

**ECONOMIC IMPACT OF SMALL BUSINESS DEVELOPMENT CENTER**

**LONG-TERM CONSULTING ACTIVITIES IN PENNSYLVANIA:**

**2006-2007 (REVISED)**

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**EXECUTIVE SUMMARY**

This report analyzes the sales and employment changes and financing obtained by a sample of established businesses and pre-ventures (persons aspiring to start a business) that received five or more hours of consulting assistance (long-term clients) from the Pennsylvania Small Business Development Center (SBDC) in 2006.

There were 1,154 responses to three mailings of a questionnaire sent by mail and email, a 24.4% response rate. The clients surveyed represent the entire population of long-term clients of the Pennsylvania SBDC in 2006. The changes in sales, outsourcing, and employment for the sample in 2007 (the year after receiving assistance) were compared to the average rates of change for all businesses in Pennsylvania. The incremental improvement in the sample's performance, above the performance of the average Pennsylvania business, was extrapolated across the entire long-term client population to estimate the tax revenues generated through SBDC consulting. To be conservative, only clients who indicated that the SBDC's services were beneficial were used. The tax revenues generated by long-term clients were compared to the total cost of the Pennsylvania SBDC. Established business clients were also asked to estimate jobs saved due to the consulting services provided by the SBDC.

To gain additional insights into the value of the services offered by the Pennsylvania SBDC, the financing obtained by clients as a direct result of SBDC assistance was also analyzed. Finally, breakeven and business start-ups analyses were conducted.

The Pennsylvania SBDC assisted 4,736 long-term clients during 2006. Of these, 2,938 were established businesses and 1,798 were pre-ventures. Approximately 90% of the respondents said that the services received were

beneficial. In aggregate, the long-term clients of the Pennsylvania SBDC generated \$535.1 million in incremental sales and increased their outsourcing to suppliers by a total of \$77.7 million.<sup>1</sup> In addition, we estimate that these firms generated 5,382 new jobs because of SBDC consulting assistance (see Table 1) and that 8,344 jobs were saved due to the consulting.

The incremental performance of established business clients yielded \$34.2 million in tax revenues; another \$16.7 million in tax revenues were gained from pre-venture clients who started new businesses. The total amounted to \$50.9 million in tax revenues, of which approximately \$34.0 million went to the state and \$16.9 million went to the federal government.

Compared to the total cost of operating the SBDC (\$7.07 million), the consulting provided to both established business and pre-venture clients generated \$7.20 in tax revenues in one year for every \$1 spent on the entire program.<sup>2</sup> The average cost of each new job generated was \$1,315.

Furthermore, an estimated \$182.4 million in financing was obtained by clients as a result of the consulting received. This figure suggests that every dollar expended on the SBDC operation was leveraged by approximately \$25.78 in new capital raised from external sources.

Finally, our analyses indicated that 48.4% of established business clients were above breakeven in 2007 and 22.2% were at breakeven. For pre-ventures the corresponding numbers in their first full year of operation were 20.9% above breakeven and 18.7% at breakeven. The start-up analysis suggested that 63.0% of pre-venture clients started a business. Of these, 84.1% had at least one part-time employee and 71.7% registered sales in 2007.

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<sup>1</sup> Based on the relationship between sales and employment for the SBDC's clients, we estimate that the incremental outsourcing revenue generated may have created approximately 782 new jobs for sub-contractors.

<sup>2</sup> The overall benefit to cost ratio excluding increased tax revenues from outsourcing was 6.70 to 1.00.

