



# West Virginia Jobs Investment Trust

## Direct and Indirect Financial Impacts of Jobs Investment Trust Investments for the Period July 1, 1999 – June 30, 2010

### PREPARED BY

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## **Introduction**

This analysis of the direct and indirect financial impacts of the Jobs Investment Trust investments was commissioned by the Board of the West Virginia Jobs Investment Trust (WVJIT) to evaluate the financial benefit of the investments made by WVJIT during the period 7/1/1999 – 6/30/2010. Because the bulk of the funds used to make these investments were raised through the issuance of ten year discounted deferred tax credit notes (called “Millennium Notes”), there is a special interest in determining how the State’s finances were impacted by these investments. In other words, the analysis presented here will attempt to answer the question: “Did the State of West Virginia generate more tax revenue as a consequence of the WVJIT investments than the tax credits that were issued to make the investments.”

In addition, there is also an interest in determining whether the WVJIT investments generated additional employment within the State. To that end, the analysis has identified the amount of employment created by the WVJIT portfolio of companies measured in annualized Full Time Equivalents (FTEs). We also developed a model that estimates the amount of secondary employment that was created as a consequence of the portfolio companies’ activities. The tax impact and the employment generated are not unrelated, of course, because additional payroll generates more personal tax revenue and fees for the State.

The data used in this analysis came from three sources:

- Tax records of each company in which WVJIT invested (provided by the WV State Tax Department at the request of the individual companies.)
- Employment records of each company in which WVJIT invested (provided by WorkForce West Virginia at the request of the individual companies.)
- An Input-Output Model developed using the IMPLAN economic impact modeling software and multipliers (described in more detail below).

## **West Virginia Jobs Investment Trust**

The WVJIT was created in 1994 to promote economic activity within the state by making equity and debt investments in promising companies that offered the prospect of increased employment, tax revenue and overall economic activity. Since its inception, the WVJIT has focused on investments in manufacturing and a range of “new economy” sectors, including information technologies, electronics, biotechnology, research, testing, and management services.

In this regard, WVJIT functions as a state sponsored venture capital organization with a mandate to make investments in innovative, fast growth companies that offer the prospect of significant financial benefit to the State’s citizens and the government’s coffers. It should be noted that these investments are usually made in companies with limited operational and financial history and, consequentially, with limited access to capital that is available to larger, more mature firms. Because the risk of loss is greater with such early stage companies it is essential that the venture capitalist (VC) invest in a portfolio of opportunities. While the

number of losses in a typical VC's portfolio is likely to be greater than the losses in, say, a portfolio of bank loans, the returns generated by the successful investments more than offset these losses and in total make the entire investment profitable.

Table 1 below shows the revenue and purchases made by the WVJIT portfolio companies between 1999 and 2009. These measures of business output are used in the IMPLAN model (described in following sections) to derive tax and employment results produced by the WVJIT program. Tables 2 and 3 show the distribution of the WVJIT portfolio by county and industry respectively.

**TABLE 1: WVJIT Portfolio Company Revenue and Purchases**

	# of Companies	Total Revenue	Cost of Goods Sold	Property, Plant &	Total Purchases
1999	2	\$ 6,108,705	\$ 4,454,008	\$ 7,644,747	\$ 12,098,755
2000	5	\$ 6,472,557	\$ 4,174,253	\$ 7,604,175	\$ 11,778,428
2001	6	\$ 3,700,558	\$ 3,691,455	\$ 1,314,373	\$ 5,005,828
2002	11	\$ 14,932,815	\$ 10,718,568	\$ 1,146,013	\$ 11,864,581
2003	12	\$ 26,046,107	\$ 15,559,780	\$ 3,886,545	\$ 19,446,325
2004	13	\$ 22,356,147	\$ 13,563,634	\$ 3,708,921	\$ 17,272,555
2005	14	\$ 29,509,477	\$ 16,430,830	\$ 3,641,390	\$ 20,072,220
2006	16	\$ 38,592,655	\$ 19,212,237	\$ 4,730,629	\$ 23,942,866
2007	16	\$ 40,791,857	\$ 22,422,305	\$ 7,326,899	\$ 29,749,204
2008	16	\$ 46,920,343	\$ 36,738,151	\$ 5,808,925	\$ 42,547,076
2009	13	\$ 38,139,163	\$ 13,493,847	\$ 3,791,604	\$ 17,285,451
		\$ 273,570,384	\$ 160,459,068	\$ 50,604,221	\$ 211,063,289

