Industry Canada

Cost Benefit Analysis of the Small Business Loans Program Final Report

September 8th, 1998

PRICEWATERHOUSECOOPERS

It is important to note that much of the data that would be required to conduct an effective cost/benefit analysis was not available during the course of this study. The most complete data set relates to the 1990/91 cohort of loans which still has, theoretically, four years of data outstanding. Other required program data has not historically been collected from the 13,000 participating institutions. Industry Canada has indicated that this is largely a result of not wanting to overtax the financial institutions with undue administrative burdens. Industry Canada has also indicated that they are committed to addressing data requirements where possible.

It should also be noted that this study was completed within a very challenging timeframe (i.e., fifteen business days) and with a relatively small budget. This limited the degree to which we could develop sophisticated assumptions and did not allow us to conduct any primary research. All these factors should be considered when reviewing the results of this study.

Expecting that Industry Canada will elect to perform a more in-depth analysis in the future we have included a number of suggestions throughout the report that should improve the reliability of future study findings.

Industry Canada

Cost Benefit Analysis of the Small Business Loans Programs

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1.0 Executive Summary

PricewaterhouseCoopers (PwC) developed a cost/benefit model of the SBLA that incorporated existing Industry Canada data and a number of key assumptions. This model identified a clear trend in the cost to government of delivering this key federal program. PwC also conducted a review and assessment of previous economic impact studies performed to date to provide readers with a better understanding of the programs estimated social benefits.

The cost/benefit analysis identified all costs and revenues related to each cohort of loans throughout their natural life and discounted them back to the base year of the cohort to produce a net present value figure. This analysis revealed that was a net loss for each cohort up to and including the 1994/95 fiscal year. For the periods subsequent to 1995, when new fees were introduced and guarantee rates lowered, we estimate that the program will achieve a net surplus. While the guarantee rate was not reduced until December of 1995, the increased registration fees (2%) and the new annual administration fee (1.25%) that took effect in 1995 served to help offset the losses related to the larger guarantee rate. Again the amount of the recovery is dependent on the assumptions used in the analysis; however, our trend is upward and positive.

PwC's review of the economic studies performed to date revealed that there is, with few exceptions, broad agreement on the existence of social and economic benefits resulting from the program. These same authors, however, do not agree on the magnitude of the benefits. A summary of the main themes explored are highlighted below:

- Employment gains as a result of the SBLA range from 0.5 to 3.4 jobs per loan, or 8.4 to 62.5 jobs per million dollars of lending;

- Surveys of SBLA participants find positive results in terms of growth of sales (including exports) and in decreasing costs; and

- Incrementality is key to determining the magnitude of economic benefits.

2.0 Context

The following section of the report discusses small business' contribution to the Canadian economy, the need for accessible financing and the role of the Small Business Loans Act (SBLA, the Act).

2.1 Small business' contribution to the Canadian economy

Small business is recognized as one of the fastest growing segments of Canada's economy. In 1979, small businesses accounted for 30% of total private sector employment but by 1993 they accounted for 36%. During the same period, large firms (with 500 or more employees) dropped from a 45% share to 41% share of total employment.[1] Small business is also creating jobs. In 1996-97, small businesses created 81% of the new jobs in Canada, up from 70% the year before.[2] Finally, a lot of Canadians are employed in small businesses. According to the Auditor General's December 1997 report, by 1996 one out of every two Canadians was employed in a small business,[3] while in 1997, approximately 75% of all businesses in Canada employed fewer than five people, and 97% had fewer than 50 employees (the upper limit most often used to define small businesses). It should be cautioned, however, that small businesses also account for the majority of job displacements. Employment in small businesses is thus very volatile.

It is not just in terms of employment that small business has an impact on the Canadian economy. Indeed, the contributions of small businesses to domestic output and exports are also significant. In 1995, small businesses contributed 43% of Canada's private

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1 Canadian Federation of Independent Business, *Small Business Primer - The Majority of Canada's Businesses are Very Small*, April 1997.

2 Industry Canada, *Small Business Loans Act: A Presentation to the House of Commons Standing Committee on Public Accounts,* February 1998.

