State of Oklahoma
Incentive Evaluation Commission
Technology Business Finance Program Draft Evaluation

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Contents

Key Findings and Recommendations

Overview

The Oklahoma Center for the Advancement of Science and Technology (OCAST) was authorized to develop and implement a technology business financing program to provide funding and financing for and to assist qualified Oklahoma enterprises to commercialize a new product, service, technology, innovation, or process. Awards generally range from $20,000 to $50,000 and repayments are made through royalty payments.

The program was terminated, effective July 1, 2024.

Recommendation: Repeal.

Key Findings Related to Established Criteria for Evaluation

- **The program was last granted state appropriations in 2020, totaling $1.0 million.** Since then, the program has been funded from its return on investments.
- **As of FY 2023, the cumulative dollar amount of advances was $13.1 million.** In that same time period, there was a total of $7.0 million in repayments, representing a negative return on investment, or about $0.53 for every $1 advanced.
- **Data from the 2023 survey indicated the program supported 6 full-time equivalent employees working in Oklahoma.** This reflects responses from companies that had received advances from 2019 to 2023. Not all companies that received advances responded to the survey, reasonably indicating that this is an undercount.
- **Data from the 2023 survey indicated $0.4 million in payroll.** This reflects responses from companies that had received advances from 2019 to 2023. Not all companies that received advances responded to the survey, reasonably indicating that this is an undercount.
- **15 companies received funding from the program from FY 2020 to FY 2023.** Of those companies, 2 have since gone out of business and 13 continue to operate in state. 12 of those companies are located in an urban area with 1 located in a rural area.
- **The economic activity associated with program funding based on responses to the 2023 survey generated 39 jobs, $9.4 million in economic activity, and $0.2 million in state tax revenue.** For every $1.00 of state investment, $10.56 of economic activity and $0.25 of state tax revenue was generated.
- **Comparable programs were found in three other states – Oregon, New Jersey, and Vermont.** The main differences in the programs was the financing available was typically in larger amounts than what Oklahoma offers, and each state had different repayment terms.
- **The program has ended and OCAST will not be accepting any new applications or disbursing any more advances.**
- **New legislative action will be required for any action to be taken on the remaining funds available.**

Recommended Program Changes

Not applicable

Introduction

Incentive Evaluation Commission Overview

In 2015, HB2182 established the Oklahoma Incentive Evaluation Commission (the Commission). It requires the Commission to conduct evaluations of all qualified state incentives over a four-year timeframe. The law also provides that criteria specific to each incentive be used for the evaluation. The Commission has completed two cycles of qualified evaluations, from 2016-2019 and 2020 through 2023. This is now the first year of a new four-year cycle.

In 2023, the Legislature passed and Governor Stitt signed into law SB 745, which made a number of changes to the incentive evaluation process that were recommended by the Commission. Among them was the ability of the Commission to review qualified incentives within the four-year evaluation cycle. In prior cycles, incentives had to be reviewed at least once every four years, which effectively locked in place the order that incentives would be evaluated. As a result, some incentives in this cycle may be reviewed in less or more than four years.

One reason for the change in the evaluation cycle was to allow incentives with similar purposes or that are targeted to specific industries or parts of the state to be evaluated in the same year. This allows for continuity in the discussion and comparisons of effect and effectiveness. This grouping is considered an evaluation best practice.[1] For 2024, there are two broad categories of evaluated incentives:

- Financing/Venture Capital/Early Business related.
- Tourism/Film/Quality of Life related.

This evaluation of the Technology Business Financing Program ("the Program") administered by the Oklahoma Center for Advancement of Science and Technology ("OCAST) is one of 12 evaluations being conducted by the Commission in 2024 and fits within the financing/venture capital/early business-related incentives. This Program was last evaluated in 2022. Based on this evaluation and their collective judgment, the Commission will make recommendations to the Governor and the State Legislature related to this program.

Summary of 2022 Evaluation Findings and Recommendations

Overall Recommendation: Retain with improvements in data collection for future evaluation.

Key Findings:

- There is insufficient data to determine the economic impact of the program.
- About half of the total amount of advances made have been repaid.
- TBFP portfolio companies have a four-year survival rate of 66.2 percent.

Other recommendations:

- Require program participants to respond to annual surveys.

[1] "Best Practices for Planning Tax Incentive Evaluations: Lessons Learned from Indiana's Evaluation Process," Pew Charitable Trusts, August 2022, p.3. Accessed electronically at www.pewtrusts.org/-/media/assets/2022/08/best-practices_incentiveeval-planning_2022-3-24_final.pdf

2024 Criteria for Evaluation

The provisions of HB 2182 require that criteria specific to each incentive be used for the evaluation. A key factor is evaluating the effectiveness of incentive programs is to determine whether they are meeting the stated foals as established in state statute or legislation.