**Table 2: Number of WVJIT Portfolio Companies by County**

Berkeley	3	Monongalia	5
Braxton	1	Nicholas	1
Cabell	2	Pocahontas	1
Jefferson	3	Ritchie	1
Kanawha	5	Wyoming	1
Marion	1		

**Table 3: WVJIT Portfolio Companies by Industry**

NAICS Code	# of Companies	Industry	NAICS Code	# of Companies	Industry
115310	1	Support Activities for Forestry	454319	1	Other Fuel Dealers
332992	1	Small Arms Ammunition Manufacturing	524292	1	Third Party Administration of Insurance and Pension Funds
333997	1	Scale and Balance (except Laboratory) Manufacturing	525190	1	Other Insurance Funds
334517	1	Irradiation Apparatus Manufacturing	531390	1	Other Activities Related to Real Estate
336312	1	Gasoline Engine and Engine Parts Manufacturing	541330	1	Engineering Services
336360	1	Motor Vehicle Seating and Interior Trim Manufacturing	541511	7	Custom Computer Programming Services
336413	1	Other Aircraft Parts and Auxiliary Equipment Manufacturing	541710	1	Research and Development
337122	1	Nonupholstered Wood Household Furniture Manufacturing	621511	1	Medical Laboratories
339992	1	Musical Instrument Manufacturing	711130	1	Musical Groups and Artists

## Millennium Notes

As shown in Table 4, the State began issuing Deferred Tax Credit Notes that in the aggregate generated \$26,330,872 of investable funds (net of the discount and the cost to issue the notes).

**TABLE 4: Millennium Notes**

Issue	Tax Credit	Debt Issuance Expense	Total Cost	Discount (Interest)	Net of Discount	Maturity	Estimated Revenue Impact
Series 2001A - 6.7%	\$ 3,000,000	\$ 4,582	\$ 3,004,582	\$ (105,083)	\$ 2,894,917	6/14/11	2012
Series 2001B - 6.7%	\$ 3,000,000	\$ 4,582	\$ 3,004,582	\$ (105,083)	\$ 2,894,917	6/14/11	2012
	\$ 6,000,000	\$ 9,164	\$ 6,009,164	\$ (210,166)	\$ 5,789,834		
Series 2002A - 6.55%	\$ 2,000,000	\$ 6,402	\$ 2,006,402	\$ (142,179)	\$ 1,857,821	1/22/12	2013
Series 2002B - 6.75%	\$ 4,000,000	\$ 10,399	\$ 4,010,399	\$ (292,564)	\$ 3,707,436	1/22/12	2013
	\$ 6,000,000	\$ 16,801	\$ 6,016,801	\$ (434,743)	\$ 5,565,257		
Series 2003A - 5.55%	\$ 4,000,000	\$ 23,521	\$ 4,023,521	\$ (519,489)	\$ 3,480,511	6/12/13	2014
Series 2003B - 5.40%	\$ 2,000,000	\$ 14,480	\$ 2,014,480	\$ (253,275)	\$ 1,746,725	6/13/13	2014
Series 2003C - 6.67%	\$ 4,000,000	\$ 24,280	\$ 4,024,280	\$ (641,656)	\$ 3,358,344	7/31/13	2014
Series 2003D - 6.52%	\$ 2,000,000	\$ 14,947	\$ 2,014,947	\$ (314,320)	\$ 1,685,680	8/1/13	2014
	\$ 12,000,000	\$ 77,228	\$ 12,077,228	\$ (1,728,740)	\$ 10,271,260		
Series 2004A - 6.95%	\$ 4,000,000	\$ 37,235	\$ 4,037,235	\$ (872,771)	\$ 3,127,229	7/8/14	2015
Series 2004B - 6.70%	\$ 2,000,000	\$ 22,128	\$ 2,022,128	\$ (422,708)	\$ 1,577,292	7/9/14	2015
	\$ 6,000,000	\$ 59,363	\$ 6,059,363	\$ (1,295,479)	\$ 4,704,521		
	\$ 30,000,000	\$ 162,556	\$ 30,162,556	\$ (3,669,128)	\$ 26,330,872		

In other words, the State received approximately \$26 million to invest in promising companies in return for granting \$30 million in tax credits 10 years later.

There are several important points about this funding mechanism that have an impact on the evaluation of the financial performance of the WVJIT portfolio companies. First, the State did not have to put any of its own cash into the WVJIT portfolio investments up front. From the State's point of view, the actual cash outlay occurs 10 years after the money was available for WVJIT investments. In addition, because the weighted average cost of these funds is 6.448% we have a benchmark for the performance evaluation. If the State had issued the Notes and then made investments yielding exactly 6.448% then the taxpayers would be indifferent as to whether the Notes had been issued or not. If the investments have yielded more than 6.448% then the taxpayers are better off and if they have yielded less than 6.448% then they are worse off.

