### **Property Tax Replacement Study Report**

of

### **Advance America's Property Tax Repeal Plan**

By

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### **Submitted to:**



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### **Property Tax Replacement Study Project**

This is the Report of the Property Tax Replacement Study Project prepared by Dr. Craig L. Johnson with special assistance from Sharon Kioko and submitted to Advance America.

This report includes an itemized analysis of the: 1. Estimated net property taxes in 2012; 2. Savings from state spending cap in 2012 and beyond; 3. Amount (that can be drawn down) from property tax elimination fund (PTEF); 4. Business replacement revenue; 5. Sales tax increase; 6. Income tax increase; and 7. Administrative savings from eliminating property taxes.

### RepealPropertyTaxes.com Replacement Plan

### 1. Estimated property taxes in 2012......\$7.142 billion.

RepealPropertyTaxes.com statement: "2012 would be first year without property taxes. Estimate based on limiting local spending increases to inflation and population growth."

Appendix 1 has Legislative Services Agency (LSA) data used in our analysis. The average of GDP plus population from 1992-2006 is 2.9750 percent. Using the 2.9750 growth rate, the 2012 net levy is estimated to \$7.142 billion (rounded), as shown in Table 1 in Appendix 2.

Also, please note that an underlying assumption in the projections is that PTRC and Homestead tax credits remain unchanged as a percentage of the gross levy. The PTRC and Homestead credits accounted for 27.71 percent of the gross levy in 2006. The projected net levy figure assumes that the PTRC and Homestead credits will remain 27.71 percent of gross levy.

<sup>&</sup>lt;sup>2</sup> It should be noted, however, that national GDP is not the best measure of inflation for Indiana state and local government. A measure that captures changes in prices in the state of Indiana or region is a better measure. We recommend using either the State and Local Government GDP deflator published by the Bureau of Economic Analysis (BEA), or the Midwest urban CPI published by the Bureau of Labor Statistics (BLS). The deflator does make a material difference. For the same time frame, 1992-2006, both the State and Local GDP deflator and the Midwest urban CPI produce significantly higher net levies.



<sup>&</sup>lt;sup>1</sup> See Table A in Appendix 1. Throughout this study our calculations are based on data from 1992 - 2006, including growth rates, GDP deflators and changes in population, and elasticities.

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RepealPropertyTaxes.com statement: "Based on limiting spending increases to inflation and population growth."

As shown in Table 2, starting with a 2007 state revenue amount of \$13.501 billion, and under the assumptions of a revenue growth rate of 4.8140 percent<sup>3</sup> and a limit restricting state spending to an annual growth rate of 2.9750 percent, there will be a \$1.446 billion inflow into the Property Tax Elimination Fund (PTEF) in 2012, and the cumulative balance at the end of 2012 (assuming zero withdrawals) will be \$4.128 billion.

### 3. Amount from property tax elimination fund......\$889 million.

RepealPropertyTaxes.com statement: "Fund set up in 2008 to receive state revenue that exceeds the state spending control of inflation and population growth. After 2011 the amount in the property tax elimination fund will exceed \$2.5 billion. Utilizing \$889 million in 2012 will leave a reserve balance of over \$1.792 billion."

Beginning with a 2007 state revenue amount of \$13.501 billion, and under the revenue growth rate assumption of 4.8140 percent and a spending limit restricting state spending to an annual growth rate of 2.9750 percent, 4 the cumulative balance in the property tax elimination fund will be \$2.682 billion at the end of 2011. Please note that the \$2.682 billion figure does not include any interest income on the PTEF fund. [The last column in Table 2b shows the balance in the fund assuming the entire balance of the fund is invested each year at an annual rate of 3.81 percent, which is the average rate of Indiana general fund-related investments in fiscal year 2006.] Drawing down \$889 million from the PTEF cumulative balance, and \$1.446 billion from

<sup>&</sup>lt;sup>4</sup> It should be noted that the spending limit described in this section may limit spending more than the state government expenditure limit passed in 2002 and in effect for fiscal year 2004, limiting state spending growth to the lesser of the six-year average increase in Indiana non-farm personal income or 6 percent.