**TABLE 1**  
**ESTIMATED IMPACT OF SBDC CONSULTING**

	Established Firms (N = 2938)	Pre-Ventures (N = 1798)	All Firms (N = 4736)
Aggregate sales impact	\$404,235,480	\$130,909,130	\$535,144,610
Aggregate outsourcing impact	\$ 62,292,860	\$ 15,422,630	\$ 77,715,490
Aggregate employment impact	3059 new jobs	2323 new jobs	5382 new jobs
Existing jobs saved	8344 jobs saved		
<hr/>			
State tax revenues generated	\$24,637,449	\$ 9,352,069	\$33,989,518
Federal tax revenues generated	<u>\$ 9,615,504</u>	<u>\$ 7,302,370</u>	<u>\$16,917,874</u>
Total tax revenues generated	\$34,252,953	\$16,654,439	\$50,907,392
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Cost of entire SBDC operation			\$7,074,848
Benefit to cost ratio	4.84/1.00	2.35/1.00	7.20/1.00
<hr/>			
Cost per job			\$1,315
<hr/>			
Cost of all consulting			\$4,952,394
Benefit to cost ratio	6.92/1.00	3.36/1.00	10.28/1.00
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Cost of long-term consulting	\$3,372,580	\$1,307,432	\$4,680,012
Benefit to cost ratio	10.16/1.00	12.74/1.00	10.88/1.00
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SBA financing	\$ 60,284,469	\$ 25,166,894	\$ 85,451,363
Debt financing	\$ 53,976,466	\$ 22,169,340	\$ 76,145,806
Equity financing	<u>\$ 14,912,348</u>	<u>\$ 5,864,141</u>	<u>\$ 20,776,489</u>
Total financing	\$129,173,283	\$ 53,200,375	\$182,373,658
Financing Leverage	18.26/1.00	7.52/1.00	25.78/1.00

## INTRODUCTION

This report describes the results of a study designed to assess the economic impact of the long-term consulting activities of the Pennsylvania Small Business Development Center (SBDC) program in 2006. Long-term clients are those who received a minimum of five hours of consulting assistance from the SBDC. The economic impact of consulting activities was analyzed by comparing clients' sales, outsourcing, and employment changes between 2006 and 2007 with the average changes for all Pennsylvania businesses during this time period. The growth in excess of statewide averages was used to calculate the incremental federal and state tax revenues generated the year after consulting assistance was provided. The tax revenues generated by SBDC-assisted clients were then compared to the cost of the service to determine if it was cost effective.

To supplement the analysis, clients were also asked to estimate the jobs saved as a consequence of the consulting received. In addition, clients were asked to indicate the amount of debt and equity financing they were able to obtain as a result of the consulting received from the SBDC.

Finally, we also conducted breakeven and start-up analyses as well as investigating the geographic scope of clients' businesses. The remainder of this report describes the methodology and results of the study.

## THE STUDY

In 2006 the Pennsylvania SBDC provided long-term consulting assistance to 4,736 clients, of whom 2,938 owned established small businesses and 1,798 were seeking to start new businesses (pre-ventures). The entire population of long-term clients was sent a questionnaire either by post or email. A total of 1,154 clients returned usable questionnaires (24.4%).<sup>3</sup> However, since 333 questionnaires were undeliverable, the effective response rate was 26.2%.

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<sup>3</sup> Not all of the respondents provided usable responses to every question; therefore, the effective sample sizes for the analyses may vary.

## **SAMPLE SIZE**

To determine if the number of responses received were statistically reliable, the following formula was used:

$$Z = [nNE^2/(Ns^2 - ns^2)]^{1/2}$$

where: n = actual sample size (1154).  
N = size of population (4736).  
s = standard deviation of the population (standardized value = 1).  
Z = confidence interval for the mean.  
E = amount of error in the mean to be tolerated (10% of s).

With a sample size of 1,154 and a tolerated error of 0.1 of a standard deviation, the confidence interval of the mean was 99.9%. In other words, we were 99.9% confident that our sample means were no more than one-tenth of one standard deviation from the population means.

## **SAMPLE VALIDATION**

Statistical tests were conducted to ensure that there was a minimum likelihood of response bias and that the responses to the questionnaire were reliable. The following procedures were used.

Response Bias. Three mailings (two by email, one by post) of the questionnaire were conducted. T-tests were used to compare early and late responding pre-venture or established business clients along the following dimensions: number of employees, sales revenues, financing obtained, and the evaluation of the benefits of the SBDC's services. There was no difference in the performance data for early and late responding pre-ventures. However, late responding established businesses reported higher levels of financing than early responders. Since late responders could be expected to be more similar to nonrespondents than early responders are, we conclude that there is no evidence of an upward bias on the performance data provided by established respondents.