3 Report of the Auditor General of Canada to the House of Commons, *Chapter 29 - Industry Canada - Management of the Small Business Loans Program,* December 1997.

sector economic output in goods and services,[4] and according to the Canadian Bankers' Association, small businesses have contributed directly and indirectly to the 72% growth in Canadian exports between 1992 and 1996.[5]

2.2 The need for accessible financing

Access to, and the cost of, capital are key issues for small business owners. Statistics Canada studies led by Baldwin and Johnson[6] have found that the availability of affordable financing is a necessary, but not sufficient, condition for success in growing small and medium-sized enterprises (GSMEs). This means that solving the cost-of-capital and the access-to-capital problem will not guarantee success, but a failure to do so will likely result in failure. Other research has found similar results. According to a 1997 survey by the Canadian Federation of Independent Business (CFIB), 29% of business owners surveyed indicated that access to capital is among their most serious business concerns. This same survey found that small business owners' concerns with the availability of credit have been increasing.[7]

As interest rates are indicators of perceived risk, it is not surprising that small businesses must assume a higher rate of interest than their larger counterparts. Higher interest rates for smaller firms make access to affordable capital problematic. This is particularly true for new businesses that often have little collateral with which to secure a loan. It is in this environment that the role of the Federal Government in supporting small business access to financial credit is deemed important. The Small Business Loans Act, which

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[4] Ibid.

[5] Canadian Bankers Association, *1997 Small Business Annual Report*..

[6] Statistics Canada, *Strategies for Success: A Profile of Small and Medium-sized Enterprises (GSMEs) in Canada,* February 1994; Statistics Canada, *Successful Entrants: Creating the Capacity for Survival and Growth,* May 1997; and Statistics Canada, *Failing Concerns: Business Bankruptcy in Canada,* November 1997.

[7] Canadian Federation of Independent Business, *Credit Where Credit is Due: Results of CFIB Survey on Credit Conditions in the Small and Medium-sized Business Sector*, January 1998.

was designed to fill the financing gap faced by these borrowers, is one of several federal programs aimed at providing assistance to small businesses.

2.3 The role of the Small Business Loans Program

The SBLA is responsible for a significant amount of loan activity in the Canadian economy, having underwritten loans totalling some 20% of all loans under $250,000 made by commercial banks to small businesses in Canada in 1997.[8] In the fiscal year 1997-98 loan insurance was provided to over 28,700 small businesses, representing business investments totalling almost $2 billion dollars across Canada, with an average loan size of $67,880.[9] Since 1961, more than 522,000 SBLA loans totalling $22.2 billion have been made (approximately $500 million worth of loans annually).[10]

To obtain a loan guarantee under the SBLA program businesses apply directly to any of 1,500 authorized private-sector financial institutions, including chartered banks, trust companies, *caisses populaires* and credit unions, with a combined total of some 13,000 branches across Canada. Loans are available for the purchase and improvement of premises and equipment, and for the purchase of land. They cannot be obtained for share acquisitions, working capital, existing debt, real estate purchased for resale, goodwill or other intangibles. The SBLA applies to most for-profit businesses with sales under $5 million in the year of the loan. The maximum loan registration amount offered to these borrowers is $250,000.

The private-sector lender evaluates the credit-worthiness of a customer according to its own criteria, with the same diligence applied to any other loan application. If the

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8 Speaking notes for Kevin Lynch, Deputy Minister, Industry Canada, to the House of Commons Public Accounts Committee, Ottawa, February 19, 1998.

9 Industry Canada, *Small Business Loans Act Annual Report on Operations for the 12-month Period Ended March 31, 1998.*

10 Ibid.

financial institution agrees to extend the credit, an application to register the loan is forwarded to the SBLA administration at Industry Canada. Provided the application meets the eligibility requirements of the SBLA and its regulations, the administration accepts the loan for registration.

The lender administers the loan like any other. If it is repaid without trouble, there is little further involvement by the government. Indeed, about 94% of loans made since the program began have been fully repaid, with no cost to the taxpayer.[11] If the small business fails, or the borrower is otherwise unable to repay the loan, the lender is obliged to take the usual steps to mitigate the loss. As with any conventional commercial loan, this includes recovering any security associated with the loan and converting it to cash to reduce the amount outstanding within three years of default.

