



APPLIED ECONOMICS

**ECONOMIC IMPACTS OF THE
IOWA FUND OF FUNDS**

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NOVEMBER 2017

1.0 INTRODUCTION

Applied Economics has been retained by the Iowa Capital Investment Corporation, the general partner and oversight body for the Iowa Fund of Funds (IFOF) program to prepare an economic impact analysis of their capital financing program on the State of Iowa from inception through 2017. During this period, the portfolio and affiliate funds were invested in ten companies, of which eight provided sufficient information to be included in the impact analysis. This report looks at the job, payroll, and tax contributions of these companies and the overall impact value of the program to Iowa.

The IFOF was started in 2005 to help bring professional investing expertise, networks and capital to Iowa's entrepreneurs. Its main tool is the investment in carefully selected venture capital and private equity funds. To do this, the program raises private capital backed by contingent state tax credits and commits this capital to funds specializing in life sciences, medical services, information technology, media, manufacturing, distribution and services. In turn, these funds invest a portion of their capital in Iowa companies. The program has operated without State appropriations.

The first investment in an Iowa company occurred in 2006. Over the twelve year period from 2006 through 2017, the companies represented here received close to \$57.7 million in private capital funding through the program, which enabled them to attract an additional \$54.4 million in co-investments and \$54.5 million in loans.

The eight companies that are included in the analysis range in size from less than 10 employees to more than 350 employees, with several of the firms experiencing dramatic growth during the 2006 to 2017 time period. These companies also represent a broad spectrum of different industries.

The impacts represented here show a year-by-year snapshot of the companies assisted in each year. Most companies reported payroll and employment numbers for multiple years and are therefore included in totals for each of the reported years. However, once a company was no longer active in Iowa, they were no longer included in the impacts.¹

Economic impact analysis is a way to quantify not only the direct impacts of new jobs, payroll and sales generated by companies, but also their effects on the state's economy overall. It provides a robust approach to understanding the impact value from financing programs like IFOF that are designed to stimulate economic growth. Economic impacts utilize input-output analysis as a means of examining relationships within an economy, both between businesses and between businesses and final consumers. The resulting mathematical formulae allow for examination of the effects of a change in one or more individual businesses on the entire economy. The IMPLAN model, which is an input-output model for economic impact estimation, is used in this analysis. IMPLAN is a simple, yet robust tool and is currently used by a large number of state and federal government agencies, colleges and universities, non-profit organizations, corporations, and business development and community planning organizations and is the most widely employed and accepted regional economic analysis software for predicting economic impacts.

The information and observations contained in this report are based on our present knowledge of the components of development and of the current physical, socio-economic and fiscal conditions of the

¹ Companies are included beginning in the first year they received funding as well as each subsequent year through 2017, unless they were no longer operating in Iowa. Not all companies participated over the entire twelve year period.

affected areas. All company-specific data was provided to Applied Economics by the participating funds. This analysis is based on the best available information and is intended to aid policy makers in evaluating the impact to the State of the IFOF program. In no way will Applied Economics be held responsible or have any liability or be subject to damages as a result of this analysis. This report may be used only for the purposes for which it was intended.

2.0 SUMMARY OF RESULTS

The IFOF program provides access to a unique set of financial resources for companies looking to startup or expand in Iowa. These companies, in turn, provide on-going economic benefits to the State as they mature and create new jobs and payroll. These impacts are described below.

Economic Impacts

- The total economic impact on the Iowa economy over the last twelve years of the companies receiving investment from IFOF's portfolio funds is estimated at \$1.49 billion (Figure 1). These results reflect the operations of eight companies from 2006 to 2017.
- The eight companies that participated and provided data for this study accounted for **322 retained jobs and 830 new jobs and \$79.3 million in direct annual payroll**, counting each company only once at its ending year job level.
- The economic impacts created by the **participating companies resulted in a total of over 9,200 job-years and \$520.3 million in personal income over twelve years**. These results include the direct impacts created by the eight companies themselves, as well as additional jobs at local businesses that sell to these companies and their employees.
- While these impacts are significant based on the invested private capital of \$57.7 million, it is important to keep in mind that many of the participants will continue to operate and the true benefits of their operations in Iowa have not been fully realized. The program's investments in venture capital and private equity funds represent investments in the future economy of the State.