Reliability. The reliability of the questionnaire was assessed by a correlation analysis comparing clients' perceptions of whether the SBDC's services were beneficial and their evaluations of (1) the quality of their consultants, and (2) their willingness to recommend the SBDC to others. The

results of the correlation analyses were statistically significant at the 1% level for both pre-ventures and established business clients.

#### **DATA ANALYSIS METHODS: ESTABLISHED BUSINESSES**

The changes in sales and employment for the period before and after consulting was received were calculated for businesses receiving at least five hours of assistance. Two part-time employees were considered equivalent to one full-time employee.

The rate of growth in sales (including growth in firm revenues and outsourcing) and employment for established clients was compared with the average growth of all businesses in Pennsylvania. The difference between the growth rate of clients' businesses and that of businesses in the state was used to estimate the incremental or marginal changes in the sales and employment of the sample.<sup>4</sup> We also compared the difference in outsourcing growth with the average growth in revenues for Pennsylvania businesses. Although outsourcing is a cost for client firms it represents additional revenues that also might create jobs for subcontractors. Since activities that are outsourced would normally be performed in-house by the firm in question it appears appropriate to measure those revenues. It would also be appropriate to count the jobs created through outsourcing that might have otherwise been created in the firms that received SBDC assistance. However, in the absence of direct information from the subcontractors themselves we can only infer, from the size of outsourcing revenue growth, the amount of additional employment associated with outsourcing. Thus, although we report job creation estimates from outsourcing in the aggregate, we count only the amount of outsourcing revenues in our impact calculations for established business and pre-venture clients.

To be conservative, we chose not to impute impact to clients who did not believe they received value from the SBDC. Thus, only those who indicated that

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<sup>4</sup> Comparative data on sales were obtained from the Bureau of Economic Analysis database. Comparative data on employment were obtained from the Bureau of Labor Statistics.

its services were beneficial were used to calculate incremental growth rates. The incremental growth rates were multiplied by the average sales revenue, outsourcing expenditures, and employment of the respondents for the year consulting was received. The incremental changes in sales and outsourcing were then multiplied by the state sales tax rate. The state sales tax rate was reduced by 25% to reflect the fact that some businesses do not directly pay sales taxes. This adjustment was arbitrary and may still overestimate taxes paid on sales. However, it compensates for the fact that businesses are taxed in ways not measured in this study (e.g., corporate income tax rates, property taxes, etc.).

The incremental change in employment was multiplied by the median state and federal income taxes paid per return for the state of Pennsylvania. Federal income tax data were obtained from Table 2 of the SOI Bulletin published by the IRS (Spring 2008). Tax data for 2006, the most recent figure available, was used. Income taxes paid per return for persons of median incomes were used rather than average income taxes for all returns. This was done to better reflect the types of employment opportunities offered by responding small business owners. This again represents a conservative adjustment to the data.

The Pennsylvania SBDC supplied information on median state income taxes paid per return for 2007.

The average incremental improvement in sales, outsourcing, and employment, were multiplied by the corresponding tax rates to arrive at the state value added figures. Median federal personal income tax paid per return was also multiplied by the average incremental improvement in employment. All these numbers were then multiplied by the total number of established business clients, adjusted for the proportion of the respondents who indicated the SBDC's services were beneficial. The formula for the calculations can be expressed as follows:

Average Incremental Growth X Tax Rate X Proportion of Clients Satisfied w/Service X Total Number of Clients = Total Tax Revenues

Job Retention. Established business clients were asked to estimate the number of full- and part-time jobs that were saved as a result of the assistance received from the SBDC. The average responses were then extrapolated to the population of established business clients.