## Input-Output Analysis and the IMPLAN Multipliers

In this study, the financial impact of the WVJIT portfolio companies was calculated using Input-Output Analysis (I-O Analysis.) The principles of I-O Analysis were originally developed by Wassily Leontief, for which he was awarded the 1973 Nobel Prize. I-O Analysis is the most reliable and widely used technique for evaluating how changes in one part of an economy impact other parts.

I-O Analysis portrays economic activity as a system of interrelated goods and services where the outputs of one industry become the inputs for another industry. Leontief once explained input-output analysis as follows: *"When you make bread, you need eggs, flour, and milk. And if you want more bread, you must use more eggs. There are cooking recipes for all the industries in the economy."* Extending Leontief's analogy, the ratio of eggs, flour and milk are the "multipliers" that can be used to calculate the economic impact of additional bread making along the following lines:

A bakery produces 1,000 additional loaves of bread which it sells to consumers for \$1.00 per loaf (\$1,000). According to the "recipe" for the bakery industry:

- A poultry farmer produces 200 additional eggs which he sells to the baker for \$60,
- A miller produces 1,000 pounds of flour which is sold to the baker for \$100, and
- A dairy farmer produces 20 gallons of milk which he sells to the baker for \$40

Therefore, in I-O Analysis terms, for every dollar of output produced by the Bakery Industry, the Poultry Industry produces \$0.06 of output, the Milling Industry produces \$0.10 of output and the Dairy Industry produces \$0.04 of output.

In this study we have used the IMPLAN data and software to determine these multipliers and to evaluate the total economic impact of WVJIT portfolio companies. The IMPLAN system combines classic Input-Output Analysis with regionally specific data and multipliers to produce a highly accurate model of economic activity. The IMPLAN database contains federal, state, county and zip code economic statistics. These statistics are specialized by region (not estimated from national averages) and can be used to measure the impact of the activities of a WVJIT portfolio company on the State's economy.

The IMPLAN system is maintained and distributed by the Minnesota IMPLAN Group (MIG) and represents the evolution of work begun in the 1970's. In 1976, the U.S. Forest Service was mandated to create 5-year management plans. These plans required alternative land management options to be presented, each of which had potential resource outputs (timber, grazing, mining, recreation, watershed, etc.) as well as socio-economic impacts on local communities. The Forest Service, in cooperation with FEMA, funded programs at the University of Minnesota, Colorado State University and Harvard Business School to design and implement solutions to this complex planning problem. The result was FORPLAN, a linear programming model used to estimate the land management resource outputs, and IMPLAN to estimate the economic effects of these outputs on local communities.

In 1988, the University of Minnesota decided to offer IMPLAN software, data, and technical support to non-Forest Service users and in 1993, MIG was formed to focus on database development and the compilation of data to support economic impact analysis. MIG currently gathers data from a wide variety of sources, including:

- US Bureau of Economic Analysis Benchmark I/O Accounts of the US
- US Bureau of Economic Analysis Output Estimates
- US Bureau of Economic Analysis REIS Program
- US Bureau of Labor Statistics Covered Employment and Wages (ES202) Program
- US Bureau of Labor Statistics Consumer Expenditure Survey
- US Census Bureau County Business Patterns
- US Census Bureau Decennial Census and Population Surveys
- US Census Bureau Economic Censuses and Surveys
- US Department of Agriculture Crop and Livestock Statistics
- US Geological Survey

IMPLAN gathers and organizes data at the national, regional, state and county levels. As a result, the models developed for West Virginia reflect the local “recipe” for the industries in question, not an aggregated national average. Returning to Leontief’s bakery analogy, the economic impact of an additional loaf of bread in New York might only require \$0.04 of eggs while West Virginians might like an eggier loaf that requires \$0.20 of output from the poultry farmer.

### **IMPLAN Multipliers**

Multipliers are a numeric way of describing the secondary impacts that stem from a change in the economic activity (output) of the primary industry. For example, an employment multiplier of 1.2 would suggest that for every 10 employees hired in the given industry, 2 additional jobs would be created in other industries so that 12 total jobs would be added to the West Virginia economy. Purchases for final use drive the model. Industries that produce goods and services for consumer consumption must purchase products, raw materials, and services from other companies to create their product. These vendors must also procure goods and services, and this cycle continues until all the money is leaked from the State’s economy.

There are three types of effects measured with a multiplier: direct effects, indirect effects, and induced effects.

