLOGY

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Discussion of the Forecast

The economic forecast underlying this revenue forecast was released by IHS Global Insight on December 7, 2009. Indiana personal income is forecasted to increase by 0.7% in FY 2010 and by 3.2% in FY 2011. However, the growth in FY 2010 is entirely attributable to increases in government transfer payments to individuals. Excluding those transfer payments, Indiana income is forecasted to decline by 1.9% in FY 2010. Indiana personal income net of government transfer payments is forecasted to increase by 3.4% in FY 2011. Wage and salary disbursements to Indiana workers are forecasted to decline by 2.7% in FY 2010 before increasing by 2.8% in FY 2011.

At the national level, real GDP is forecasted to increase by 0.3% in FY 2010 and by 2.5% in FY 2011. Savings by individuals, which increased by nearly 100% in FY 2009, is expected to increase another 16.2% in FY 2010 before falling by 12.3% in FY 2011. Corporate profits are forecasted to rebound strongly with increases of 10.8% in FY 2010 and 5.9% in FY 2011. However, corporate profits reported for the purposes of the National Income and Product Accounts represent profits as measured for financial reporting purposes and differ from net income reported for income tax purposes. During recessionary periods, net income reported for income tax purposes falls below corporate profits as businesses utilize net operating losses and other tax provisions to lower their tax liabilities. The stock market, as measured by the S&P 500 is expected to rebound in FY 2010 and FY 2011, but remain below its level of FY 2006.

Damaged household balance sheets, subdued consumer confidence, and tight credit conditions have led consumers to sharply reduce spending and increase savings. A dramatic reduction in the values of investment portfolios has resulted in sharp reductions in estimated individual income

tax payments. And, the gap between corporate profits and net income reported for tax purposes appears to be widening. The Committee's major challenges this forecast were to find statistical methods and equations that adequately capture these dynamics.

Discussion of the Equations Used in the Forecast

Sales Tax

As of November 2009, sales tax revenues have been below prior year amounts for the twelfth consecutive month. Year to date sales tax revenues are 9.7% below prior year. The Committee determined that earned income and transfer payment income drive sales tax differently. In this economic recession, transfer payments as a percentage of Indiana Personal Income have reached a historic high. Transfer payments include unemployment insurance, food stamps, Medicare, Medicaid, retirement and disability insurance benefits. The Committee concluded that transfer payments are largely spent on items which are not subject to sales taxes, and that the large increases in transfer payments cause equations using total Indiana Personal Income to over-forecast sales tax revenues.

The Committee also examined another development of the economic contraction: consumers increased savings behavior. The dramatic increase in savings results in a lower portion of income available for consumption. Including personal savings in the model serves as a proxy variable for the increased propensity to save.

The model used by the Committee is replicated as Equation (1) below. Since this is a model that uses sales tax in its log form, it was converted to dollar levels by taking the exponential and multiplying it by an adjustment factor.

Equation (1): Sales Tax Base = (0.999 * (EXP (.2626 + (0.9479 * LN (IPI Net of Transfers)) - (0.0568 * LN (Personal Savings))) + Adjustments

Individual Income Tax

Estimated tax payments continue to create a drag on the recovery of income tax revenue. In April 2009, individual income tax revenues were 30.6% lower than in April 2008. Second quarter estimated payments decreased $236.9 million or 54.5% from calendar year 2009 to 2010. The Committee determined that the income tax forecast should be derived using two separate economic models to account for the fact that estimated payments react differently to business cycles than withholdings and final payments. The selected models use quarterly data instead of fiscal year data to more accurately capture the depth of the current recession.

The Committee employed a model forecasting estimated payments containing a two quarter lagged value of the S&P index, nominal GDP growth over the same quarter in the previous year, estimated payments lagged four quarters, and a binary variable for the second and fourth quarter. The equation is replicated as Equation (2a), below.