**DATA ANALYSIS METHODS: PRE-VENTURE CLIENTS**

Similar procedures were used for long-term pre-venture clients, with the following exceptions. First, since pre-ventures start with no sales or employees, it is impossible to calculate a rate of growth. Thus, raw averages were used to assess economic impact. Second, the averages were adjusted to account for the total number of pre-venture clients who failed or did not start a business.<sup>5</sup> This adjustment was made as follows:

$$\text{Average Performance} = \text{AS} \times (\text{NS}/\text{NP})$$

where: AS = average performance (sales and employment) of successful pre-ventures  
 NS = number of successful pre-ventures  
 NP = number of pre-ventures (successful + unsuccessful)

Once this adjustment was made, the sales, outsourcing, and employment growth of pre-venture respondents was multiplied by the corresponding tax rates, the proportion of pre-ventures who judged the SBDC's services to be beneficial, and the total estimated number of pre-venture clients. This formula is shown below.

$$\text{Average Performance Rate} \times \text{Tax Rate} \times \text{Proportion of Clients Satisfied w/Service} \times \text{Total Clients} = \text{Total Tax Revenues}$$

Start-up Analysis. Finally, an analysis of the start rate among pre-ventures was made using clients' assessments, employment and sales as indicators.

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<sup>5</sup> In addition, because pre-ventures did not have employees prior to their start-up we did not include questions on job retention for those clients.

## **BENEFIT TO COST OF SBDC SERVICES**

The benefit of the services provided by the SBDC was divided by the total cost of providing the services to arrive at a benefit-to-cost ratio. The SBDC's total operating budget was used for this calculation. This was a conservative approach since only part of the SBDC's' budget was spent on consulting assistance. Thus, to obtain further insights we also compared the tax revenues generated by clients with the cost of consulting activities both in total and for long-term established and pre-venture clients separately. The cost of long-term consulting was estimated based on the proportion of the total consulting hours devoted to those clients, per data supplied by the SBDC.

## **OTHER ANALYSES**

Quality of Consulting Services. Clients were asked whether the services provided by the SBDC were beneficial. This question was used to determine whether clients' performance improvements were affected by SBDC consulting. As noted above, the performance improvements of responding clients were adjusted to account for the proportion that believed the SBDC's services were beneficial when extrapolating the results to the full population of clients.

Clients were also asked to assess the knowledge and expertise of consultants assigned to their cases as well as their working relationship with the consultants. Clients evaluated their consultant's knowledge/expertise and working relationship on a five-point scale: (1) poor, (2) below average, (3) average, (4) above average, and (5) excellent. These questions provide further evidence of the quality of the consulting services. In the main, however, these questions were used to assess the reliability of the question concerning whether the SBDC's services were beneficial.

Financing. Established business and pre-venture clients were also asked to estimate the amounts of SBA guaranteed loans, other loans, and equity financing obtained directly as a consequence of SBDC consulting activities. To remain conservative, only those clients who indicated that the SBDC assisted

them prepare to obtain financing were used for this analysis. Extrapolation to the entire client population was made after adjusting for the proportion of clients who indicated the SBDC assisted them raise capital.

Breakeven Analysis. Clients were asked if their business was below, at, or above the breakeven point.

Geographic Scope. Clients were asked to indicate the geographic scope of their market. These were broken down as: (1) local, (2) regional, (3) state-wide, (4) national, and (5) international.

## **RESULTS**

The results of the analysis of the consulting services provided by the Pennsylvania SBDC to established business and pre-venture clients are presented below.

### **ESTABLISHED BUSINESSES**

Quality of Consulting. Of those who provided usable responses to the service evaluation question, 89% indicated that the SBDC's services were beneficial. Furthermore, clients gave a rating of 4.35 out of a possible 5.00 on the knowledge and expertise of their consultants and a rating of 4.30 on their working relationship with the consultants (scores of 3 indicated an average rating, scores of 4 indicated an above average rating, and scores of 5 indicated an excellent rating). Finally, 94% of the responding established business clients indicated that they would recommend the SBDC's services to others.

Breakeven Analysis. Responses indicated that 48.4% of established clients had operated above their breakeven points over the last three years and 22.2% were at breakeven levels. By contrast, 29.4% were below breakeven.

Geographic Scope. Responding clients were somewhat more likely to target local/regional markets in terms of their geographic scope. However, more ambitious firms were also well represented. The breakdown was as follows: (1) 32.3% focused in local markets, (2) 22.0% served regional markets, (3) 6.5%

concentrated on state-wide markets, (4) 24.2% targeted national markets, and (5) 15.0% indicated that they served international markets.