Once the lender has taken all reasonable steps to realize on security, it submits to the SBLA administration a claim for loan loss. The administration audits the claim to ensure all proper procedures were followed and that the provisions of the SBLA and its regulations were complied with. In about 40% of cases, the claims are reduced or rejected.[12] For claims that are approved, the government currently absorbs 85% of the net loss experienced by the lender.

Until 1993, the program provided 90% financing on loans up to $100,000 to companies with sales less than $2 million. The terms were prime plus one percent, and a one-time registration fee of one percent of the value of the loan. The government registered about $500 million worth of loans per year, and paid up to 85% of the cost of defaults for

[11] Industry Canada, *Small Business Loans Act: A Presentation to the House of Commons Standing Committee on Public Accounts,* February 1998.

[12] Ibid.

eligible claims. During this period the Program cost taxpayers approximately $36 million per year, not including program revenues.[13]

Between 1993 and 1995, significant changes in the program's regulations increased the amount of available financing (100% financing on eligible assets up to a maximum of $250,000) and reduced personal guarantee requirements. A number of other changes were also made including an increase in the loan registration fee to 2% and an increase in the interest rate ceiling to prime plus 1.75 percent. Lending increased to $2.5 billion in 1993-94 and $4.4 billion in 1994-95. [14]

Recognizing that the program was growing too rapidly, fearing large claim costs as a result of these new rules, and in an effort to satisfy a new objective of cost recovery, the program was once again changed in 1995. After December 31, 1995, the guarantee rate was reduced to its original pre-1993 levels of 85%. As well, the percentage of financing permitted was reduced to 90%. Also, in April of 1995, a 1.25% annual administration fee was added to the program to be paid by lenders each year on the balance of all loans outstanding for those made after March 31, 1995. The allowable interest rate was also increased to prime plus 3%. These changes resulted in lending being reduced by almost half in 1996, dropping to $2.2 billion. No other changes have been made since December 31, 1995.[15]

Program changes made in 1993 have resulted in a larger number of defaults and, consequently, a dramatic rise in program costs, to about $246 million in 1997-98.[16]

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[13] Ibid.

[14] Ibid.

[15] For a complete description of program changes please see the "Small Business Loans Act, Annual Report on Operations for the 12-month period ended March 31, 1997", Table 5.

[16] Industry Canada, *Small Business Loans Act: A Presentation to the House of Commons Standing Committee on Public Accounts,* February, 1998.

Partially offsetting these increases have been steady increases in registration and administration fees collected, totalling $75 million in 1997-98. Fiscal year 1997-98 was expected to be the peak for claims, after which they are expected to decline in line with the falling post-1994 lending levels. The total amount of guaranteed loans outstanding (the current value of the portfolio of outstanding loans) as at March 31, 1998 was just under $6 billion. Of this, the government's contingent liability is $1.4 billion.[17]

[17] Report of the Auditor General of Canada to the House of Commons, *Chapter 29 - Industry Canada - Management of the Small Business Loans Program,* December 1997.

3.0 Objectives & Scope

Industry Canada contracted PricewaterhouseCoopers (PwC) to conduct a cost-benefit analysis of the Small Business Loans Program (SBL Program, or the Program) for lending periods 11 (April 1, 1990 to March 31, 1993) and 12 (April 1, 1993 to March 31, 1998).

A multi-faceted approach was to be used, incorporating elements from both cost-benefit analysis and economic impact analysis. Specific elements of the study were to include identification of program benefits and costs; an economic analysis of determine the benefits that occur outside the firm; calculation of the financial and social costs of the program; and an analysis of cost-benefit ratios.

It is important to note that the loans granted under the program can have terms up to 10 years. As a result the costs and benefits of the portfolio require analysis over a fairly long time. The fact that the program has not been stable over this period further complicates this issue.

4.0 Cost/Benefit Analysis

4.1 Methodology

In this section we describe the approach used in doing the cost/benefit analysis, including challenges and how we addressed them. It is important to note that this cost/benefit analysis focuses on the net quantifiable outcome of the Federal Government's involvement in this area. This study does not explore the costs or benefits of the third party financial institutions that deliver the program on behalf of the government. Tables 1 and 2 at the end of this section describe the line items we analyzed, any data issues identified, and the approach used to overcome these issues.