To assist in a determination of program effectiveness, the Incentive Evaluation Commission has adopted the following criteria:

1. Jobs/payroll associated with the program.
2. Use of the program over time.
3. Comparison of participant success rates to tech start-ups, generally.
4. Interaction or coordination with other programs or service offerings in the economic development or entrepreneurial support ecosystem.
5. Percentage of funding provided that is repaid with one, three, and five years, respectively, as well as the percentage that has been deemed uncollectable.
6. State return on investment.
7. Case studies or other longitudinal tracking of program recipient growth outcomes.
8. Return on investment from an equity standpoint.
9. Urban vs. rural participation levels and outcomes.

Incentive Usage and Administration

Program Administration

The Technology Business Finance Program (TBFP) was created in 1998, authorized by the Technology Transfer Act (74 O.S. § 5060.20a). The purpose of the program is to allow Oklahoma entrepreneurs access to critical early-stage, proof-of-concept financing through OCAST. The statute allows OCAST to require payment of royalties, fees, interest, profits, and other payments generated from the business activity and that these proceeds be retained for use in the program. OCAST is also given the authority to establish program specifications and to contract with a qualified entity to manage and operate it.

Since 1999, i2E, a 501(c)(3) organization with a mission to foster entrepreneurship in the state, has managed and operated the program, with the following specifications.

Eligibility

The program purpose is to help new technology firms start up and get to the next stage of investment by private sources by providing pre-seed funding in incremental stages. Pre-seed funding is financing that takes place during the period from idea conceptualization up to established steady market sales.[2] The following criteria determine firms' eligibility to receive TBFP funding:

- At least 50 percent of employees and/or firm assets are located in Oklahoma,
- Commercializing a new technology-based product, process, material, design, and/or know-how,
- Must have potential for significant, high wage performance growth, generally with wage levels 35 – 40 percent higher than average,
- Products, processes, and target markets that will be attractive to subsequent private investment,
- Classified as small in accordance with the U.S. Small Business Administration,
- In the development, proof-of-concept, and prototype stages.

Firms that are not eligible for funding include:

- Retail services,
- Oil and gas exploration and production,
- Franchisees,
- Real estate development, management and investment,
- Capital intensive projects,
- Technology or non-technology firms that do not have a proprietary product or service.

In addition to these requirements, all funding recipients must complete an application submitted to i2E for approval. The application review process includes financial reviews, interviews with i2E staff, and associated documentation. Applicants also participate in a round of meetings with i2E staff and subject matter experts, which may include i2E management, venture advisors, underwriters, and compliance teams. After an evaluation of the firm and its product concepts, the i2E team decides the viability of an investment and application approval or rejection.

As the administrator of the program, i2E has the following responsibilities:

- Support and enforce the Financing Agreements governing the investments,
- Assist companies with market, financial, and administrative issues arising during the investment term,
- Review and negotiate repayment terms,
- Administration of funds repaid to the program,
- Track and report all required portfolio company data to evaluate the Program, and

[2] Technology Business Finance Program Specifications.

- Perform all administrative requirements of the Program.

Funding Terms

According to current program guidelines, awards generally range from $20,000 to $50,000 but may exceed this in certain cases. Award recipients are required to match 5 to 50 percent of this funding from non-state sources. Matching funds are typically provided by the founders of a startup, and they often have limited financial resources.

Once awards are paid, i2E refers to them as “advances.” Once an advance is made, the recipient has five years to repay i2E, according to the following schedule:

- 1.25 times the original advance, if repaid within two years
- 1.75 times the original advance, if repaid within three years
- 2.00 times the original advance, if repaid beyond three years

Repayments are made through royalty payments. They are required to be paid quarterly until the full repayment amount is reached, as long as revenue requirements are met, according to the following terms:

- 5 percent of gross revenue after the first year following the advance, or when gross revenue exceeds $25,000 per quarter
- 7 percent of gross revenue after the second year following the advance, or when gross revenue exceeds $50,000 per quarter
- 10 percent of gross revenue after the third year following the advance, or when gross revenue exceeds $100,000 per quarter

TBFP contracts also list events that would require immediate repayment. These include liquidation, bankruptcy, acquisition, fraud, out-of-state relocation, asset sale, or death of a principal.

OCAST and i2E acknowledge that while advances are intended to be repaid according to the terms and timeframe stipulated by each contract, there is a high risk that advances will not be repaid. Recipients of advances are not required to be repaid unless performance metrics related to gross revenue and performance are met. By design, these terms are considerably more favorable than private sector financing, as it is an effort to support the formation of promising new technology firms in the State and create opportunities for them to pursue private financing in the future. The program seeks to fill a financial gap for firms that are not be able to secure private funding.