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<sup>&</sup>lt;sup>3</sup> The average percentage change in total state annual revenue is 5.166 percent, based on LSA data. The 5.166 percent figure could be then used to project state revenue growth. We calculate and use the compounded rate of state revenue growth, which is 4.8140 percent (see Table B in Appendix 1). In general, estimates based on historical compounded growth rates are better than linear averages.

the 2012 annual allocation to the PTEF from annual state savings, will leave a balance of \$1.793 billion in the property tax elimination fund in 2012.

The method of raising \$951 million in business replacement revenue would be left up to the Indiana General Assembly in 2011 and would be accomplished by working with members of the business community to arrive at the best way to provide this revenue and create the best climate for the future of Indiana. Without eliminating the property tax, businesses would owe \$2.996 billion in property taxes in 2012 [Net levy (\$7.142) x Commercial/Industrial Percentage of Property tax Levy in 2006 (.4195)]. If the property tax was eliminated, \$951 million in business replacement revenues represent only 31.71% of their 2012 property tax levy.

Using the Advance America methodology, a sales tax increase from 6% to 8% that begins when property taxes are eliminated in 2012 will produce \$2.020 billion which can be used to replace forgone local property tax revenue (see Table 3). The \$2.020 billion estimate is based on a projected growth rate of 5.5189 percent, which is the 15-year compound growth rate at the 5 percent sales tax rate (see Table C), and controls for the elasticity in sales tax revenue from the rate change of 6% to 8%. The elasticity estimate is .8542 and is calculated in a regression equation using LSA data from 1992-2006, and controls for changes in non-farm personal income and the change in the sales tax rate from 5.00% to 6.00% in 2003.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> This is compared to a .723 short-run sales tax elasticity estimate found in a recent study. Donald Bruce, William F. Fox, and M.H. Tuttle, "Tax Base Elasticities: A Multi-State Analysis of Long-Run and Short-Run Dynamics." Southern Economic Journal 2006 73(2), 315-341. The study provides no estimate for the long-run sales tax elasticity.



Advance America estimates that a 1 percent income tax increase that begins when property taxes are eliminated in 2012 will produce \$1.727 billion in 2012 which can be used to replace forgone local property tax revenue (Table 4). The \$1.727 billion estimate is based on a projected growth rate of 4.5532 percent, which is the 15-year compound growth rate of income tax revenues, and an elasticity estimate of 1.0262 derived from a regression equation controlling from the growth in non-farm personal income and income tax revenue from 1992-2006.<sup>6</sup>

### 7. Administrative savings from eliminating property taxes......\$107 million.

RepealPropertyTaxes.com statement: "State and local government expenses eliminated; no need for reassessment."

LSA states that state and local property tax administrative expenses are "1.5% of net property tax collections," and that from 2001-2005 average total costs were \$77.9 million. The estimated net levy in 2012 is \$7.142 billion; 1.5 percent of the estimated net levy is \$107 million. We have no other information to evaluate state and local property tax administrative costs other than LSA information.

<sup>&</sup>lt;sup>8</sup> See Tables 5a and 5b. Amount available to replace property taxes at the beginning of the FY 2012 does not include: Amount remaining in property tax elimination fund of over \$1.792 billion; interest from property tax elimination fund (PTEF) of \$251.73 million; and sales taxes and income taxes generated from personal income or economic growth.



<sup>&</sup>lt;sup>6</sup> Please note that this is a conservative elasticity estimate. A recent study estimated that Indiana's long-run personal income tax elasticity is 2.435. See Donald Bruce, William F. Fox, and M.H. Tuttle, "Tax Base Elasticities: A Multi-State Analysis of Long-Run and Short-Run Dynamics." Southern Economic Journal 2006 73(2), 315-341.

<sup>&</sup>lt;sup>7</sup> Legislative Services Agency, "Indiana Property Tax Revenues – The Challenges of Change," Prepared for the Commission on State Tax and Financing Policy." August 27, 2007.