Quarterly individual income tax revenues, net of estimated tax payments, were forecast using a model with the level of total Indiana Wage and Salary disbursements and a binary variable for

the fourth quarter to account for seasonal increases associated with the April 15 filing date. The equation is described below in Equation (2b).

Equation (2):	Individual Income Tax = Quarterly Estimated Payments + Quarterly Withholding
Equation (2a):	Quarterly Estimated Payments = -52.2009 + (0.0889 * (S&P Index $_{t-2}$)) + (722.0959 * (Percent Change in Prior Year Same Quarter Nominal GDP)) + (0.5431 * (Adjusted Estimated Payments $_{t-4}$)) + (50.8477 if Q =2) - (68.0623 if Q = 4) + Adjustments
Equation (2b):	Quarterly Withholding = -60.3459 + (0.0084* (IN Wage & Salary Disbursements)) + (281.9389 when FY Q4) + Adjustments

Corporate Income Tax

The decline of corporate income tax revenue has accelerated from 10.8% in FY 2009 to 26.3% through the first five months of FY 2010. In prior forecasts, the model employed by the committee was driven by the National Income and Product Accounts corporate profits, which represent profits as reported on financial statements. In an economic contraction, this measure differs significantly from net income for corporate income tax purposes. The model employed by the Committee incorporates an adjustment to account for differences between taxable income and profits as reported on financial statements. The equation employed by the Committee is replicated as Equation (3). Revenues from the Utility Receipts Tax, the Utility Services Use Tax, and the Financial Institutions Tax were forecast separately and the results of Equation (3) adjusted accordingly.

Equation (3): Corporate Income Tax Base = (-267.92 + 5.599 (Corporate Profits* FY Net Income/Book Income Adjustment Factor))

Equation (3a): CY Net Income/Book Income Adjustment Factor = 0.63 + 6.68 * (Percent Change in CY GDP) + 5.26 * (Percent Change in prior year CY GDP) + (0.22 if Year = 2005)

For FY10, the Net Income/Book Income Adjustment Factor is 56.05% and for FY11 is 78.93%.

Cigarette & Tobacco Products Tax

The Committee adopted two equations to estimate the Cigarette Tax and Tobacco Products Tax. Cigarette Sales, measured in packs of 20, depend upon fiscal year real Indiana Personal Income (RFY_IPI), an estimate of the sum of the four surrounding states' real prices (RALLPRICE), the real Indiana price (RINPRICE), the real cigarette excise tax rate (CIGRATE), and a trend variable equal to the fiscal year forecast minus 1965 (TREND). Tobacco Product sales are estimated based on fiscal year real Indiana Personal Income (RFY_IPI), a price index for tobacco products (PRICE), the excise tax on tobacco products (TOBRATE), and the trend variable (TREND). The sales, income, and price variables are expressed in natural logarithms. The tobacco product excise tax is not in natural logarithm form.

Equation (4): Cigarette Sales = -2.77 + 0.862 (RFY_IPI) + 0.183 (ALLPRICE)
- 0.783(RINPRICE) - 0.102 (CIGRATE) – 0.029 (TREND)

Equation 4(a): Gross Cigarette Tax = 0.995 (Cigarette Sales)

Equation (5): Tobacco Product Sales = -16.996 +1.727 (RFY_NFIPI) - 0.215 (PRICE)
- 0.013 (TOBRATE) + 0.027 (TREND)

Equation (5a): Tobacco Products Tax = 0.24 (Tobacco Products Sales)

Alcoholic Beverage Taxes

The alcoholic beverage tax model includes three equations: one for beer, one for liquor, and one for wine. All three equations include fiscal year real Indiana Personal Income (RFY_IPI), the real beverage price (BPRICE, LPRICE, WPRICE), and the lagged sales of the beverage in gallons (BLAGSALE, LLAGSALE, WLAGSALE). The beer equation has a trend variable (TREND). The liquor equation includes a trend variable (TREND), a dummy variable for 1991 and years after (D91), a variable which takes the trend variable multiplied by D91 (TRENDD91), and the square of the TRENDD91 variable (TRENDD912). The wine equation includes a dummy variable for 1987 (DUM 87) and years after multiplied by the log of real Indiana Personal Income (D87_RFY_IPI). For all equations, the income and price variables were adjusted by the Gross Domestic Product price deflator. The sales and income variables are expressed in terms of natural logarithms. The price, trend, and dummy variables are not in natural logarithms.