Data for this exercise were primarily provided by Industry Canada. They were collected through a combination of in-person interviews, telephone interviews, reviews of Industry Canada documentation, reviews of previous studies and the period 11 and 12 data set extracted from the SBLA database.

This study is markedly different from many previously conducted in that it adopted accrual accounting principles versus the modified cash accounting principles more familiar within government. We also decided to conduct our analysis using a "cohort" approach, where a cohort represents the loans made in a particular fiscal year. For example, all of the loans made in fiscal year 1990/91 would represent the 1990/91 cohort. We have tracked each cohort from the time of loan advance through to time of retirement using two different amortization schedules, a blended term and a full term, both of which are detailed in the table that follows.

The full term amortization approach does not account for loans with terms less then ten years. As a result the figures should only be used only as a baseline and to estimate the degree to which the recognition of various term lengths would impact the study. The blended term is slightly more sophisticated and recognizes that loans can be grouped by term characteristics - terms less than 5 years and terms of 5 to 10 years. A superior approach would be to identify the distribution of registered loans by term and recognize

these within the model.

Administrative and registration fee data were aggregated by cohort. As a result we developed assumptions which allowed us to establish annual estimates in these two areas. Results will not directly comparable to Industry Canada series totals but do provide adequate proxies for this exercise.

It is important to note that there are often time lags between loan issuance and loan registration and between loan default and financial institution submission of the SBLA claim. These factors can influence the outcome of a cost benefit analysis and should be considered if Industry Canada elects to perform a more comprehensive study in the future.

We also made assumptions concerning default rates related to each cohort as well as their administrative costs. The use of the cohort approach allows us to determine whether or not a fiscal year of lending has resulted in a deficit or surplus to the government. This approach is also of value because it allows Industry Canada officials to track the revenues and expenses (i.e., administrative plus default cost to the federal government) related to a given cohort throughout its term. This is important because different cohorts have been impacted by different program structures and this method makes apparent the true effect of program changes on the cost recovery goals of the program.

Table 1: Blended and Full Term Analysis

Item Analyzed	Data Issues	Approach
Loan Totals		
Loans Made	• Industry Canada's (IC) Small Business Loans Administration (SBLA) database provided complete and accurate information for the entire period studied.	• The loans made amounts were generated from the SBLA database. The decision to base this study on the date the loan was made by the lender (as opposed to the date the loan is registered) is consistent with IC's own reporting approach. This approach is also necessary to conduct the cohort analysis. No future loans were projected, as this study only covers the period April 1, 1990 – March 31, 1998.
Loans Outstanding – Total	• Total outstanding loan amounts were obtained from past and present copies of the *Small Business Loans Act: Annual Report on Operations*. The outstanding loan information is provided by the lenders on a period basis at the end of each fiscal year, beginning in the 1992-93 fiscal year.	• In order to project forward the expected total outstanding loan amounts, we amortized the balance remaining at the end of fiscal year 1998 over a ten-year period. The numbers are based on an assumed interest rate of 6.5% (the prime rate at the time this report was prepared) plus the 3% allowable interest premium.
Loans Outstanding by Cohort	• No information was available as IC does not track outstanding loan balances on a fiscal year basis. • Default information was available on the SBLA database up to fiscal year 1997-98. • IC provided projected claims paid rates.	• In order to project claim costs on a fiscal year basis, it was also necessary to estimate outstanding loan balances by fiscal year. Due to the lack of information available, two scenarios were used to make these estimates. In both scenarios, the original loans made totals for each fiscal year were amortized using the average prime rates for the corresponding fiscal year, plus the maximum allowable interest premiums (1%, 1.75% and 3%). • In **scenario one (Blended Term)**, a percentage of loans were amortized over a five-year period with the remainder amortized over a ten-year period. This was done to reflect the drastically different payment schedules of loans amortized over five versus ten-year periods. A more accurate approach would be to amortize a percentage of loans over each of one through ten-year periods. The time constraints of this assignment did not allow such an approach to be adopted at this time. • The percentages of loans to be amortized over the five and ten-year periods were calculated using information from fiscal years 1996-97 and 1997-98. These were the only two years for which complete information was available on the duration of loan terms. The average percentage of loans advanced in fiscal years 1996-1998 for five years or less was calculated to be 57.09%. The average percentage of loans advanced over the same period for six to ten-year terms was calculated to be 42.91%. These percentages were then applied to every