# **APPENDIX 1:**

# Legislative Services Agency Data



Table A: Indiana Spending Cap (GDP deflator and population)

Year	СРІ	GDP Implicit Price Deflator	Average Percentage Growth CPI	Average Percentage Growth GDP Deflator	Indiana Population (Thousands)	Annual Population Change	CPI and Annual Population Change	GDP Deflator and Annual Population Change
1991	137.9	84.457			5,602			
1992	141.9	86.402	2.9007%	2.3029%	5,649	0.8390%	3.7396%	3.1419%
1993	145.8	88.39	2.7484%	2.3009%	5,702	0.9382%	3.6866%	3.2391%
1994	149.7	90.265	2.6749%	2.1213%	5,746	0.7717%	3.4466%	2.8929%
1995	153.5	92.115	2.5384%	2.0495%	5,792	0.8006%	3.3390%	2.8501%
1996	158.6	93.859	3.3225%	1.8933%	5,835	0.7424%	4.0649%	2.6357%
1997	161.3	95.415	1.7024%	1.6578%	5,872	0.6341%	2.3365%	2.2919%
1998	163.9	96.475	1.6119%	1.1109%	5,908	0.6131%	2.2250%	1.7240%
1999	168.3	97.868	2.6846%	1.4439%	5,943	0.5924%	3.2770%	2.0363%
2000	174	100	3.3868%	2.1784%	6,081	2.3221%	5.7089%	4.5005%
2001	176.7	102.402	1.5517%	2.4020%	6,092	0.1809%	1.7326%	2.5829%
2002	180.9	104.193	2.3769%	1.7490%	6,126	0.5581%	2.9350%	2.3071%
2003	184.3	106.409	1.8795%	2.1268%	6,155	0.4734%	2.3529%	2.6002%
2004	190.3	109.462	3.2556%	2.8691%	6,196	0.6661%	3.9217%	3.5352%
2005	196.8	113.005	3.4157%	3.2367%	6,227	0.5003%	3.9160%	3.7371%
2006	201.8	116.568	2.5407%	3.1530%	6,314	1.3971%	3.9378%	4.5501%

15 year Average (=Spending Cap)

2.9750%

Source: Data as provided in LSA Tax Expend Levies 1980 – 2006.xlsxREPORT document dated 9/21/2007<sup>9</sup>.

<sup>&</sup>lt;sup>9</sup> Data provided by LSA was sourced as follows - CPI data from Bureau of Labor Statistics; GDP Implicit Price Deflator from Bureau of Economic Analysis; Indiana population data from US Bureau of Census and STATS Indiana.



Table B: State Revenues by Major Category FY 1992 - FY 2006 (Amount in \$ Millions)

Year	Sales	Individual Income Tax	Corporate Income Tax	Gambling	Lottery	Other	Total State Government Revenues	Annual Change in Total State Government Revenues	Annual Percent Change in Revenues
1992	\$2,264.10	\$2,246.80	\$791.80	-	\$178.40	\$1,061.40	\$6,542.50	\$157.00	2.4587%
1993	2,388.00	2,412.50	841.50	0.60	140.40	1,140.30	6,923.40	380.90	5.8219%
1994	2,601.40	2,541.90	929.40	0.80	161.90	1,313.90	7,549.30	625.90	9.0404%
1995	2,808.80	2,767.70	1,084.50	1.90	189.20	1,336.70	8,188.80	639.50	8.4710%
1996	2,966.20	2,966.30	115.50	10.80	164.50	1,387.00	8,610.30	421.50	5.1473%
1997	3,138.30	3,197.10	1,131.60	103.20	176.60	1,398.80	9,145.60	535.30	6.2170%
1998	3,278.80	3,433.40	1,163.00	266.20	178.60	1,537.30	9,857.30	711.70	7.7819%
1999	3,423.40	3,699.30	1,199.70	251.20	215.20	1,191.90	9,980.70	123.40	1.2519%
2000	3,687.40	3,753.30	1,146.30	286.40	173.30	1,059.60	10,106.30	125.60	1.2584%
2001	3,723.10	3,779.80	1,001.10	300.80	160.00	1,088.70	10,053.50	(52.80)	-0.5224%
2002	3,798.50	3,540.80	885.60	328.20	166.10	1,066.20	9,785.40	(268.10)	-2.6667%
2003	4,210.30	3,664.20	903.70	497.80	168.70	1,348.40	10,793.10	1,007.70	10.2980%
2004	4,759.40	3,807.90	819.90	631.30	198.50	1,420.30	11,637.30	844.20	7.8217%
2005	5,001.00	4,213.20	1,007.90	615.20	189.70	1,444.60	12,471.60	834.30	7.1692%
2006	5,336.80	4,381.50	1,145.30	620.80	218.10	1,541.90	13,244.40	772.80	6.1965%

15 Year Compound Growth Rate

4.8140%

Source: Data as provided in Tax Expend Levies 1980 – 2006.xlsx document dated 11/20/2007<sup>10</sup>.