- The direct effects are the change in the local economy that is directly attributable to the output of the WVJIT portfolio companies. For purposes of this analysis the relevant direct effects of an increase in output by a WVJIT portfolio company are:
  - The estimated increase in taxes and fees paid by the companies. These direct tax effects can be verified for the WVJIT portfolio companies with data from the West Virginia Tax Department and therefore can be confirmed with a high degree of reliability.

- The estimated increase in employment at the company. These direct employment effects can be verified for the WVJIT portfolio companies with data from WorkForce West Virginia and therefore can be confirmed with a high degree of reliability.
- The indirect effects represent the business-to-business transactions required to create the direct effect. This includes:
  - Additional taxes paid by the companies that supply the WVJIT portfolio firms
  - Additional taxes paid by the companies that distribute the WVJIT portfolio firms' products and services (including the increase in sales tax revenue)
  - The increase in employment generated by these suppliers and distributors
- The induced effects reflect the changes in household income that are driven by the direct effect and is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

### **Evaluating the Financial Impact: Analytic Approach and Computational Issues**

As noted in the Introduction, the WVJIT portfolio presents an interesting twist on traditional investment performance analysis. Rather than use any of the State's cash to fund these investments the State borrowed all of the funds from private sector taxpaying organizations and deferred "repayment" for ten years. From an analytic point of view, the cash investment is made at the end of the analysis period rather than at the beginning as is more typical of venture investments. This has two consequences for the analysis:

- If we ignore the social benefits of the additional employment created by the WVJIT portfolio companies and focus solely on the financial impact of the WVJIT program, we can determine whether the State's taxpayers are better off by discounting the cash flows that actually occurred at the weighted average interest rate paid on the Millennium Notes (6.448%). In other words, if the Net Present Value (NPV) of the cash flows discounted at 6.448% is greater than zero, then the WVJIT program has had a positive financial impact on the State. If the NPV is less than zero, then the WVJIT program has had a negative impact.
- As a consequence of the "back loading" of the State's cash investment, we cannot determine the Internal Rate of Return directly (that is, with positive cash flows at the beginning and negative cash flows at the end.) Instead we must reverse the signs of the cash flows, in effect analyzing the WVJIT portfolio from the opposite point of view. As a result, the Internal Rate of Return will not be the discount rate at which the NPV is zero as is typically the case.

While this project has been described as a ten year analysis, we must actually look beyond 2010 to the period when the Millennium Notes mature. For purposes of this analysis, we have assumed that the tax credits will be utilized in the year following their maturity, and the negative cash flows associated with these

credits are reflected then. We have also assumed that the WVJIT program will continue to operate through 2015 at a constant net operating loss of \$266,000 but producing the same tax impacts as in 2010. The cash on the balance sheet at the end of 2010 was \$7,385,000 and we have assumed that the five years of net losses during the period when the tax credits are utilized (2011 – 2015) will be funded by this cash balance. The cash balance will therefore be \$6,055,000 by the end of the analysis period.

The value of WVJIT's investment assets (loans and equity interests in portfolio companies) had a book value of \$14.6 million at the end of 2010. In the analysis below, we present three scenarios regarding the terminal value of the portfolio:

- Full Value: The portfolio has a market value of \$14.6 million in 2015
- Half Value: The portfolio has a market value of \$7.3 million 2015
- No Value: The portfolio has no market value in 2015

For analytic purposes, this terminal value will be treated as if it represented an actual cash flow even though it is unlikely that a market transaction would take place.

In the analysis that follows, the taxes and fees reflect payments in the following categories:

- Direct Corporate Taxes & Fees
- Corporate Income Tax
- Indirect Corporate Taxes & Fees
- Sales Tax
- Corporate Motor Vehicle License Fees
- Severance Tax
- Corporate Other Taxes & Fees
- Personal Taxes & Fees
- Personal Income Tax
- Personal Motor Vehicle License Fees
- Personal Other Taxes & Fees

In addition, corporate and personal property taxes are reported, although they are not included in the state-level analysis. Federal taxes are not included in this analysis.



## The Financial and Employment Impact of WVJIT Investments

Table 5 below reflects the Full Value Scenario where the terminal value of the WVJIT portfolio in 2015 is \$14.6 million. The Net Present Value of the total cash flows discounted at 6.448% is \$6,500,992. The Internal Rate of Return is meaningless. Under these assumptions, the WVJIT program and the Millennium Notes had a positive financial impact and were well worth undertaking.