Monitoring and Reporting

Following the payment of an advance, the recipient’s operations and finances are regularly monitored by i2E. This may include reviews of financial statements or meetings with key stakeholders to monitor the performance of product prototypes. On a quarterly basis, i2E holds meetings to review the status of award recipients and discuss the likelihood of repayment.

On a monthly basis, i2E is required to report the following information to OCAST:

- Awards made by fiscal year
- Leverage of private funding, quarterly
- Revenues, quarterly
- Paybacks, quarterly
- Economic Impact Analysis of Firms Assisted by TBFP, annually
- Number of jobs, annually
- Average wage of jobs, annually

Economic impact data is collected through an annual survey of program participants conducted by i2E. The survey asks participants to report new and existing jobs, total revenue, total payroll, and average annual wages that have been made possible due to TBFP funding. Additional questions may be added, removed, or changed, though the core of the survey has remained consistent over time.

While surveying participants is a viable tool for collecting this impact data, there are factors in the execution of the survey that make the data collected insufficient for rigorous analysis. First, there is no contractual requirement that participants respond to the survey. As a result, the number of responses may fluctuate year to year.

Due to this fluctuation and the fact that companies may drop in and out of survey responses from year to year, the data collected is not a reliable source to understand trends in job creation, payroll, and revenue. Furthermore, historical data collected by the surveys are stored in aggregate form rather than in a database by company and year. An internal i2E policy that protects privacy of their clients is another barrier to analysis, though it is a reasonable measure when considering the importance of proprietary information in early-stage start-up firms. This confluence prevents analysis of results by company, year of financing, and industry which would be useful for the evaluation of program's economic impact.

Finally, the survey asks for jobs, payroll and revenue made possible by TBFP funding. However, for payroll and revenue, it does not specify whether either is based in Oklahoma. The TBFP program only requires that 50 percent of a company's employees and assets be based in Oklahoma at the time of funding. It is possible, especially as companies grow in the years following financing, that portions of the data received reflect jobs and payroll that is not based in Oklahoma and, as a result, may not have an impact on the State economy.

Figure 1: Progression of i2E Programs

Source: i2E

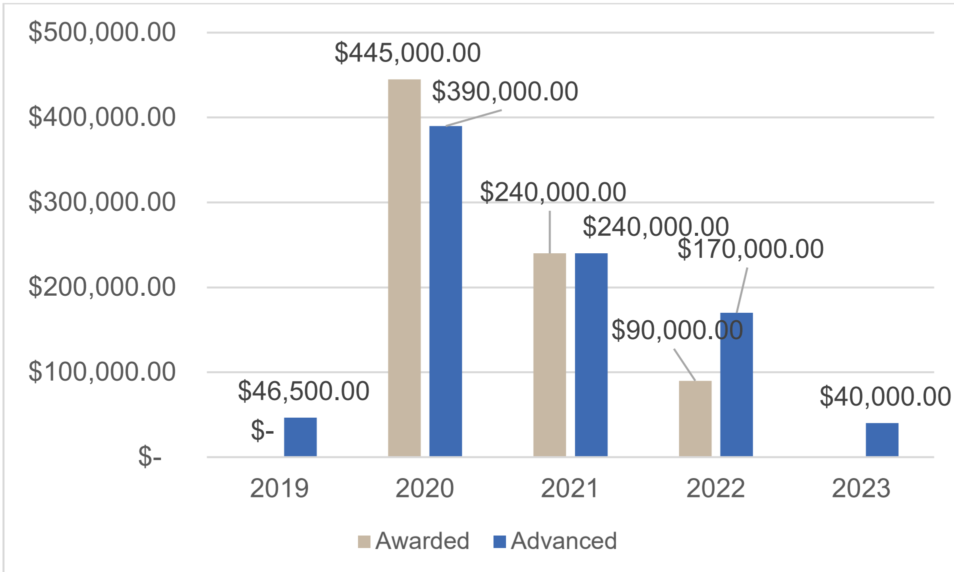
Ending of the Program

Due to increasing management fees and lack of economic return to the state, as of July 1, 2023, i2E was given a contractual mandate from OCAST to stop accepting new applications and to spend down the remaining funds of the program within 12 months. As of July 1, 2024, the program was transferred exclusively to OCAST. OCAST will not be accepting any new applications or disbursing any more advances. New legislative action will be required for any action to be taken on the remaining funds available.