 $<sup>^{10}\</sup> Data\ provided\ was\ sourced\ from\ the\ Indiana\ Handbook\ of\ Taxes,\ Revenues,\ and\ Appropriations\ FY 1980-FY 2007.$ 



Table C: Compound Sales Tax Revenue Growth Rate Adjusting Changes in Tax Rate

Year	Sales Tax Revenues	Sales Tax Rate	Sales Tax Revenues adjusted for change in Tax Rate <sup>11</sup>
1992	\$2,264.10	5.00%	\$2,264.10
1993	\$2,388.00	5.00%	\$2,388.00
1994	\$2,601.40	5.00%	\$2,601.40
1995	\$2,808.80	5.00%	\$2,808.80
1996	\$2,966.20	5.00%	\$2,966.20
1997	\$3,138.30	5.00%	\$3,138.30
1998	\$3,278.80	5.00%	\$3,278.80
1999	\$3,423.40	5.00%	\$3,423.40
2000	\$3,687.40	5.00%	\$3,687.40
2001	\$3,723.10	5.00%	\$3,723.10
2002	\$3,798.50	5.00%	\$3,798.50
2003	\$4,210.30	6.00%	\$3,880.86
2004	\$4,759.40	6.00%	\$4,320.12
2005	\$5,001.00	6.00%	\$4,807.72
2006	\$5,336.80	6.00%	\$5,068.16
15 Year Compound Growth	5.8829%		5.5189%

15 Year Compound Growth Rate

Source: Data as provided in Tax Expend Levies 1980 – 2006.xlsx document dated 11/20/2007.

<sup>&</sup>lt;sup>11</sup> Sales tax revenues are adjusted for changes in the sales tax rate using the following formula: Current Revenues – Annual change in Sales Tax Revenues x {1- [(6% - 5%)/5%]}



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# APPENDIX 2: Estimates of Property Tax Levy and State Government Revenues



**TABLE 1: NET PROPERTY TAX LEVY PROJECTIONS (\$Millions)** 

Year	Net Levy Estimates (@2.9750%) <sup>12</sup>
2007	\$6,167.90 <sup>13</sup>
2008	\$6,351.40
2009	\$6,540.35
2010	\$6,734.93
2011	\$6,935.29
2012	\$7,141.62
2013	\$7,354.08
2014	\$7,572.86
2015	\$7,798.16
2016	\$8,030.15
2017	\$8,269.05

The average of GDP Deflator and annual population change from 1992-2006 as reported in Table A.

Net Levy in 2007 as reported in data from Slide 2 in LSA's "Indiana Property Tax Revenues – The Challenge of Change."

Prepared for the Commission on State Tax and Financing Policy, August 27, 2007.

### TABLE 2a: STATE REVENUE, SPENDING PROJECTIONS, AND PROPERTY TAX ELIMINATION FUND (PTEF) ESTIMATES, ASSUMING ZERO WITHDRAWLS (\$Millions)