**TABLE 5: Full Value Scenario**

	Total Cash Flow	Direct Corporate Taxes & Fees	Indirect Corporate Taxes & Fees	Personal Taxes & Fees	WVJIT Net Income Before Gains/Losses	Tax Credits	Liquidating Cash Balance	Investment & Capital Assets
1999	\$ 696,926	\$ 36,741	\$ 158,265	\$ 26,920	\$ 475,000	\$ -	\$ -	\$ -
2000	\$ 542,550	\$ 37,074	\$ 235,870	\$ 49,606	\$ 220,000	\$ -	\$ -	\$ -
2001	\$ 21,050	\$ 19,712	\$ 95,336	\$ 19,002	\$ (113,000)	\$ -	\$ -	\$ -
2002	\$ 436,013	\$ 48,006	\$ 349,011	\$ 101,996	\$ (63,000)	\$ -	\$ -	\$ -
2003	\$ 496,128	\$ 84,415	\$ 531,673	\$ 162,040	\$ (282,000)	\$ -	\$ -	\$ -
2004	\$ 417,009	\$ 79,988	\$ 507,319	\$ 146,702	\$ (317,000)	\$ -	\$ -	\$ -
2005	\$ 840,364	\$ 106,256	\$ 711,716	\$ 214,392	\$ (192,000)	\$ -	\$ -	\$ -
2006	\$ 1,733,764	\$ 163,199	\$ 1,104,941	\$ 346,624	\$ 119,000	\$ -	\$ -	\$ -
2007	\$ 2,027,070	\$ 165,098	\$ 1,277,281	\$ 405,691	\$ 179,000	\$ -	\$ -	\$ -
2008	\$ 2,105,697	\$ 174,235	\$ 1,386,050	\$ 466,412	\$ 79,000	\$ -	\$ -	\$ -
2009	\$ 1,758,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (92,000)	\$ -	\$ -	\$ -
2010	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2011	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2012	\$ (4,424,964)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,009,164)	\$ -	\$ -
2013	\$ (4,432,601)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,016,801)	\$ -	\$ -
2014	\$ (10,493,028)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (12,077,228)	\$ -	\$ -
2015	\$ 16,172,837	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,059,363)	\$ 6,055,000	\$ 14,593,000

Table 6 below reflects the Half Value Scenario where the terminal value of the WVJIT portfolio in 2015 is \$7.3 million. The Net Present Value of the total cash flows discounted at 6.448% is \$3,978,806 and the Internal Rate of Return is meaningless. Under these more conservative assumptions, the WVJIT program and the Millennium Notes had a positive financial impact and were well worth undertaking.

**TABLE 6: Half Value Scenario**

	Total Cash Flow	Direct Corporate Taxes & Fees	Indirect Corporate Taxes & Fees	Personal Taxes & Fees	WVJIT Net Income Before Gains/Losses	Tax Credits	Liquidating Cash Balance	Investment & Capital Assets
1999	\$ 696,926	\$ 36,741	\$ 158,265	\$ 26,920	\$ 475,000	\$ -	\$ -	\$ -
2000	\$ 542,550	\$ 37,074	\$ 235,870	\$ 49,606	\$ 220,000	\$ -	\$ -	\$ -
2001	\$ 21,050	\$ 19,712	\$ 95,336	\$ 19,002	\$ (113,000)	\$ -	\$ -	\$ -
2002	\$ 436,013	\$ 48,006	\$ 349,011	\$ 101,996	\$ (63,000)	\$ -	\$ -	\$ -
2003	\$ 496,128	\$ 84,415	\$ 531,673	\$ 162,040	\$ (282,000)	\$ -	\$ -	\$ -
2004	\$ 417,009	\$ 79,988	\$ 507,319	\$ 146,702	\$ (317,000)	\$ -	\$ -	\$ -
2005	\$ 840,364	\$ 106,256	\$ 711,716	\$ 214,392	\$ (192,000)	\$ -	\$ -	\$ -
2006	\$ 1,733,764	\$ 163,199	\$ 1,104,941	\$ 346,624	\$ 119,000	\$ -	\$ -	\$ -
2007	\$ 2,027,070	\$ 165,098	\$ 1,277,281	\$ 405,691	\$ 179,000	\$ -	\$ -	\$ -
2008	\$ 2,105,697	\$ 174,235	\$ 1,386,050	\$ 466,412	\$ 79,000	\$ -	\$ -	\$ -
2009	\$ 1,758,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (92,000)	\$ -	\$ -	\$ -
2010	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2011	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2012	\$ (4,424,964)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,009,164)	\$ -	\$ -
2013	\$ (4,432,601)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,016,801)	\$ -	\$ -
2014	\$ (10,493,028)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (12,077,228)	\$ -	\$ -
2015	\$ 8,876,337	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,059,363)	\$ 6,055,000	\$ 7,296,500

Table 7 below reflects the Zero Value Scenario where the WVJIT portfolio in 2015 has no terminal value. The Net Present Value of the total cash flows discounted at 6.448% is \$1,456,621. Even under the somewhat absurd assumption that the WVJIT Investment Portfolio is worthless in 2015 the WVJIT program and the Millennium Notes had a positive financial impact and were worth undertaking.