Economic Impact Estimates. Table 2 compares the 2006 and 2007 sales and employment levels of established small business clients. Table 3 compares the SBDC clients' growth in sales and employment between 2006 and 2007 with the growth experienced by the average business in Pennsylvania. As these Tables show, SBDC clients had an average increase in sales of \$216,987. In percentage terms this increase was larger than the increase experienced by the average Pennsylvania business (15.6% versus 4.5%). Furthermore, established business clients increased their outsourcing to suppliers by an average of \$28,079, which was a 29.5% change from 2006 to 2007. Finally, there was also an increase in the number of individuals employed by clients in 2007 compared to 2006 (12.02 versus 10.83). Employment levels of established clients increased by 11.0% compared to a 0.2% increase in employment for Pennsylvania businesses.

The overall impact estimate for established business clients suggests that the SBDC's services led to a tax contribution of approximately \$34.25 million. This broke down as a contribution of approximately \$24.64 million to the state government and \$9.61 million to the federal government (See Table 4).

As shown in Table 5, these tax revenues were 4.84 times greater than the SBDC's total operating budget, 6.92 times greater than its consulting budget, and 10.16 times greater than the amount spent on long-term established clients.<sup>6</sup>

Job Retention. To supplement the impact estimates we also asked established clients if the SBDC helped them save jobs. On average, clients estimated that the SBDC program was responsible for saving 2.84 full-time equivalent jobs. In total, this amounted to 8,344 jobs saved.<sup>7</sup>

Financing Obtained. According to the respondents, 16% of established business clients were assisted in preparing to seek financing. Those clients

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<sup>6</sup> The overall benefit to cost ratio for established businesses, excluding increased tax revenues from outsourcing, was 4.45 to 1.00.

obtained an average of \$274,790 in capital, of which \$128,243 came from SBA loans, \$114,824 came from other forms of debt financing, and \$31,723 came from equity financing. Extrapolations indicate that \$60.28 million in SBA loans, \$53.98 million in other debt financing, and \$14.91 million in equity financing (\$129.17 million in total) was raised by clients with the help of the SBDC.<sup>8</sup> This suggests that the total expenditure of tax dollars on the SBDC were leveraged by public and private financing at a ratio of 18.26 to 1.00 for long-term established business clients alone.

#### **PRE-VENTURE CLIENTS**

Perceptions of the Quality of Consulting. Of the pre-venture clients who provided an evaluation of the SBDC's services, 91% felt the consulting was beneficial. In addition, clients gave a rating of 4.36 out of a possible 5.00 on their consultants' knowledge and expertise, and a rating of 4.20 on their working relationship with the consultants (scores of 3 indicated an average rating, scores of 4 indicated an above average rating, and scores of 5 indicated an excellent rating). Moreover, 96% of the responding pre-venture clients indicated that they would recommend the SBDC's services to other entrepreneurs.

Breakeven Analysis. Responses indicated that 20.9% of pre-venture clients had exceeded their breakeven points in their first full year of operations; 18.7% achieved breakeven in the first year. By contrast, 60.4% of the clients were still below breakeven.

Geographic Scope. Most of the responding clients targeted local or regional markets although some had more ambitious geographic scopes. The breakdown was as follows: (1) 48.6% focused in local markets, (2) 21.2% served regional markets, (3) 4.1% concentrated on state-wide markets, (4) 17.1%

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<sup>7</sup> It should be noted that jobs saved were not figured into the benefit to cost estimates.

<sup>8</sup> Our estimates suggest that of 2,938 established business clients, 239 received SBA loans as a consequence of SBDC long-term consulting. Furthermore, 269 clients received other loans, and 107 received equity financing.

targeted national markets, and (5) 8.9% indicated that they served international markets.

Economic Impact Estimates. After adjusting for unsuccessful clients, we calculated that an average of \$80,009 in new sales, \$9,426 in outsourcing revenues, and 1.42 new jobs were created per pre-venture client. As Table 6 shows, these new ventures generated tax payments of \$16.65 million (\$9.35 million to the state and \$7.30 million to the federal government).