Use of the Program

Since i2E took over program administration in 1999, there have been 186 TBFP awards, and 162 were funded, which impacted 142 different firms. This total investment of $15.8 million with direct returns to the i2E managed fund of $13.1 million in repayments. Data for transactions over the past five years are shown in Figure 2.

Figure 2: Summary of Transactions FY 2019 - 2023

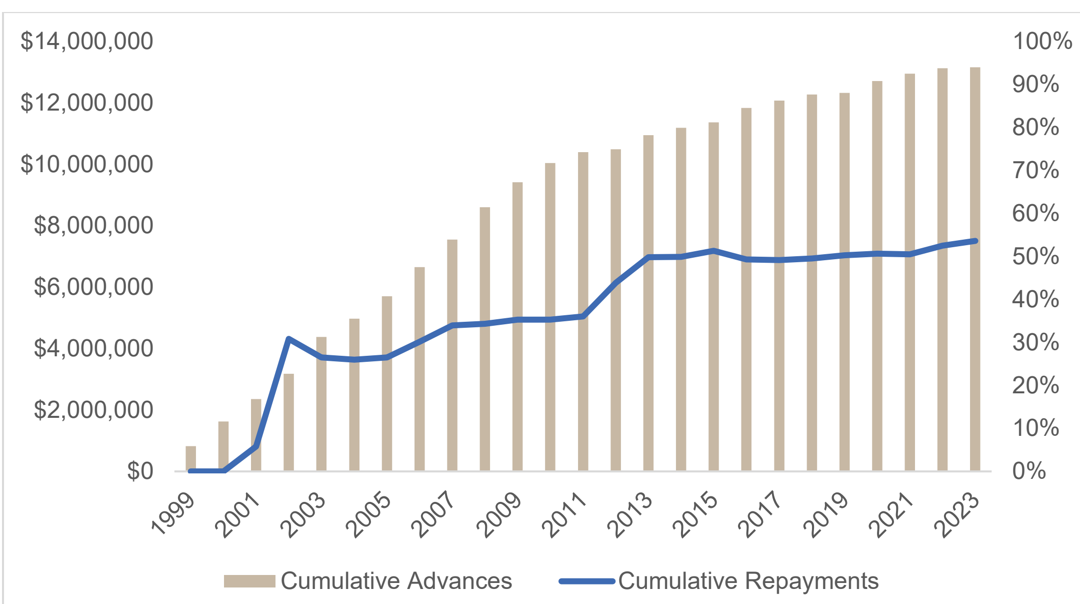


Source: OCAST

From FY1999 to FY2012, the TBFP received state appropriations each year, for an average appropriation of $756,569. Since FY2013 the State of Oklahoma has only appropriated funds twice, $100,000 in FY2019 and $1,000,000 in FY2020. The subsequent approach has been for the TBFP to use the return on its investments to fund its operations as well as new advances from the TBFP Fund.

Financing early-stage startups is a risky investment. This is seen in the repayment of TBFP advances since the inception of the program. Figure 1Figure 3 shows the repayment rate has risen over the course of the program and has stabilized around 50 percent since FY13. As of FY 2023, the cumulative dollar amount of advances was $13.1 million and cumulative repayments totaled $7.0 million.