Revenue Impacts

- In addition to supporting jobs and economic activity, the companies in the IFOF program have generated a sizeable amount of state and local tax revenue. **The direct and indirect employees of the companies receiving investment from IFOF portfolio funds have generated an estimated \$49.4 million in state and local revenues since 2006**. This is in addition to revenues generated by the participating companies themselves, including sales taxes, property taxes and corporate income taxes in Iowa that are not quantified in this analysis.

Impact Value

- The IFOF program generated an impact value of \$25.88 per dollar invested over the twelve years since 2006, based on investments by portfolio funds of \$57.7 million and a cumulative economic impact of \$1.49 billion.
- Through 2017, the IFOF program has been operated at no cost to the state. The IFOF program resulted in 1,152 new and retained jobs from the eight companies included in this analysis, with \$0 cost per job.

**FIGURE 1
PERFORMANCE METRICS FOR IFOF PROGRAM**

Time Period Represented	2006 to 2017
Number of Companies Represented ¹	8
Total Investment by IFOF Portfolio Funds	\$57,654,190
Total New Jobs Created at Participating Companies ²	830
Total Jobs Retained at Participating Companies	322
Average Wage per Job	\$64,413
Total Economic Impacts (2006 - 2017)	
Cumulative Output	\$1,491,838,852
Cumulative Payroll	\$520,282,805
Cumulative Jobs ³	9,244
Average Annual Employment ⁴	770
Peak Annual Employment Impact (2017) ⁵	1,753
Total Cost of IFOF Program to State of Iowa	\$0
Economic Impact per Dollar Invested in Companies	\$25.88
Cumulative Taxes Generated (2006-2017) ⁶	\$49,381,755

¹Ten companies participated in the Iowa Fund of Funds during this time period but only eight provided sufficient data to be included in the impacts.

²Each company is counted once at their ending employment level which may occur in different years.

³ Represents sum of employment impacts from 2006 to 2017. Direct and indirect jobs at each firm may be counted in multiple years.

⁴ Cumulative job years divided by 12 years.

⁵ Represents total employment impact in single highest year, which in this case was 2017.

⁶Includes state and local personal income and sales tax generated by direct employees at participating companies and indirect jobs represented in economic impact. Corporate income taxes are not included.

3.0 ECONOMIC IMPACTS

The economic benefits resulting from IFOF include the cumulative impacts of eight companies assisted since 2006, when the first Iowa company investment was made by a portfolio fund. Economic impact analysis measures the effects of economic stimuli or expenditures in the local economy. These impacts include direct and indirect jobs, personal income, and economic activity or output that were generated by these companies. Indirect impacts are the result of the multiplier effect and capture supported supplier and consumer businesses and their employees in Iowa that benefit from local purchases made by these companies and their employees.

The IFOF portfolio funds have invested in ten companies, counted according to IFOF policy. Eight of these companies provided data that could be used in the economic impact analysis. The two remaining companies received very small investments, and partial information suggests they would not significantly change the impact analysis. Through the IFOF program, these eight companies gained access to \$166.6 million in capital, including \$57.7 million as equity and subordinated debt from IFOF portfolio funds, \$54.4 million in additional co-investment, and \$54.5 million in leveraged debt. The companies range in size from less than 10 employees to over 350 employees.

On average, companies receiving support through the IFOF program have been active in Iowa for about five years, although several date back ten or more years. The data represented here shows a snapshot of the combined economic impact of all companies beginning in the first year they received funding through 2017, unless they were no longer in business in Iowa.

The economic impact results are grouped into direct impacts and total impacts. Direct output represents the value of production or gross revenues at participating companies. Direct jobs and payroll were provided by the individual companies and represent the number of jobs and amount of payroll at the companies participating in the program in a given year.

Total impacts include the direct impacts as well as indirect and induced impacts. The indirect and induced impacts of these companies stem from two sources. First, companies purchase a variety of goods and services from vendors within the state creating additional demand, jobs and payroll. The amount and type of local purchases depends on the industry type of the participating company. Second, company employees, as well as supported vendor employees, make local purchases of consumer goods. This creates additional demand and supports additional employment and payroll, primarily at retail and personal services establishments. The total impact includes both the direct impacts and the secondary, or indirect and induced impacts created at other local businesses and their employees.