When compared to the cost of the entire SBDC operation, the tax revenues from pre-venture clients generated \$2.35 for every dollar expended.<sup>9</sup> Furthermore, the tax revenues generated were 3.36 times the cost of the SBDC's consulting activities. Finally, the tax revenues from pre-venture clients were 12.74 times greater than the amount expended on pre-venture who received long-term consulting (see Table 7).<sup>10</sup>

Financing Obtained. According to the responses, 12% of all pre-venture clients received assistance from the SBDC in preparing to obtain financing. The average raised was \$116,643 in SBA loans, \$102,750 in other sources of debt financing, and \$27,149 in equity financing for a total of \$246,572.

Extrapolating to the population suggests that clients raised a total of \$25.17 million in financing from SBA loans, \$22.17 million from other sources of debt, and \$5.86 million in financing from equity investors.<sup>11</sup> The grand total of approximately \$53.20 million suggests that each tax dollar expended on the SBDC was leveraged by \$7.52 in public and private financing for new ventures.

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<sup>9</sup> The overall benefit to cost ratio for pre-ventures, excluding increased tax revenues from outsourcing, was 2.26 to 1.00.

<sup>10</sup> Pre-ventures had no sales or employees at the time the consulting was received. Therefore, as noted earlier we did not attempt to measure revenue or job retention.

<sup>11</sup> Our estimates suggest that of 1,798 pre-venture clients 123 received SBA loans as a consequence of SBDC long-term consulting. We also estimate that 100 clients received other loans and 69 received equity financing.

Start-up Analysis. To determine the proportion of pre-venture clients that started businesses, three measures of start-up were used: (1) clients' indications of when their business started, (2) whether the clients had hired employees for the venture within one year after receiving assistance, and (3) whether the clients' ventures had generated sales within one year after receiving assistance. The results of the analysis are shown in Table 8.

Clients were asked when their business was started. We counted as non-starts those clients who indicated they had not started a business and those who failed to provide any data indicating that a business was started. Using this procedure, it was determined that 63% of the Pennsylvania SBDC's pre-venture clients started a business, most within one year after receiving assistance.

When measuring business starts according to whether employees were hired, it was determined that 48.5% of all clients had started a business with at least one part-time employee within one year of receiving assistance. This means that 84.1% of all clients who indicated they started a business created new jobs within one year of receiving assistance.

We also measured the number of businesses started according to whether sales had been recorded within one year of receiving assistance. Our analysis indicates that 38.6% of the businesses of all pre-venture clients who responded to this question generated sales in 2007. Furthermore, 71.7% of all clients who provided the necessary data and who claimed to have started a business made sales within one year of receiving SBDC assistance.

Thus, the pre-venture clients of the Pennsylvania SBDC appear to have been reasonably successful in starting businesses. The proportion of business starts ranged from 38.6 to 63% depending on the definition of start-up used. Obviously, the definitions of start-ups that rely on sales generation or job creation are more conservative.

It should be noted that the SBDC impact study relied upon sales and employment data for 2007. It is highly probably that more clients who claimed to have started a business generated sales or created jobs after that.

#### **SUMMARY AND CONCLUSIONS**

Results of this study suggest that the Pennsylvania SBDC makes an important contribution to the economic development of the State of Pennsylvania. Our analysis indicated that SBDC clients added \$535.1 million in incremental sales, \$77.7 million in revenues through outsourcing, and 5,382 new jobs to the state. The latter number suggests that the cost of generating a new job through investment in the Pennsylvania SBDC was \$1,315 per job. Furthermore, an additional 7,933 jobs were saved because of the SBDC's interventions. Finally, assuming that the incremental sales to employment ratio (one new job for every \$99,432 in new sales) obtained for client firms holds for subcontractors as well, we estimate that outsourcing may have created another 782 jobs.

Estimates suggest that the one-year tax benefits accruing as a consequence of the performance improvements of SBDC-assisted clients generated a return of \$7.20 for every dollar spent on the entire SBDC operation in Pennsylvania.<sup>12</sup> Furthermore, when compared to the cost of long-term consulting alone, our estimates indicate that \$10.28 was returned for each dollar expended.

Finally, we estimate that \$182.4 million in capital was raised by clients as a direct result of the assistance of the SBDC. This suggests that each dollar expended on the Pennsylvania SBDC program was later leveraged by approximately \$25.78 in debt and equity capital. From all these analyses, we conclude that the Pennsylvania SBDC is both effective and efficient in the discharge of its charter.