Year	State Revenue (@4.8140%) <sup>14</sup>	State Spending (@2.9750%)	Annual Savings from Spending Cap transferred to the Property Tax Elimination Fund (PTEF)	Cumulative Balance PTEF	Cumulative Interest Earnings, PTEF (3.81%) <sup>15</sup>	Cumulative Balance PTEF (Including Interest)
2007	<sup>16</sup> \$13,501.30	<sup>17</sup> \$13,501.30				
2008	\$14,151.25	\$13,902.96	\$248.29	\$248.29	\$5.18	\$253.47
2009	\$14,832.49	\$14,316.58	\$515.91	\$764.20	\$25.78	\$789.98
2010	\$15,546.52	\$14,742.50	\$804.03	\$1,568.22	\$73.20	\$1,641.43
2011	\$16,294.93	\$15,181.09	\$1,113.84	\$2,682.07	\$160.10	\$2,842.17
2012	\$17,079.37	\$15,632.73	\$1,446.64	\$4,128.71	\$300.50	\$4,429.21
2013	\$17,901.57	\$16,097.80	\$1,803.77	\$5,932.47	\$509.90	\$6,442.37
2014	\$18,763.34	\$16,576.71	\$2,186.63	\$8,119.11	\$805.34	\$8,924.45
2015	\$19,666.61	\$17,069.87	\$2,596.74	\$10,715.85	\$1,205.58	\$11,921.43
2016	\$20,613.36	\$17,577.70	\$3,035.66	\$13,751.51	\$1,731.19	\$15,482.69
2017	\$21,605.68	\$18,100.64	\$3,505.05	\$17,256.55	\$2,404.67	\$19,661.22

<sup>&</sup>lt;sup>14</sup> The 15 year (1992-2006) compound growth rate in Indiana revenues as shown in data from LSA. The compound growth rate is computed as follows: [(Revenues<sub>2006</sub>/Revenues<sub>1992</sub>)<sup>(1/15)</sup> – 1].

<sup>15</sup> Interest rate on designated general fund investments as reported in Schedule A – Fiscal Year 2006 Investment Summary (2006 Treasurer's Annual Report <a href="http://www.in.gov/tos/2271.htm">http://www.in.gov/tos/2271.htm</a>).

<sup>16</sup> Total State Government Revenues in 2007 is \$13,501.30 billion, as reported in LSA document "Tax Expend Levies 1980-

<sup>2006.</sup>xlsx," dated November 20, 2007.

17 Assumes we are starting from a balanced fiscal position where revenues equal spending in FY 2007.

### TABLE 2b: STATE REVENUE, SPENDING PROJECTIONS, AND PROPERTY TAX ELIMINATION FUND (PTEF) ESTIMATES, WITH ANNUAL WITHDRAWLS FROM PTEF (\$Millions)

Year	State Revenue (@4.8140%) <sup>18</sup>	State Spending (@2.9750%)	Annual Savings from Spending Cap transferred to the Property Tax Elimination Fund (PTEF)	Withdrawals from PTEF Prior Year Balance	Annual State Savings Withdrawn from PTEF	Withdrawals from PTEF	Cumulative Balance	Cumulative Interest Earnings, PTEF (3.81%) <sup>19</sup>	Cumulative Balance PTEF (Including Interest)
2007	<sup>20</sup> \$13,501.30	<sup>21</sup> \$13,501.30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
2008	\$14,151.25	\$13,902.96	\$248.29	\$0.00	\$0.00	\$0.00	\$248.29	\$5.18	\$253.47
2009	\$14,832.49	\$14,316.58	\$515.91	\$0.00	\$0.00	\$0.00	\$764.20	\$25.78	\$789.98
2010	\$15,546.52	\$14,742.50	\$804.03	\$0.00	\$0.00	\$0.00	\$1,568.22	\$73.20	\$1,641.43
2011	\$16,294.93	\$15,181.09	\$1,113.84	\$0.00	\$0.00	\$0.00	\$2,682.07	\$160.10	\$2,842.17
2012	\$17,079.37	\$15,632.73	\$1,446.64	(\$889.49)	(\$1,446.64)	(\$2,336.13)	\$1,792.58	\$251.73	\$2,044.30
2013	\$17,901.57	\$16,097.80	\$1,803.77	(\$551.51)	(\$1,803.77)	(\$2,355.28)	\$1,241.06	\$319.47	\$1,560.54
2014	\$18,763.34	\$16,576.71	\$2,186.63	(\$184.28)	(\$2,186.63)	(\$2,370.91)	\$1,056.79	\$376.13	\$1,432.92
2015	\$19,666.61	\$17,069.87	\$2,596.74	\$0.00	(\$2,382.74)	(\$2,382.74)	\$1,270.79	\$436.16	\$1,706.95
2016	\$20,613.36	\$17,577.70	\$3,035.66	\$0.00	(\$2,390.37)	(\$2,390.37)	\$1,916.08	\$515.81	\$2,431.89
2017	\$21,605.68	\$18,100.64	\$3,505.05	\$0.00	(\$2,393.50)	(\$2,393.50)	\$3,027.62	\$633.31	\$3,660.93

<sup>18</sup> The 15 year (1992-2006) compound growth rate in Indiana revenues as shown in data from LSA. The compound growth rate is computed as follows: [(Revenues<sub>2006</sub>/Revenues<sub>1992</sub>)<sup>(1/15)</sup> – 1].