The secondary impacts described above are called multiplier effects. Multiplier effects are a way of representing the larger economic effects on the local economy. The multiplier effects translate an increase in output (loosely defined as sales, plus or minus changes in inventory) into a corresponding increase in jobs and personal income or payroll. In essence, the multiplier effect represents the recycling of local spending. This recycling process creates new business opportunities.

The multipliers used in this analysis are from IMPLAN, a national vendor of economic impact software, and are specific to the State of Iowa. Industry specific multipliers were used for each type of participating company. The variation in multipliers between the specific industry types is due to the different mix of secondary industries that are affected since multipliers are industry-specific.

The magnitude of the impact is proportional to the number of companies participating in any given year, the size of those companies, and the types of industries. Some industries generate a much greater multiplier effect than others, depending on the amount of local purchases they are able to make. All total, the IFOF created an economic impact of \$1.49 billion in Iowa from 2006 through 2017 (Figure 2).

FIGURE 2
ECONOMIC IMPACTS OF IOWA FUND OF FUNDS
ON THE STATE OF IOWA
PARTICIPATING COMPANIES
Current Dollars

Year	Investment	Co-Investment	Leveraged Debt	Number of Participating Companies	Direct Impacts			Total Impacts		
					Output	Jobs*	Payroll	Output	Jobs	Payroll
2006	\$4,000,000	\$1,925,000	\$11,044,000	1	\$13,071,000	99	\$4,963,601	\$18,716,179	139	\$6,756,972
2007	\$0	\$0	\$0	1	\$15,824,000	117	\$5,642,366	\$22,658,160	166	\$7,813,455
2008	\$5,371,100	\$2,228,900	\$0	4	\$40,879,915	152	\$8,719,121	\$64,594,861	255	\$13,645,475
2009	\$2,996,910	\$233,000	\$0	4	\$53,652,422	214	\$13,631,943	\$85,725,076	382	\$21,520,471
2010	\$4,593,200	\$662,990	\$0	4	\$39,016,132	312	\$17,192,039	\$60,597,766	461	\$23,328,321
2011	\$4,235,475	\$195,700	\$0	4	\$47,354,542	339	\$21,170,004	\$72,093,454	516	\$28,392,318
2012	\$490,918	\$4,418,262	\$0	5	\$61,256,310	431	\$26,753,199	\$94,230,859	671	\$36,535,529
2013	\$249,027	\$12,639,041	\$0	5	\$77,353,884	465	\$32,499,330	\$120,257,918	766	\$44,737,055
2014	\$13,342,560	\$13,508,632	\$20,300,000	5	\$82,343,338	605	\$42,474,835	\$122,801,605	908	\$55,675,129
2015	\$20,125,000	\$12,875,000	\$23,200,000	6	\$175,170,214	884	\$58,136,986	\$270,283,019	1,557	\$87,767,003
2016	\$0	\$0	\$0	6	\$176,464,997	1,004	\$63,064,373	\$270,570,763	1,670	\$92,392,025
2017	\$2,250,000	\$5,700,000	\$0	5	\$188,050,000	1,036	\$70,176,534	\$289,309,192	1,753	\$101,719,053
Total*	\$57,654,190	\$54,386,525	\$54,544,000	8	\$970,436,755	5,658	\$364,424,331	\$1,491,838,852	9,244	\$520,282,805

*Total jobs at the bottom of the table represent the sum of jobs at each of the participating companies over the 12 year period. Results for individual years represent current year employment for participating companies in each year. Individual companies are represented in multiple years.

The companies assisted through this program created an increase in demand of \$521.4 million over twelve years that supported \$155.9 million in payroll and close to 3,600 jobs at other local businesses through their supplier purchases and purchases made by employees. These economic impacts are in addition to the cumulative impacts of jobs and payroll that were supported by the companies directly.

Counting each company once based on their ending year employment during the period, companies funded by IFOF portfolio funds accounted for 322 retained jobs and 830 new jobs in Iowa. Alternatively, these companies accounted for a cumulative total of 5,658 jobs-years and \$364.4 million in direct payroll over the twelve year period, counting the jobs at each company in each year of participation. While these impacts are significant, it is important to keep in mind that to the extent these companies continue to operate, the benefits of their operations in Iowa have not yet been fully realized.