**TABLE 7: Zero Value Scenario**

	Total Cash Flow	Direct Corporate Taxes & Fees	Indirect Corporate Taxes & Fees	Personal Taxes & Fees	WVJIT Net Income Before Gains/Losses	Tax Credits	Liquidating Cash Balance	Investment & Capital Assets
1999	\$ 696,926	\$ 36,741	\$ 158,265	\$ 26,920	\$ 475,000	\$ -	\$ -	\$ -
2000	\$ 542,550	\$ 37,074	\$ 235,870	\$ 49,606	\$ 220,000	\$ -	\$ -	\$ -
2001	\$ 21,050	\$ 19,712	\$ 95,336	\$ 19,002	\$ (113,000)	\$ -	\$ -	\$ -
2002	\$ 436,013	\$ 48,006	\$ 349,011	\$ 101,996	\$ (63,000)	\$ -	\$ -	\$ -
2003	\$ 496,128	\$ 84,415	\$ 531,673	\$ 162,040	\$ (282,000)	\$ -	\$ -	\$ -
2004	\$ 417,009	\$ 79,988	\$ 507,319	\$ 146,702	\$ (317,000)	\$ -	\$ -	\$ -
2005	\$ 840,364	\$ 106,256	\$ 711,716	\$ 214,392	\$ (192,000)	\$ -	\$ -	\$ -
2006	\$ 1,733,764	\$ 163,199	\$ 1,104,941	\$ 346,624	\$ 119,000	\$ -	\$ -	\$ -
2007	\$ 2,027,070	\$ 165,098	\$ 1,277,281	\$ 405,691	\$ 179,000	\$ -	\$ -	\$ -
2008	\$ 2,105,697	\$ 174,235	\$ 1,386,050	\$ 466,412	\$ 79,000	\$ -	\$ -	\$ -
2009	\$ 1,758,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (92,000)	\$ -	\$ -	\$ -
2010	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2011	\$ 1,584,200	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ -	\$ -	\$ -
2012	\$ (4,424,964)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,009,164)	\$ -	\$ -
2013	\$ (4,432,601)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,016,801)	\$ -	\$ -
2014	\$ (10,493,028)	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (12,077,228)	\$ -	\$ -
2015	\$ 1,579,837	\$ 206,351	\$ 1,219,100	\$ 424,749	\$ (266,000)	\$ (6,059,363)	\$ 6,055,000	\$ -

Table 8 depicts the IMPLAN estimates of the direct, indirect and induced employment impacts of the WVJIT portfolio companies over the analysis period 1999 – 2010. The IMPLAN estimates are based on the number of employees required to produce the level of output in each industry.

**TABLE 8: IMPLAN Employment Estimates**

	Total Employment	Direct Effect Employment	Indirect Effect Employment	Induced Employment
1999	45.2	28.9	4.7	11.6
2000	60.4	36.2	10.1	14.1
2001	31.6	22.1	3.4	6.1
2002	98.3	52.2	17.5	28.6
2003	165.1	86.7	32.3	46.1
2004	154.4	84.8	27.6	42.0
2005	225.9	126	39.4	60.5
2006	365	202.4	65.4	97.2
2007	428.5	245.1	71.7	111.7
2008	516.2	312.3	76.7	127.2
2009	474.3	257.1	97.7	119.5
2010	474.3	257.1	97.7	119.5
<b>Total Full Time Equivalents</b>	3,039	1,711	544	784
<b>Average Full Time Equivalents</b>	253	143	45	65

## **IMPLAN Model Verification Using Actual Tax/Employment Data**

As noted earlier in this report, the WVJIT portfolio companies each requested tax records from the West Virginia Tax Department. We have used this data and the percentage difference between this data and the IMPLAN estimates to:

- Use the actual taxes paid (as reported by the Tax Department) in lieu of the IMPLAN estimates of Direct Corporate Taxes & Fees
- Adjust the Indirect Corporate Taxes & Fees by the percentage difference
- Adjust the Personal Taxes & Fees by the percentage difference

Because only some of the portfolio companies responded to our requests for tax information release forms (representing 34% of the total revenue), we extrapolated from the results we did receive to the entire portfolio. It is possible that this extrapolation overstates the tax consequences of the portfolio investments.