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<sup>12</sup> The overall benefit to cost ratio excluding increased tax revenues from outsourcing was 6.70 to 1.00.

The numbers presented in this report are only estimates based on responses to a questionnaire. It is possible that the respondents were not representative of the population of clients, that factors such as social desirability bias may have inflated the estimates, or that SBDC clients tend to exceed the sales and employment growth rates of "average" businesses in the state for reasons unrelated to the consulting provided. It is also possible that some of the gains of the clients were not net gains to the economy.

While impact methodologies are always susceptible to such problems the tests conducted for bias and reliability suggest that the results are accurate enough to conclude that the SBDC program in Pennsylvania makes a positive contribution to the economy. Furthermore, the results must be viewed in light of the fact that they are net of all the conservative downward adjustments in performance described earlier in this report. Thus, the estimates reported herein do not consider the impact of other SBDC services, the continuing tax revenues generated by long-term clients after the year of analysis, the many failures avoided through SBDC assistance, the unviable business ideas it discouraged, nor the jobs and revenues saved. Other tax revenue sources such as corporate taxes, property taxes, unemployment taxes, social security payments, and so on are also not included in the analysis.

From a public policy standpoint, the implication of this research is that the SBDC makes a contribution to the economies of Pennsylvania and U.S. By assisting established small businesses improve their operations and raise capital the Pennsylvania SBDC contributes to the more efficient allocation and utilization of resources. Furthermore, these small firms provide employment opportunities for the citizens of Pennsylvania. The SBDC also plays an important role in fostering entrepreneurship through the assistance it provides to pre-venture clients. Those clients add to the economic development of Pennsylvania and the United States and, not incidentally, generate a large number of new jobs. Because the SBDC provides assistance to small business

people and would-be entrepreneurs who often cannot afford the luxury and expense of a private consultant, its contributions become even more important. The evidence that its assistance returns tax revenues to state and federal governments, and value and capital to its clients that are greater than the direct cost of providing the services makes the existence of the Pennsylvania SBDC program justifiable from a public policy perspective.

**TABLE 2**  
**2006-2007 AVERAGE EMPLOYMENT OF ESTABLISHED CLIENTS**  
**WHO INDICATED THAT SBDC ASSISTANCE WAS VALUABLE**

	2006	2007	Change
Sales	\$1,392,735	\$1,609,722	+\$216,987
Outsourcing	\$ 95,292	\$123,371	+ \$28,079
Employment	10.83	12.02	+ 1.19

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**TABLE 3**  
**CHANGES IN EMPLOYMENT BETWEEN 2006-2007: SBDC ESTABLISHED**  
**BUSINESS CLIENTS VERSUS AVERAGE STATE BUSINESS**

	Average % change in small business sample	Average % change all firms in state	Average incremental change in small business sample	
			percent	aggregate
Sales	+15.6%	+ 4.5%	+11.1%	+\$154,594
Outsourcing	+29.5%	+ 4.5%	+25.0%	+ \$23,823
Employment	+11.0%	+ 0.2%	+10.8%	+1.17 jobs

**TABLE 4**  
**INCREMENTAL TAX REVENUES ADDED TO STATE AND FEDERAL GOVERNMENTS**  
**AS A RESULT OF SBDC CONSULTING OF ESTABLISHED BUSINESS CLIENTS**

STATE TAX REVENUES

	Tax	X	Tax	X	% Clients	X	# of Long	=	Total Tax
	Base		Rate		Valuing		Term Clients		Revenues
					Service				Generated
Sales	154,694		.045*		.89		2938		\$18,190,597
Outsourcing	23,823		.045*		.89		2938		\$ 2,803,179
Employment	1.17		\$1191**		.89		2938		<u>\$ 3,643,673</u>
									\$24,637,449

FEDERAL TAX REVENUES

Employment	1.17		\$3143***		.89		2938		<u>\$ 9,615,504</u>
TOTAL INCREMENTAL STATE AND FEDERAL TAX REVENUES									\$34,252,953

\* Figure represents 75% of state sales tax rate (6%) in 2007.