19 Interest rate on designated general fund investments as reported in Schedule A – Fiscal Year 2006 Investment Summary (2006 Treasurer's Annual Report <a href="http://www.in.gov/tos/2271.htm">http://www.in.gov/tos/2271.htm</a>).

20 Total State Government Revenues in 2007 is \$13,501.30 billion, as reported in LSA document "Tax Expend Levies 1980-

<sup>2006.</sup>xlsx," dated November 20, 2007.

21 Assumes we are starting from a balanced fiscal position where revenues equal spending in FY 2007.

### **TABLE 3: SALES TAX REVENUES (\$Millions)**

Year	Sales Tax Revenues (5.5189%) <sup>22</sup>	Sales Tax Revenues after an increase in sales tax rate (6% to 8%) controlling for elasticity <sup>23</sup>	Increment in revenue collections
2007	\$5,423.50		
2008	\$5,722.82		
2009	\$6,038.66		
2010	\$6,371.92		
2011	\$6,723.59		
2012	\$7,094.65	\$9,114.74	\$2,020.09
2013	\$7,486.20	\$9,617.78	\$2,131.57
2014	\$7,899.36	\$10,148.57	\$2,249.21
2015	\$8,335.32	\$10,708.66	\$2,373.35
2016	\$8,795.34	\$11,299.66	\$2,504.33
2017	\$9,280.74	\$11,923.28	\$2,642.54

<sup>&</sup>lt;sup>22</sup> 5.5189 percent is the estimated 15 year (1992-2006) compound growth rate of sales tax revenues as shown in Table C with

adjustments for changes in the sales tax rate.

23 Sales tax elasticity is estimated from 1992-2006 using sales tax revenues provided from LSA data and non-farm personal income as reported by the Bureau of Economic Analysis (BEA) - "Table SA05N Personal income by major source and earnings by NAICS industry". Elasticity is estimated using an ordinary least squares regression model:

 $<sup>[</sup>ln(SalesTax\_Rev_t) - ln(SalesTax\_Rev_{t-1})] = \alpha + \beta[[ln(Income_t) - ln(Income_{t-1})] + \gamma SalesTax\_Rate + \epsilon$ 

Elasticity ( $\beta$ ) is estimated to be 0.8542 i.e. for every percentage point change in non-farm personal income we expect sales tax revenues to change by 0.8542 percent. To control for changes in the sales tax rate (0.02/0.06), the elasticity measure (0.8542) is applied to the incremental change in sales tax revenues. Because the sales tax rate changed from 5% to 6% in 2003, the sales tax elasticity measure controls for a 1% change in the sales tax rate, as well as changes in non-farm personal income.

#### **TABLE 4: INCOME TAX REVENUES (\$Millions)**

Year	Income Tax Revenues (4.5532%) <sup>24</sup>	Income Tax Revenues after an increase in income tax rate (3.4% to 4.4%), controlling for elasticity <sup>25</sup>	Increment in revenue collections
2007	\$4,580.40		
2008	\$4,788.95		
2009	\$5,007.00		
2010	\$5,234.98		
2011	\$5,473.34		
2012	\$5,722.55	<i>\$7,449.82</i>	\$1,727.27
2013	\$5,983.11	\$7,789.02	\$1,805.92
2014	\$6,255.53	\$8,143.67	\$1,888.14
2015	\$6,540.35	\$8,514.47	\$1,974.11
2016	\$6,838.15	\$8,902.15	\$2,064.00
2017	\$7,149.50	\$9,307.48	\$2,157.98

<sup>24</sup> 4.5532 percent is the estimated 15 year (1992 – 2006) compound growth rate of income tax revenues as shown in Table B.