Equation (6): Beer sales = -0.371 + 0.903 (LAGSALE) + 0.152 (RFY_IPI)
- 0.035 (BPRICE) - 0.004(TREND)

Equation (6a): Beer tax = 0.115(Beer sales)

Equation (7): Liquor sales = 0.248 + 0.339(LAGSALE) + 0.583 (RFY_IPI)
- 0.056(LPRICE) - 0.029(TREND) – 0.091 (TRDUM91) + 1.216 (DUM91)
+ 0.002 (TREND912)

Equation (7a): Liquor tax = 2.68(Liquor sales)

Equation (8): Wine sales = -8.430 + 0.499 (LAGSALE) + 1.150 (RFY_IPI)
- 0.116 (WPRICE) – 0.940 (D87_RFY_IPI) + 10.850 (DUM87)

Equation (8a): Wine tax = 0.47(Wine sales)

Gaming Taxes

The Committee adopted separate procedures to estimate the yield from the riverboat wagering tax paid by the state's 11 riverboat casinos and from the slot machine wagering tax paid by the state's two racinos.

The Committee adopted an equation to estimate the adjusted gross wagering receipts of the 11 riverboat casinos, which serves as the tax base for the riverboat wagering tax. The riverboat wagering tax base estimate is then used to compute estimated wagering tax collections from the riverboat casinos. Amounts are subtracted from this result to account for annual distributions to the Indiana Gaming Commission, the West Baden Springs Historic Hotel Preservation and Maintenance Fund, local revenue sharing, and riverboat communities.

The adjusted gross wagering receipts equation uses quarterly adjusted gross wagering receipts (AGR) generated at the riverboat casinos, quarterly nominal Indiana Personal Income (Q_NIPI), and the quarterly turnstile count (Q_TURNSTILE) at the riverboat casinos to account for the impact of market and capacity factors on the wagering tax base. The equation contains a dummy variable (D_FRLICK) to account for the addition of the French Lick Casino and its impact on the riverboat wagering tax base. The equation includes a dummy variable (D_FRWINDS) to account for the competitive impact of the Four Winds Casino on the riverboat wagering tax base. The Four Winds Casino is a tribal casino located in New Buffalo, Michigan, about 20 miles from the Blue Chip Casino in Michigan City, Indiana. The equation includes a dummy variable (D_RACINO) to account for the opening of the slot machine facilities at Hoosier Park and Indiana Downs and their impact on the riverboat wagering tax base. It also includes quarterly dummy variables (D_Q2, D_Q3, and D_Q4) to account for seasonal variation in adjusted gross wagering receipts. The equation chosen is replicated as Equation (9), below.

Equation (9): Q_AGR = -6.787 + 0.721(Q_NIPI) + 0.528(Q_TURNSTILE)
+ 0.030(D_FRLICK) - 0.048(D_FRWINDS) - 0.048(D_RACINO)
- 0.024(D_Q2) – 0.019(D_Q3) – 0.036(D_Q4)

Where Q_TURNSTILE is the actual quarterly turnstile count for the casinos through the 3rd Quarter of 2009 and thereafter is assumed to experience year-over-year growth of 1% during the remainder of FY 2010 and year-over-year growth of 2% during FY 2011.

Where D_FRLICK = 0.67 in 4th Quarter 2006 and 1 in calendar quarters thereafter.

Where D_FRWINDS = 0.67 in 3rd Quarter 2007 and 1 in calendar quarters thereafter.

Where D_RACINO = 0.33 in 2nd Quarter 2008 and 1 in calendar quarters thereafter.