Similarly, the WVJIT portfolio companies each requested employment records from WorkForce West Virginia. We have used this data and the percentage difference between this data and the IMPLAN estimates to:

- Use the actual employment (as reported by WorkForce West Virginia) in lieu of the IMPLAN estimates of Direct Effect Employment
- Adjust the Indirect Employment by the percentage difference
- Adjust the Induced Employment by the percentage difference

As with the tax data, only some of the portfolio companies responded to our requests for employment information release forms (representing 51% of the total revenue), so we extrapolated from the results we did receive to the entire portfolio. It is possible that this extrapolation overstates the employment consequences of the portfolio investments. On the other hand, our confidence in these adjustments is enhanced when we observe that the adjusted personal taxes and fees of approximately \$11.6 million is 6% of the adjusted total payroll. This is a reasonable rate given that the \$11.6 million includes all taxes and fees including auto registrations, hunting licenses, etc.

Based on the data received from the West Virginia Tax Department, it appears that taxes paid directly by the portfolio companies were 72% lower than the taxes estimated by IMPLAN. On the other hand, tax withholding (a good surrogate for actual individual taxes paid) was 136% higher than IMPLAN estimates.

Table 9 on the following page reflects these differences between the actual Direct Corporate Taxes and Fees, the actual Withholding deposits and the IMPLAN estimates where the terminal value of the WVJIT portfolio in 2015 is \$14.6 million. The Net Present Value of these total cash flows discounted at 6.448% is \$8,566,425. If the terminal value of the portfolio is assumed to be \$7.3 million, the Net Present Value of the

cash flows discounted at 6.448% is \$6,044,240. Under these assumptions, the WVJIT program and the Millennium Notes had a positive financial impact and were well worth undertaking.

**TABLE 9: IMPLAN Estimates Adjusted for Actual Taxes & Fees Paid**

	Total Cash Flow	Direct Corporate Taxes & Fees	Indirect Corporate Taxes & Fees	Personal Taxes & Fees	WVJIT Net Income Before Gains/Losses	Tax Credits	Liquidating Cash Balance	Investment & Capital Assets
		-79%	0%	122%				
1999	\$ 700,883	\$ 7,783	\$ 158,265	\$ 59,834	\$ 475,000	\$ -	\$ -	\$ -
2000	\$ 573,982	\$ 7,854	\$ 235,870	\$ 110,258	\$ 220,000	\$ -	\$ -	\$ -
2001	\$ 28,747	\$ 4,176	\$ 95,336	\$ 42,235	\$ (113,000)	\$ -	\$ -	\$ -
2002	\$ 522,884	\$ 10,170	\$ 349,011	\$ 226,704	\$ (63,000)	\$ -	\$ -	\$ -
2003	\$ 627,717	\$ 17,883	\$ 531,673	\$ 360,162	\$ (282,000)	\$ -	\$ -	\$ -
2004	\$ 533,334	\$ 16,945	\$ 507,319	\$ 326,070	\$ (317,000)	\$ -	\$ -	\$ -
2005	\$ 1,018,748	\$ 22,509	\$ 711,716	\$ 476,523	\$ (192,000)	\$ -	\$ -	\$ -
2006	\$ 2,028,944	\$ 34,572	\$ 1,104,941	\$ 770,431	\$ 119,000	\$ -	\$ -	\$ -
2007	\$ 2,392,973	\$ 34,975	\$ 1,277,281	\$ 901,718	\$ 179,000	\$ -	\$ -	\$ -
2008	\$ 2,538,641	\$ 36,910	\$ 1,386,050	\$ 1,036,680	\$ 79,000	\$ -	\$ -	\$ -
2009	\$ 2,114,891	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (92,000)	\$ -	\$ -	\$ -
2010	\$ 1,940,891	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ -	\$ -	\$ -
2011	\$ 1,940,891	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ -	\$ -	\$ -
2012	\$ (4,068,273)	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ (6,009,164)	\$ -	\$ -
2013	\$ (4,075,910)	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ (6,016,801)	\$ -	\$ -
2014	\$ (10,136,337)	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ (12,077,228)	\$ -	\$ -
2015	\$ 16,529,528	\$ 43,714	\$ 1,219,100	\$ 944,077	\$ (266,000)	\$ (6,059,363)	\$ 6,055,000	\$ 14,593,000
	\$ 15,212,534	\$ 499,773	\$ 14,891,162	\$ 10,919,155	\$ (1,583,000)	\$ (30,162,556)	\$ 6,055,000	\$ 14,593,000

Table 10 shows the Employment effects adjusted for the actual reports made to WorkForce West Virginia. Overall, the WVJIT program was instrumental in creating a current total of 546 jobs paying an average salary of \$43,841.