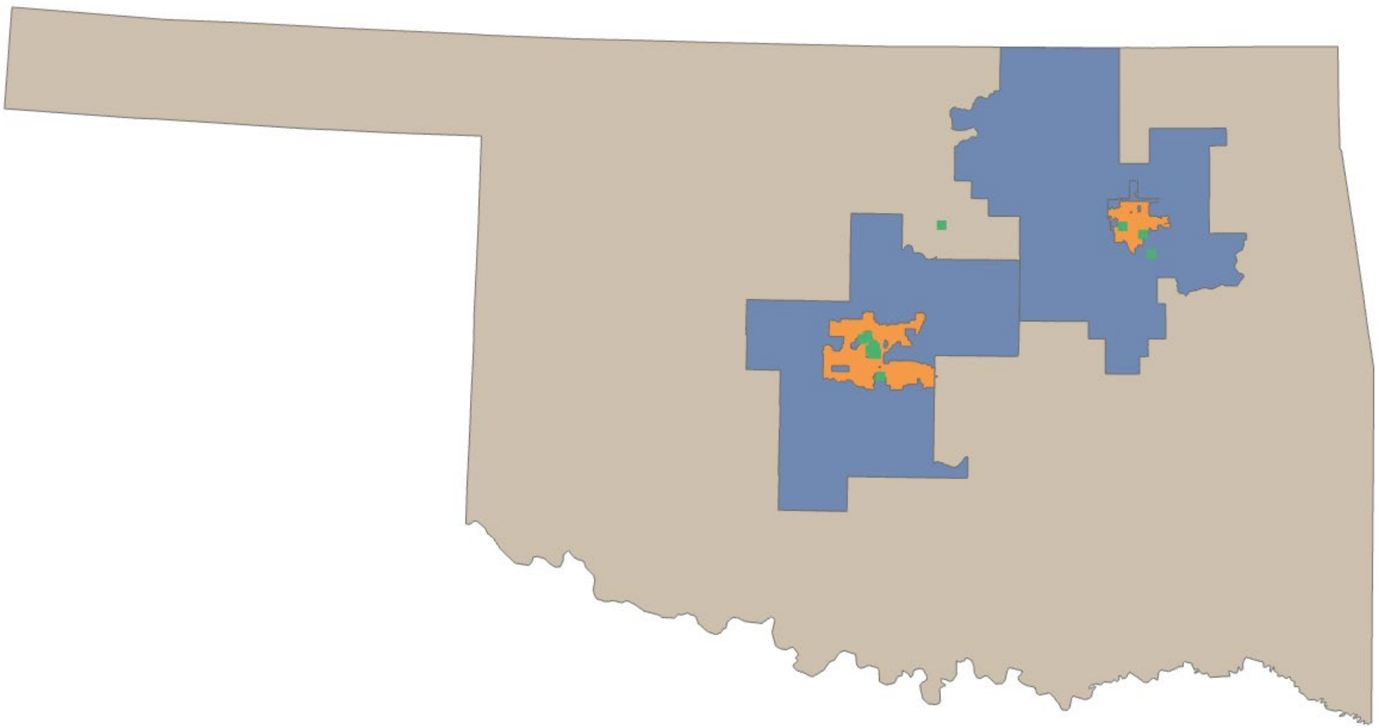
Figure 3: Cumulative Advances and Repayments, FY 1999 - 2023



Source: OCAST

From FY 2020 to FY 2023, 15 companies received funding from the program. Of those 15 companies, 2 have gone out of business and 13 continue to operate in Oklahoma. Of the Oklahoma-based businesses, 12 are in urban areas with one located in a rural county. 10 of those Oklahoma-based businesses are located within the city limits of either Oklahoma City or Tulsa.

Figure 4: Firms Receiving TBFP Funds, Urban vs. Rural Split



The TBFP incorporates multiple best practices within its program design.[3] The TBFP is a targeted incentive, allowing the State to provide funds in certain high-impact, high-growth prioritized industries. The TBFP is also successful at leveraging private investment. The program design requires a 5-50 percent private investment match of all funds advanced from the State.

[3] A full list and explanation of incentive best practices can be found in Appendix B.

Economic and Fiscal Impact

Economic and Fiscal Impact

A detailed explanation of the IMPLAN economic impact methodology can be found in Appendix C.

The total economic impacts for this incentive for the year 2023 are calculated using the reported payroll and employment associated with firms who have received TBFP funding and responded to the annual survey. It is assumed that the jobs and payroll reported in the survey would not have been created or retained without the incentive. Firms responding to the 2023 survey received TBFP funding from 2019 to 2023. Not all companies who received funding responded to the survey, therefore it is reasonable to assume that this is not a complete picture of the economic impacts of the program/

The economic impact of the associated payroll and jobs of firms receiving TBFP funds and responding to the 2023 survey is significantly larger than the state investment in those firms, as represented by the amount of funding advanced to them. For firms that had received funding from fiscal year 2020 through fiscal year 2023, the total amount advanced from the program was $886,500. The total economic impact from the creation of jobs and payroll of these same firms amounts to $9.4 million. For every dollar advanced through the TBFP program, $10.56 of economic activity was generated in the State of Oklahoma.

The generated economic activity from the program accounted for 39 jobs and over $3.7 million of labor income. The jobs created and economic activity also contributed to an additional $220,152 of tax revenue to the State. Taking into account the dollar amount advanced from the TBFP, for every $1.00 of state investment, $0.25 was generated in state tax revenue.