Where D_Q2 = 1 during the 2nd calendar quarter of a year.

Where D_Q3 = 1 during the 3rd calendar quarter of a year.

Where D_Q4 = 1 during the 4th calendar quarter of a year.

The Committee also adopted an estimate of the yield from the slot machine wagering tax paid by the state's two racinos. This estimate is based on the adjusted gross wagering receipts generated at the racinos from July 2009 to November 2009, with the five-month total annualized. The annualized total is assumed for FY 2010, with year-over-year growth of 3.4% assumed for FY 2011. The annual adjusted gross wagering receipts estimate for each racino is then used to compute the yield of the slot machine wagering tax.

SPECIFIC METHODOLOGY
(December 15, 2009)

Sales Tax

For Each Fiscal Year to be Forecast:

1. Multiply 0.947933 by the natural logarithm of the fiscal year Indiana Personal Income Net of Transfers.
2. Add 0.262576 from the results of Step 1.
3. Multiply -0.056839 by the logarithm of the fiscal year personal savings.
4. Add the results of Step 2 and Step 3.
5. Compute the exponential of the result of Step 4. Multiply the result by 0.999880 to obtain the total fiscal year sales tax base.
6. Multiply the results of Step 5 by the sales tax rate (7%).
7. Add 15.8 in FY 2010, and 16.7 in FY 2011 to the result of Step 7 to account for the impact of tax measures enacted in 2004, 2005, 2006, 2007, 2008, and 2009.
8. Multiply the results of Step 8 by 0.99178 to account for the percentage of sales taxes deposited in the General Fund under HEA 1001- 2008.

Individual Income Tax

For Each Fiscal Year to be Forecast:

1. Multiply 0.08886 times the quarterly S&P Index from two quarters prior.
2. Multiply 722.09591 times the nominal GDP growth over same quarter previous year.
3. Multiply 0.54308 times Quarterly Adjusted Estimated Payments from four quarters prior.
4. Add the results of Steps 1, Step 2, and Step 3.
5. Subtract 52.20085 from the results of Step 4.
6. Add 50.84765 to Step 5 if Fiscal Year Quarter 2.
7. Subtract 68.0623 to Step 6 if Fiscal Year Quarter 4.
8. Multiply 0.00841 times Indiana Wage and Salary Disbursements.
9. Add 281.93885 to Step 8 if Fiscal Year Quarter 4.
10. Subtract 60.34588 from Step 9.
11. Add the results from Step 7 and Step 10.

12. Repeat Steps 1 through 11 to account for each quarter in the Fiscal Year.

13. Subtract 315.2 for FY 2010, and 292.0 for FY 2011 from the results of Step 4 to account for tax measures enacted in 1997, 1999, 2002, 2005, 2006, 2007, and 2008.

14. Subtract 233.7 for FY 2010 and 73.4 in FY 2011 from the results of Step 5 to account for the impacts of local income tax distributions.

Corporate Income Tax
For Each Fiscal Year to be Forecast:

1. For FY10 multiply Fiscal Year Corporate Profits by 56.05%. For FY11 multiply profits by 78.93% to account for the Net Income/Book Income Adjustment.

2. Multiply the result in Step 1 by 5.599.

3. Subtract 267.92 from the result of Step 2.

4. Multiply the results of Step 3 by the tax rate (8.5%).

5. Subtract 31.5 from the results of Step 4 to account for the impact of changes to the Research and Development Expense Credit contained in HEA 1001-2002ss.

6. In FY10, add 212.3 to the result of Step 5 and in FY 11 add 215.3 to the result to account for the revenues from the Utility Receipts Tax.

7. In FY10, add 12.0 to the result of Step 6 and in FY11 add 12.9 to the result to account for the revenues from the Utility Service Use Tax.

8. In FY2011, Add 10.0 to the results of Step 7 to account for General Fund impact from the Financial Institutions Tax.

9. Subtract 2.5 for FY 2010 and 12.1 for FY 2011 to the results of Step 8 to account for tax measures enacted in 2005, 2006, 2007, 2008, and 2009.