**TABLE 10: Actual Employment vs. IMPLAN Estimates**

	Estimated Total Employment (FTEs)	Actual Direct Employment FTEs (WFWV)	Actual Payroll (WFWV)	Average Payroll per FTE	Adjusted Indirect Effect Employment (FTEs)	Adjusted Induced Employment (FTEs)
1999	211	135	\$ 3,964,474	\$ 29,375	22	54
2000	234	140	\$ 4,486,664	\$ 31,951	39	55
2001	467	326	\$ 10,817,675	\$ 33,134	50	90
2002	657	349	\$ 12,218,234	\$ 35,012	117	191
2003	694	364	\$ 13,984,863	\$ 38,378	136	194
2004	741	407	\$ 14,940,487	\$ 36,725	132	201
2005	750	418	\$ 16,576,286	\$ 39,620	131	201
2006	821	455	\$ 18,119,238	\$ 39,821	147	219
2007	866	496	\$ 21,432,317	\$ 43,253	145	226
2008	825	499	\$ 24,642,852	\$ 49,349	123	203
2009	907	492	\$ 24,596,184	\$ 50,028	187	229
2010	1,031	559	\$ 24,512,852	\$ 43,841	212	260
2011	1,031	559	\$ 24,512,852	\$ 43,841	212	260
2012	1,031	559	\$ 24,512,852	\$ 43,841	212	260
2013	1,031	559	\$ 24,512,852	\$ 43,841	212	260
2014	1,031	559	\$ 24,512,852	\$ 43,841	212	260
2015	1,031	559	\$ 24,512,852	\$ 43,841	212	260
<b>Total Full Time Equivalents</b>	<b>9,236</b>	<b>4641</b>	<b>\$ 190,292,126</b>		<b>1441</b>	<b>2122</b>
<b>Average Full Time Equivalents</b>	<b>710</b>	<b>387</b>			<b>120</b>	<b>177</b>
<b>Personal Taxes &amp; Fees (Adjusted)</b>			<b>\$ 10,919,155</b>			
<b>Personal Taxes &amp; Fees (%)</b>			<b>5.74%</b>			

## Summary & Conclusions

In summary, this study suggests that the Millennium Notes and the WVJIT program have had a positive impact on the State.

- The State issued \$30 Million Discount Tax Deferred Millennium Notes in return for approximately \$26 million investable cash. The weighted average discount (interest) rate was 6.448%.
- The Millennium Notes mature in 2011 – 2013. For purposes of this analysis, we have assumed that the tax deferral will be utilized in the year subsequent to the maturity date, or 2012 – 2014.
- Using IMPLAN estimates of direct, indirect and induced tax receipts and the actual costs of administering the WVJIT program, the net present value of the program (discounted at 6.448%) was positive under all terminal value scenarios:
  - NPV = \$6.5 million if the terminal value of the portfolio is assumed to be \$14.6 million (book value)
  - NPV = \$4.0 million if the terminal value of the portfolio is assumed to be \$7.3 million (50% of book value)
  - NPV = \$1.4 million if the terminal value of the portfolio is assumed to be \$0.0 million (worthless)
- Using the actual taxes and fees paid to the State by the portfolio companies and the personal income taxes withheld, the IMPLAN model estimates were adjusted. These adjustments resulted in a significant decrease in the direct corporate taxes and a significant increase in direct personal taxes. Using these adjusted estimates and the actual costs of administering the WVJIT program, the net present value of the program (discounted at 6.448%) was positive under all terminal value scenarios:
  - NPV = \$9.0 million if the terminal value of the portfolio is assumed to be \$14.6 million (book value)
  - NPV = \$6.5 million if the terminal value of the portfolio is assumed to be \$7.3 million (50% of book value)
  - NPV = \$3.9 million if the terminal value of the portfolio is assumed to be \$0.0 million (worthless)

The results of this analysis suggest that the WVJIT program has successfully achieved its mission of creating jobs and encouraging entrepreneurship in the State. The program generated a positive return to the State's treasury in excess of the weighted average cost of the Millennium Notes. Depending upon the "terminal" valuation placed on the portfolio, this return was between \$4 Million and \$9 Million. In other words, the taxpayers of the State of West Virginia were better off (to the tune of \$4 – 9 Million) than they would have been if the Millennium Notes had not been issued and the proceeds invested in the WVJIT program. In addition, the WVJIT portfolio companies generated an average of 387 full-time-equivalent jobs. In 2010, the portfolio companies employed approximately 550 full-time-equivalent staff.