Table 1: Economic Impact of Payroll and Jobs of Firms Receiving TBFP Funds, 2023

Impact	Employment	Labor Income	Value Added	Output	Est. OK Tax Revenue
Direct	16	$2,463,383	$3,355,621	$5,127,984	$101,206
Indirect	8	$514,091	$746,916	$1,540,395	$31,687
Induced	15	$766,325	$1,449,330	$2,693,512	$87,260
Total	39	$3,743,799	$5,551,866	$9,361,891	$220,152

Incentive Benchmarking

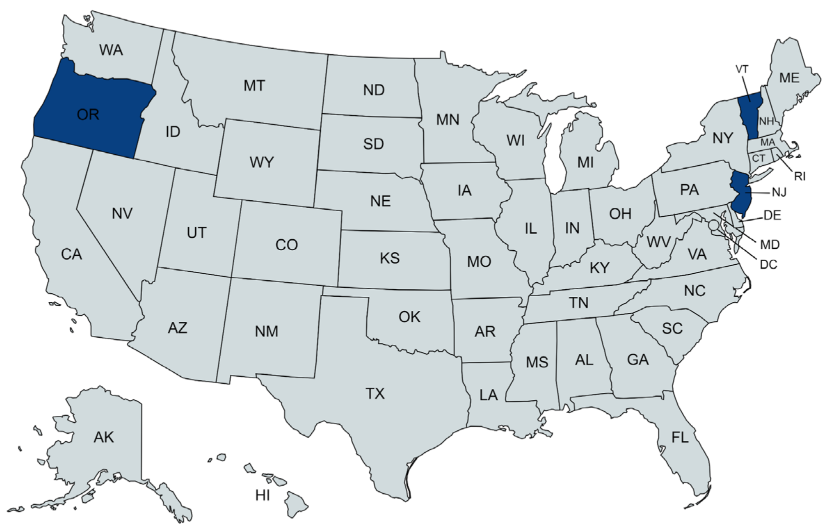
Benchmarking

For evaluation purposes, benchmarking provides information related to how peer states use and evaluate similar incentives. At the outset, it should be understood that no states are 'perfect peers' – there will be multiple differences in economic, demographic and political factors that will have to be considered in any analysis; likewise, it is exceedingly rare that any two state incentive programs will be exactly the same.[4] These benchmarking realities must be taken into consideration when making comparisons – and, for the sake of brevity, the report will not continually re-make this point throughout the discussion.

The process of creating a comparison group for incentives typically begins with bordering states. This is generally the starting point, because proximity often leads states to compete for the same regional businesses or business/industry investments. Second, neighboring states often (but not always) have similar economic, demographic, or political structures that lend themselves to comparison.

For purposes of benchmarking Oklahoma's Technology Business Finance Program, no neighboring states were found to have directly comparable programs. In expanding the benchmarking to any state, only three states nationwide were found to have comparable programs, Oregon, New Jersey, and Vermont.

Figure 5: Program Comparison Group



The TBFP is similar to other state programs in the purpose to provide an additional funding mechanism for entrepreneurs. This access to capital allows these startups additional opportunities to receive needed early-stage funding. Eligibility requirements across programs are similar for in-state location and business activity. Differing eligibility requirements across states is primarily seen in different priorities such as targeting specific industries. The TBFP is unique among similar programs in other states in that the financing amount is much smaller and there is a variable matching requirement. Other states have similar programs that provide loans or other financing opportunities to small start-up businesses but with financing ranges that are much larger and set matching requirements. The repayment terms are also variable across similar state programs, with Oklahoma the only program that has a royalty payment component.

[4] The primary instances of exactly alike state incentive programs occur when states choose to 'piggyback' onto federal programs.

Several other states have similar loan programs but are not directly administered by the State. In several states, such as Colorado, Utah, and North Carolina, the loan programs are funded and administered by local Community Development Financial Institutions (CDFIs) rather than by a state agency.

Table 2 below summarizes the TBFP and the three comparable programs in Oregon, New Jersey, and Vermont.

Table 2: Benchmark Programs

State Program	Purpose	Eligibility Requirements	Financing Range	Matching Requirement	Repayment Terms
Oklahoma Technology Business Financing Program	To provide funding and financing for and to assist qualified Oklahoma enterprises.	▪ At least 50% of a firm's employees and/or assets must be in Oklahoma ▪ Commercializing a new technology-based product, process, material, or design ▪ Non-eligible projects include: capital intensive, retail services, oil and gas exploration and production, franchisees, real estate development, management, investment firms	\$20,000 - \$100,000	5 – 50%	▪ 1.25x if repaid within 2 years ▪ 1.75x if repaid within 3 years ▪ 2.00x if repaid beyond 3 years ▪ 5% of gross revenue after first year or when gross revenue exceeds \$25,000/quarter ▪ 7% of gross revenue after first year or when gross revenue exceeds \$50,000/quarter ▪ 10% of gross revenue after first year or when gross revenue exceeds \$100,000/quarter
Oregon Entrepreneurial Development Loan Fund[5]	Provides direct loans to help start-ups, micro-enterprises, and small businesses expand or become established in Oregon.	▪ Total revenues of \$1.5 million or less in the past year ▪ 25 or fewer FTE ▪ 50% must be owned by individual(s) classifies as Severely Disabled	Maximum aggregate lifetime of \$1,000,000	None	▪ Fixed interest rate of Prime plus 2%, minimum ▪ Maximum amortization not to exceed useful life of assets being financed or 10 years, whichever is shorter