10. Add 11.2 for FY 2010, and 11.5 for FY2011 to the results of Step 9 to account for the ongoing impact of *Aztar Indiana Gaming Corporation vs. the Indiana Department of State Revenue*.

Cigarette Tax
For Each Fiscal Year to be Forecast:

1. Multiply 0.862 by the logarithm of fiscal year real Indiana Personal Income.

2. Subtract 2.77 from the result of Step 1.

3. Multiply 0.183 by the logarithm of the sum of the real cigarette prices in the four surrounding states.

4. Add the result of Step 3 to the result of Step 2.
5. Multiply -0.783 by the logarithm of the real cigarette price in Indiana.
6. Add the result of Step 5 to the result of Step 4.
7. Multiply -0.102 by the logarithm of the real cigarette excise tax rate.
8. Add the result of Step 7 to the result of Step 6.
9. Subtract 1965 from the fiscal year of the forecast.
10. Multiply the result of Step 9 by -0.029.
11. Add the result of Step 10 to the result of Step 8.
12. Take the exponential of Step 11 to get sales.
13. Multiply the result of Step 12 by 0.995 to get total revenue.
14. Multiply the result of Step 13 by 0.545 to get General Fund revenue.

Tobacco Products Tax
For Each Fiscal Year to be Forecast:

1. Multiply 1.727 by the logarithm of fiscal year real Indiana Personal Income.
2. Subtract 16.996 from the result of Step 1.
3. Multiply -0.215 by the logarithm of the of the real tobacco product price.
4. Subtract the result of Step 3 from the result of Step 2.
5. Multiply 100 by the tobacco products excise tax rate.
6. Multiply -0.013 by the result of Step 5.
7. Add the result of Step 6 to the result of Step 4.
8. Subtract 1965 from the fiscal year of the forecast.
9. Multiply the result of Step 9 by 0.027.
10. Add the result of Step 9 to the result of Step 7
11. Take the exponential of Step 10 to get sales.
12. Multiply the result of Step 11 by 0.24 to get total revenue.

13. Multiply the result of Step 12 by 0.75.to get General Fund revenue.

Alcoholic Beverage Tax - Beer
For Each Fiscal Year to be Forecast:

1. Multiply 0.903 by the logarithm of beer sales, lagged one year.
2. Subtract 0.371 from the result of Step 1.
3. Multiply 0.152 by the logarithm of fiscal year real Indiana Personal Income.
4. Add the result of Step 3 to the result of Step 2.
5. Multiply -0.035 by the real beer price.
6. Add the result of Step 5 to the result of Step 4.
7. Multiply -0.004 by the trend term.
8. Add the result of Step 7 to the result of Step 6.
9. Take the exponential of the result of Step 8 to get sales.
10. Multiply the result of Step 9 by 0.115 to get total revenue; multiply the result of Step 9 by 0.04 to get General Fund revenue.

Alcoholic Beverage Tax - Liquor
For Each Fiscal Year to be Forecast:

1. Multiply 0.339 by the logarithm of liquor sales, lagged one year.
2. Add 0.248 to the result of Step 1.
3. Multiply 0.583 by the logarithm of fiscal year real Indiana Personal Income.
4. Add the result of Step 3 to the result of Step 2.
5. Multiply -0.056 by the real liquor price.
6. Add the result of Step 5 to the result of Step 4.
7. Multiply -0.029 by the trend term.
8. Add the result of Step 7 to the result of Step 6.
9. Multiply 1.216 by a dummy for 1991 and after.

10. Add the result of Step 9 to the result of Step 8.

11. Multiply 0.091 by the trend term multiplied by the dummy for 1991 and after.

12. Add the result of Step 11 to the result of Step 10.

13. Multiply 0.002 by the trend term multiplied by the square of the trend terms multiplied by the dummy for 1991 and after.