<sup>&</sup>lt;sup>25</sup> Income tax elasticity is estimated from 1992-2006 using income tax revenues provided from LSA data and non-farm personal income as reported by the Bureau of Economic Analysis (BEA). Elasticity is estimated using an ordinary least squares regression model as follows:

 $<sup>[</sup>ln(IncomeTax\_Rev_t) - ln(IncomeTax\_Rev_{t-1})] = \alpha + \beta[[ln(Income_t) - ln(Income_{t-1})] + \epsilon$ 

Elasticity ( $\beta$ ) is estimated to be 1.0262 i.e. for every percentage point change in non-farm personal income we expect income tax revenues to change by 1.0262 percent. To control for changes in the income tax rate (0.01/0.034), the elasticity measure (1.0262) is applied to the incremental change in income tax revenues. Because the personal income tax rate did not change over our period of analysis, the elasticity measure controls only for changes in non-farm personal income, not a change in individual income tax rates.

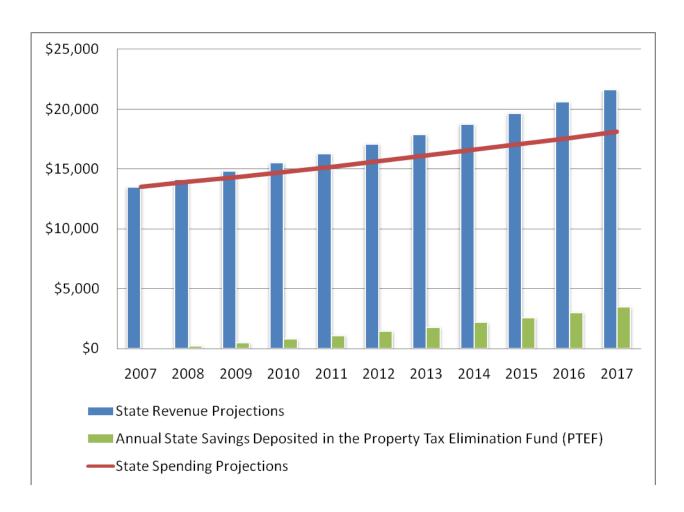
### TABLE 5a: PROPERTY TAX REPLACEMENT (\$ MILLIONS)

	2012	2013	2014	2015	2016	2017
Withdrawals from PTEF Prior Year Balance (Table 2b)	\$889.49	\$551.51	\$184.28	\$0.00	\$0.00	\$0.00
Annual State Savings Withdrawn from PTEF (Table 2b)	\$1,446.64	\$1,803.77	\$2,186.63	\$2,382.74	\$2,390.37	\$2,393.50
Business Replacement Tax Revenue	\$951.00	\$951.00	\$951.00	\$951.00	\$951.00	\$951.00
Sales Tax increase (2%, from 6% to 8%) (Table 3)	\$2,020.09	\$2,131.57	\$2,249.21	\$2,373.35	\$2,504.33	\$2,642.54
Income Tax Increase (1%, from 3.4% to 4.4%) (Table 4)	\$1,727.27	\$1,805.92	\$1,888.14	\$1,974.11	\$2,064.00	\$2,157.98
Administrative Savings	\$107.11	\$110.31	\$113.59	\$116.96	\$120.45	\$124.04
PROPERTY TAX REPLACEMENT REVENUES	\$7,141.62	\$7,354.08	\$7,572.86	\$7,798.16	\$8,030.15	\$8,269.05
NET PROPERTY TAX LEVY (Table 1)	\$7,141.62	\$7,354.08	\$7,572.86	\$7,798.16	\$8,030.15	\$8,269.05