The output multiplier for the combined impacts is 1.54. This means that for every \$1 million of production by the participating companies, an additional \$540,000 in additional economic activity is generated in the state's economy, along with 3.7 indirect jobs at other businesses in the State. On average, the income from these indirect jobs is about \$43,500 per employee.

4.0 REVENUE IMPACTS

In addition to creating a substantial impact on the state's economy, the new jobs generated as a result of the IFOF program led to additional tax revenues. This analysis quantifies the revenue impacts created by employees through state sales and personal income taxes.

Employees at participating companies, and other local employees that are supported by the additional economic activity, pay state personal income taxes on their earnings, as well as state and local sales taxes on a portion of their purchases. Using the results from the economic impact analysis, it is possible to estimate the revenue impacts. The direct impacts reflect taxes paid by the employees at participating companies. The total revenue impacts include taxes generated by indirect and induced employees at other local businesses supported by supplier purchases and employee spending.

The direct and indirect employees supported by the Iowa Fund of Funds have generated an estimated \$49.4 million in state and local revenues since 2006, including \$30.2 million in direct revenues generated by the employees of the participating firms (Figure 3). *This impact does not include additional sales and corporate income taxes paid by the companies. This information was not reported by the participating firms.*

FIGURE 3
REVENUE IMPACTS OF JOBS ASSOCIATED WITH IOWA FUND OF FUNDS

Year	Direct Revenue Impacts		Indirect Revenue Impacts		Total Revenue Impacts	
	Sales Tax	Personal Income Tax	Sales Tax	Personal Income Tax	Sales Tax	Personal Income Tax
2006	\$92,323	\$286,566	\$125,680	\$98,912	\$218,003	\$385,478
2007	\$104,948	\$320,951	\$145,330	\$119,745	\$250,278	\$440,696
2008	\$166,627	\$527,336	\$259,983	\$279,446	\$426,610	\$806,782
2009	\$273,200	\$849,061	\$427,253	\$443,941	\$700,453	\$1,293,002
2010	\$347,546	\$1,026,320	\$471,847	\$331,505	\$819,393	\$1,357,825
2011	\$429,152	\$1,311,806	\$576,730	\$389,419	\$1,005,882	\$1,701,225
2012	\$540,812	\$1,654,794	\$738,843	\$527,321	\$1,279,655	\$2,182,115
2013	\$655,330	\$2,086,594	\$901,491	\$659,520	\$1,556,821	\$2,746,114
2014	\$862,194	\$2,712,859	\$1,128,476	\$723,687	\$1,990,670	\$3,436,546
2015	\$1,198,491	\$3,653,020	\$1,818,827	\$1,628,105	\$3,017,317	\$5,281,125
2016	\$1,299,307	\$3,914,116	\$1,908,396	\$1,611,929	\$3,207,703	\$5,526,044
2017	\$1,457,329	\$4,442,958	\$2,118,776	\$1,732,953	\$3,576,105	\$6,175,911
Total	\$7,427,259	\$22,786,381	\$10,621,632	\$8,546,482	\$18,048,891	\$31,332,864

Note: Total revenue impacts include direct plus indirect revenues.

Direct and indirect employees associated with IFOF programs generated about \$18.0 million in state and local sales tax revenues over twelve years. Annual impacts increased significantly over time as the number of participating companies increased. This figure includes sales taxes generated by direct employees at participating companies and indirect employees at supported local businesses. Taxable employee expenditures are calculated by multiplying total personal income from the economic impact

results times 31 percent, times the state sales tax rate of 6.0 percent plus the local sales tax rate in the county where each company is located.²

Employees at participating companies and at supported local businesses also paid personal income taxes in Iowa estimated at \$31.3 million since 2006. State income tax revenues are calculated using the average personal income per employee for direct and indirect employees, adjusted for a standard deduction, and multiplied by the graduated state income tax rate schedule and the number of employees.

Summary

Through its fund investments, the Iowa Fund of Funds has created significant impacts on the Iowa economy. There have been notable increases in the magnitude of annual impacts over the past several years as the participating companies increased in number and size. The program has not only directly helped to seed and expand local companies; it has also supported job growth at other local supplier businesses. The new and on-going jobs have generated payroll, spending, and tax revenues that have added to the state's economy and can reasonably be expected to have an impact in the future.

² According to the Census Bureau Consumer Expenditure Survey, persons in the average income range of supported employees spend about 31 percent of their income on taxable goods.