14. Add the results of Step 13 to the results of Step12.

15. Take the exponential of the result of Step 14 to get sales.

16. Multiply the result of Step 15 by 2.68 to get total revenue; multiply the result of Step 15 by 1.00 to get General Fund revenue.

Alcoholic Beverage Tax - Wine
For Each Fiscal Year to be Forecast:

1. Multiply 0.499 by the logarithm of wine sales, lagged one year.

2. Subtract 8.430 from the result of Step 1.

3. Multiply 1.150 by the logarithm of fiscal year real Indiana Personal Income.

4. Add the result of Step 3 to the result of Step 2.

5. Multiply -0.116 by the real wine price.

6. Add the result of Step 5 to the result of Step 4.

7. Multiply 10.850 by the dummy for 1987 and after.

8. Add the result of Step 7 to the result of Step 6.

9. Multiply -0.940 by the dummy for 1987 multiplied by the logarithm fiscal year real Indiana Personal Income.

10. Add the result of Step 9 to the result of Step 8.

11. Take the exponential of the result of Step 10 to get sales.

12. Multiply the result of Step 11 by 0.47 to get total revenue; multiply the result of Step 11 by 0.20 to get General Fund revenue.

Gaming Taxes
For Each Fiscal Year to be Forecast:

1. Multiply 0.721 by the natural logarithm of quarterly nominal Indiana Personal Income.

2. Subtract 6.79 from the result of Step 1.

3. Multiply 0.528 by the natural logarithm of the quarterly casino turnstile count and add the result to the result of Step 2.

4. Add 0.020 to the result of Step 3 for the 4th Quarter of 2006, and add 0.030 to the result of Step 3 for each calendar quarter thereafter.

5. Subtract 0.032 from the result of Step 4 for the 3rd Quarter of 2007, and subtract 0.048 from the result of Step 4 for each calendar quarter thereafter.

6. Subtract 0.016 from the result of Step 5 for the 2nd Quarter of 2008, and subtract 0.048 from the result of Step 5 for each calendar quarter thereafter.

7. Subtract 0.024 from the result of Step 6 if the calendar quarter is the 2nd Quarter; subtract 0.019 from the result of Step 6 if the calendar quarter is the 3rd Quarter; or subtract 0.036 from the result of Step 6 if the calendar quarter is the 4th Quarter.

8. Compute the exponential of the result of Step 7 and multiply this result by 1.00003 to obtain the total quarterly adjusted gross wagering receipts of the riverboat casinos.

9. Sum the quarterly totals from Step 8 for the fiscal year to obtain the total fiscal year adjusted gross wagering receipts of the riverboat casinos.

10. Divide the total fiscal year adjusted gross receipts from Step 9 between the 11 riverboat casinos based on the actual FY 2009 percentage distribution of adjusted gross wagering receipts by riverboat casino.

11. Reduce the estimated adjusted gross wagering receipts for Blue Chip casino by 10% in FY 2010 and 20% in FY 2011 to account for potential competitive impacts from new tribal casino operations in southwestern Michigan.

12. Use the fiscal year adjusted gross wagering receipts totals by riverboat casino from Step 11 to compute the fiscal year wagering tax for each riverboat casino.

13. Sum the fiscal year wagering tax totals for each riverboat casino from Step 12 to obtain the fiscal year total wagering tax collections from the 11 riverboat casinos.

14. Subtract from the Step 13 result, 3,501,183 each year to account for reimbursement to the Indiana Gaming Commission for administrative expenses; 33,000,000 each year to account for local revenue sharing; $102,823,649 in FY 2010 and $103,371,236 in FY 2011 to account for wagering tax distributions to riverboat communities; $3,760,425 in FY 2010 and $3,935,764 in FY 2011 to account for distributions of wagering tax from the French Lick Casino to the West Baden Springs Historic Hotel Preservation and Maintenance Fund.

15. Add to the Step 14 result, $117,175,109 in FY 2010 and $122,051,649 in FY 2011 to account for revenue yield from the slot machine wagering tax paid by the racinos.