### TABLE 5b: PTEF FUNDS FLOW STATEMENT (\$MILLIONS)

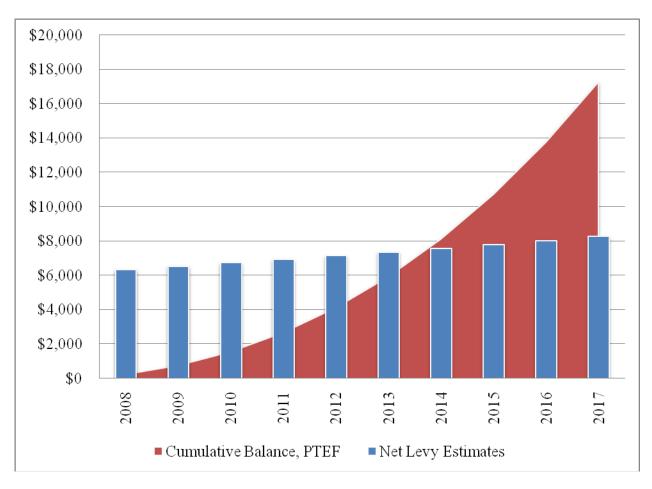
	2012	2013	2014	2015	2016	2017
BEGINNING BALANCE PTEF	\$2,682.07	\$1,792.58	\$1,241.06	\$1,056.79	\$1,270.79	\$1,916.08
ADD: Annual State Savings Deposited in the Property Tax Elimination Fund (PTEF)	\$1,446.64	\$1,803.77	\$2,186.63	\$2,596.74	\$3,035.66	\$3,505.05
<u>LESS:</u> Withdrawals from PTEF Prior Year Balance	(\$889.49)	(\$551.51)	(\$184.28)	\$0.00	\$0.00	\$0.00
<u>LESS:</u> Annual State Savings Withdrawn from PTEF	(\$1,446.64)	(\$1,803.77)	(\$2,186.63)	(\$2,382.74)	(\$2,390.37)	(\$2,393.50)
END BALANCE PTEF (Table 2b)	\$1,792.58	\$1,241.06	\$1,056.79	\$1,270.79	\$1,916.08	\$3,027.62

Graph 1: State of Indiana Projected Revenues, State Spending, and Annual Allocations to Property Tax Elimination Fund (PTEF) 2007 – 2017 (\$ Millions)<sup>26</sup>



<sup>&</sup>lt;sup>26</sup> State revenues are projected using the compound growth rate (1995 – 2006) of 4.8140 percent (Table B, Appendix 1); State spending projections are capped using the GDP deflator plus population of 2.9750 percent (Table A, Appendix 1). Allocations to the PTEF are state revenues in excess of spending.

**Graph 2: Indiana Property Tax Net Levy and Property Tax Elimination Fund Cumulative Balance PTEF 2007 – 2017 (\$Millions)**<sup>27</sup>



<sup>&</sup>lt;sup>27</sup> Property Tax Net Levy is projected using the GDP deflator plus population of 2.9750 percent (Table A, Appendix 1). The Cumulative PTEF represents annual allocations of revenues in excess of state spending assuming no withdrawals and zero interest earnings.

# Dr. Craig L. Johnson Indiana University School of Public and Environmental Affairs

Craig L. Johnson is an Associate Professor of Public and Environmental Affairs at SPEA-Bloomington. Dr. Johnson received his Master of Public Administration and Ph.D. degrees from the University at Albany, State University of New York. His primary research interest focuses on improving how government finances are managed.

Since arriving at Indiana University in 1992, Dr. Johnson has won four teaching awards, authored numerous articles and research reports in the area of public financial management and financial markets, and has co-edited the volume *Tax Increment Financing and Economic Development: Uses, Structures, and Impact.* His recent work focuses on infrastructure privatizations, tobacco settlement securitizations, pricing egovernment services, and financial reporting and credit quality.

Dr. Johnson was co-author of the "Report of the Indiana Fair Market Value Study," conducted on behalf of the State Board of Tax Commissioners, and presented to the Indiana General Assembly's Interim Study Committee on Real Property Assessment Practices on December 10, 1996. Recently, he was co-principal investigator for two egovernment projects jointly funded by the United States Department of Health and Human Services and the Indiana Family and Social Services Administration to evaluate the implementation of electronic disbursement innovations in the delivery of child support services.

From 1999-2002 Dr. Johnson served as the Director of the Minority Achievers Program and Mathematics and Science Scholarships at Indiana University-Bloomington, which provides scholarships and support services to several hundred high-achieving, academically talented undergraduate students. He also has experience as a budget analyst for the New York State Division of the Budget and he began his professional career as a legislative policy analyst for the Office of the Deputy Speaker of the New York State Assembly.





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