[5] https://www.oregon.gov/biz/programs/EDLF/Pages/default.aspx

New Jersey Accelerate Direct Funding[6]	To provide financial support to successful graduates of NJ accelerator programs.	▪ Graduate from an approved NJ accelerator program ▪ More than 50% of employees work in NJ or pay NJ taxes ▪ Minimum of 2 founders devoting 100% of professional time to the Company in NJ ▪ Is in a targeted economic development sector as specified by the Governor	Up to $250,000, in the form of Convertible Notes, with a 5% bonus for M/WBE certified business	1:1 matching investment from the Approved Accelerator	▪ 10-year warrant equal to 50% of the loan amount
Vermont Entrepreneurial Loan Program[7]	Provides financing to meet the working capital and capital-asset financing needs of Vermont-based businesses.	▪ Located in Vermont with potential to create/retain additional employment opportunities ▪ Must remain in Vermont for at least 5 years after loan is fully funded ▪ Seeking seed, start-up, or early growth capital ▪ Innovative products or services	Maximum loan amount of $350,000	10% of total project costs must be financed separately	▪ Unguaranteed: variable WSJ Prime + 2.50% ▪ SBA Guaranteed: variable WSJ Prime or VEDA 5-year Fixed Rate

[6] https://www.njeda.gov/njaccelerate/
[7] https://www.veda.org/financing-options/vermont-commercial-financing/startup-loans/

Appendices

Appendix A

Oklahoma Statute Title 74. State Government
§74-5060.20a. Technology business financing program - Specifications

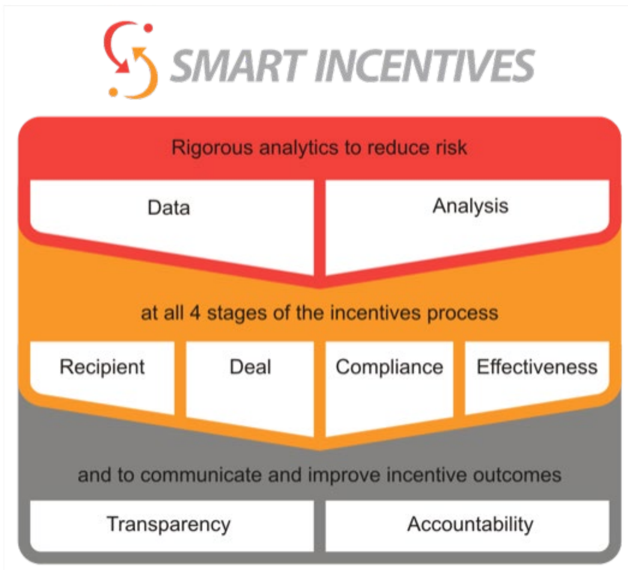
The Oklahoma Center for the Advancement of Science and Technology (OCAST), in conjunction with the Commercialization Center, may develop and implement a technology business financing program to provide funding and financing for and to assist qualified Oklahoma enterprises to commercialize new products, services, technology, innovations, and processes. In order to obtain funding or financing from the technology business financing program, a recipient shall be required to obtain separate private investment or funding, and may also be required to pay royalties, fees, interest, profits, or other payments generated or arising from the sale, lease, licensing, distribution, manufacture, marketing, or development of products, services, technology, innovations, and processes, whether alone or in conjunction with others, or generated or arising from a sale, acquisition, merger, or other transfer or takeover of the enterprise. Any such royalties, fees, interest, profits, or other payments or return of funding and financing shall be retained for use in the program. OCAST, in conjunction with the Commercialization Center, shall establish program specifications. OCAST may contract with the Commercialization Center or other qualified entity to operate and manage the program. Program funds shall not be used to pay administrative, management, or operating expenses of OCAST.

Added by Laws 1998, c. 211, § 4, eff. July 1, 1998. Amended by Laws 2010, c. 464, § 5, eff. July 1, 2010.

Appendix B: Business Incentives Best Practices

There has been extensive writing around what constitute business incentives best practices. From the project team's review of many sources,[8] it has identified 10 important best practices and sought to incorporate them into the analysis and discussion of this incentive.

As a starting point, business incentives should be viewed as a process, not an event. The award of an incentive and the incentive features are part of that process, and many of the identified best practices reflect that. The process itself should take into consideration each of these factors, which PFM's subcontractor, Smart Incentives, demonstrates in the following illustration:



While the project team believes this is a strong set of best practices, there may well be others that are as (or more applicable) in specific situations. It is also likely that some of the best practices will come into conflict in some situations. For example, application and reporting requirements may reduce the simplicity of business compliance. As a result, these will always be subject to analysis on a case-by-case basis.