\*\* Figure represents average state income tax paid per return by persons of median incomes in 2007.

\*\*\* Figure represents average federal income tax paid per return by persons of median incomes in Pennsylvania in 2006.

**TABLE 5**  
**THE COSTS AND BENEFITS OF SBDC CONSULTING: ESTABLISHED BUSINESSES**

Total incremental State and Federal Tax Revenues Added by Established Business Clients	\$34,252,953
Cost of operating the SBDC	\$7,074,848
Benefit to cost ratio	4.84/1.00
Cost of all consulting *	\$4,952,394
Benefit to cost ratio	6.92/1.00
Cost of long-term consulting provided to established business clients **	\$3,372,580
Benefit to cost ratio	10.16/1.00

\* Approximately 70% of the total SBDC budget was used for consulting long- and short-term clients.

\*\* Established business clients who received long-term consulting accounted for approximately 68.1% of the total consulting budget.

**TABLE 6**  
**INCREMENTAL TAX REVENUES ADDED TO STATE AND FEDERAL**  
**GOVERNMENTS AS A RESULT OF SBDC CONSULTING OF PRE-VENTURE CLIENTS**

STATE TAX REVENUES

	Tax	X	Tax	X	% Clients	X	# of Long	=	Total Tax
	Base		Rate		Valuing		Term Clients		Revenues
					Service				Generated
Sales	80,009		.045*		.91		1798		\$ 5,890,911
Outsourcing	9,426		.045*		.91		1798		\$ 694,018
Employment	1.42		\$1191**		.91		1798		<u>\$ 2,767,140</u>
									\$ 9,352,069

FEDERAL TAX REVENUES

Employment	1.42		\$3143***		.91		1798		<u>\$ 7,302,370</u>
TOTAL INCREMENTAL STATE AND FEDERAL TAX REVENUES									\$16,654,439

\* Figure represents 75% of state sales tax rate (6%) in 2007.

\*\* Figure represents average state income tax paid per return by persons of median incomes in 2007.

\*\*\* Figure represents average federal income tax paid per return by persons of median incomes in Pennsylvania in 2006.

**TABLE 7**  
**THE COSTS AND BENEFITS OF SBDC CONSULTING: PRE-VENTURES**

Total incremental State and Federal Tax Revenues Added by Pre-Venture Clients	\$16,654,439
Cost of operating the SBDC	\$ 7,074,848
Benefit to cost ratio	2.35/1.00
Cost of all consulting *	\$ 4,952,394
Benefit to cost ratio	3.36/1.00
Cost of long-term consulting provided to pre-venture clients **	\$ 1,307,432
Benefit to cost ratio	12.74/1.00

\* Approximately 70% of the total SBDC budget was used for consulting long- and short-term clients.

\*\* Pre-venture clients who received long-term consulting accounted for approximately 26.4% of the total consulting budget.

**TABLE 8**  
**BREAKDOWN OF START-UPS AMONG SBDC'S PRE-VENTURE CLIENTS**

Year in which clients indicated that they started a business.

	All Pre-Venture Clients		Pre-Venture Start-ups	
	<u>Number</u>	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>
Did not start a business.	97	37.0%		
Started business in 2006.	52	19.8%		31.5%
Started business in 2007.	95	36.3%		57.6%
Started business in 2008.	18	6.9%		10.9%
Total that started a business	165	63.0%		
TOTAL RESPONSES	262	100.0%		
Missing	40			

Pre-venture clients with employees in 2007.

	All Pre-Venture Clients		Pre-Venture Start-ups	
	<u>Number</u>	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>
Had no employees in 2007.	118	51.5%	21	15.9%
Had at least one part-time employee in 2007.	111	48.5%	111	84.1%
TOTAL	229	100.0%	132	100.0%
Missing	73		33	

Pre-venture clients with sales in 2007.

	All Pre-Venture Clients		Pre-Venture Start-ups	
	<u>Number</u>	<u>Percentage</u>	<u>Number</u>	<u>Percentage</u>
Had no sales in 2007.	129	61.4%	32	28.3%
Had sales in 2007.	81	38.6%	81	71.7%
TOTAL	210	100.0%	113	100.0%
Missing data	92		52	