The 10 best practices are:

1. **For maximum impact, incentives should be targeted.** Examples of useful targeting include companies or industries that export their goods or services out-of-state; high economic impact companies or industries – such as those with higher wages and benefits, significant job creation, or significant capital investment.

[8] Three resources in particular were relied upon on putting together the list of best practices. They are "What Factors Influence the Effectiveness of Business Incentives?" The Pew Charitable Trusts, April 4, 2019, accessed electronically at https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/04/what-factors-influence-the-effectiveness-of-business-incentives; "Improving Economic Development Incentives," Timothy J. Bartik, W.E. Upjohn Institute for Employment Research, 2018, accessed electronically at https://research.upjohn.org/cgi/viewcontent.cgi?article=1000&context=up_policybriefs; "Best Practices for the Design and Evaluation of State Tax Incentives Programs for Economic Development," Matthew N. Murray and Donald J. Bruce, January 2017, included within another evaluation at https://media.al.com/news_mobile_impact/other/AL%20ENTERTAIN%20NEWMKTS%203%209%2017.pdf

2. **Incentives should be discretionary.** In most instances, an application process enables the state government to require company disclosure of information related to eligibility criteria and enables the state to reject applications that do not meet its standards.

3. **Incentives should leverage significant private capital.** Ideally, the incentive should leverage private investment that is at least several multiples of the state investment.

4. **Incentives should provide most of the benefit within 1-3 years and have a limited duration.** Company discount rates are much higher than for the state, and businesses will significantly devalue incentive payments in later years.

5. **Incentives should take into consideration state and/or local as well as industry economic conditions.** Incentives that are provided in high performing areas or for stable and profitable businesses or industries will likely fail the ‘but for test’ – meaning the activity would likely occur without the state incentive.

6. **‘Smart’ incentives help businesses overcome practical barriers to growth.** In particular, customized assistance for locally owned, small and medium-sized businesses can have significant impact.

7. **Incentives should be transparent.** The incentive purpose should be clearly articulated, as are eligibility requirements, and regular, detailed reporting should be required from all program recipients.

8. **Incentives should require accountability.** When upfront financial incentives are offered in return for job creation, retention, or capital investment, there should be contract language in place that allows the state to ‘claw back’ state resources should the company not meet performance requirements.

9. **Incentives should have caps.** To ensure the state’s financial health, program dollar caps or limits should be in place. Incentive programs should also have a limited duration, with sunsets in place to require regular review of incentive performance.

10. **Incentives should be simple and understandable.** The state should be able to easily and effectively administer the incentive, and users should be able to readily comply with its requirements.

Appendix C: IMPLAN Economic Impact Methodology

The economic impact methodology utilized to determine the multiplier effects is IMPLAN (Impact Analysis for PLANning), a proprietary model; PFM has obtained a license for use of the IMPLAN model for these evaluations.

IMPLAN's Social Accounting Matrices (SAMs) capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. SAM accounts are a better measure of economic flow than traditional input-output accounts because they include "non-market" transactions. Examples of these transactions would be taxes and unemployment benefits.

Multipliers

SAMs can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user-specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region-specific SAMs, they will reflect the region's unique structure and trade situation.

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects which are displayed in the final report. These are the direct, indirect, and induced changes within the economy.

- **Direct** effects are determined by the Event as defined by the user (i.e., a $10 million order is a $10 million direct effect).
- The **indirect** effects are determined by the amount of the direct effect spent within the study region on supplies, services, labor, and taxes.
- Finally, the **induced** effect measures the money that is re-spent in the study area as a result of spending from the indirect effect.

Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually, these leakages will stop the cycle.

Fiscal Impacts

The IMPLAN tax report captures all tax revenue in the study area, across all levels of government that exist in that study area, for the specific industries and institutions affected by an event or group of events. Tax Impact results are based on the collected and reported taxes within the region for the given data year. IMPLAN taxes shown (and collected) are industry and geographically specific. The IMPLAN tax impact report splits the tax impacts into the various tax categories based on the picture of that region's economy. But, there is no industry-specific profile for taxes paid by tax category, so the distribution across tax categories is an all-industry average. While this is a limitation of the IMPLAN fiscal reporting, the IMPLAN tax report serves as an appropriate measure of jurisdictional tax results in the aggregate. Tax results cannot be added to any summary or detailed results as they are already included as a portion of Output. State taxes do not include taxes or district assessments levied by Federal, county, sub-county, city or township governments.