Item Analyzed	Data Issues	Approach
		fiscal year contained in this study, with the results of the amortization then summed. • In **scenario two (Full Term)**, the entire amount of loans advanced in each fiscal year were amortized over a ten year period. This is the simplest yet least accurate method, as the majority of loans have terms of less than ten years. Thus, the loans outstanding amounts are over-represented. • In both scenarios, the remaining portions of defaulted loans were netted out of the outstanding balance at the end of each fiscal year. This was based on actual default information up to fiscal year 1997-98, after which point defaults were calculated using projected claims paid rates provided by IC. • Since the amounts of defaults are greater than the amounts of claims paid, the projected claims amounts (discussed below) had to be adjusted. The loss-sharing ratio of 85% was used to adjust the claims paid amounts up to the full amount of loans that defaulted, and subsequently written off by the lenders. Also, since only 94.77% of all claims are paid (based on IC information for 1990-1998), the claims paid amounts were again adjusted upward to reflect the true loss incurred by the lending institutions.[18] • The original amounts of loans that defaulted in fiscal years 1990-91 to 1997-98 were calculated using the SBLA database and then amortized over the appropriate number of years to avoid netting out principal payments that had already been made. • In **scenario one (Blended Term)**, 60% of the loans that defaulted in the first four years were amortized over five years, and 40% were amortized over ten years. 100% of the loans the defaulted in years five to ten were amortized over ten years. • In **scenario two (Full Term)**, all of the defaulted loans were amortized over ten years.

[18] This figure only includes only those loans that are rejected outright and does not take into consideration those claims that are reduced.

Item Analyzed	Data Issues	Approach
Costs		
Administrative – Salaries	• Only summary administrative cost data which was broken into two categories, salaries and O&M, was available during this study. O&M included operating costs as well as the costs of hiring additional staff in 1997/98 and 1998/99 to help eliminate the claims backlog. Given that no detail was available, we estimated salaries of the various administrative areas based on 1997/98 FTEs figures. • Since no salary information was available, wherever we estimated new personnel in an area we always used the maximum salary for their respective classification. As well, our salary information does not take into account any increases staff may receive in future years.	• **Program Policy –** According to IC officials this has remained consistent over the years and consists of one CO-03. As a result, this salary was consistently applied across all of the cohorts analyzed. There are no costs after 1997/98 based on the assumption that no policy changes are made to the program after 97/98 • **Program Management** - Prior to 1997/98 this figure is constant again as a result of discussions with IC. It consists of the salaries for an EX-01, SCY-02 and 80% of a C0-03. From 1997/98 onward the figure is increased to account for the addition of a AS-01 and a CO-02, both of whom were added to work in the area of Information Management. The figure is less in 1997/98 than all future years since we know they were hired during the course of the year. From 1998/99 onward this cost is assumed to be constant, as no information was available on possible staff projections. • **Registration** – Based on discussion with IC personnel we were told that this number was consistent across all cohorts as a CR-05 and 2 CR-04's always performed this function • **Claims Processing** – In allocating costs to this administrative area we were forced to make several assumptions. We started with the data from 1997/98 since we could confirm how many people were working in claims at that time. We used this information to obtain a salary figure for 1997/98. We were also able to deduce that prior to 1997 there were 11 FTEs who worked in claims and they were comprised of approximately 75% C0-02's and 25% CR-04's. From this figure we created a base cost of claims staff for the cohorts 1990/91 to 1994/95. We knew that in 1995/96 and 1996/97 one additional individual had been retained to work in claims in each year. We assumed this was a C0-02 and for these years we added the salary of a C0-02 to the costs of claims for the 1990/91 to 1994/95 cohorts. For 1998/99 we knew that 8 additional staff were being hired to process claims so we added a 50% C0-01 and C0-02 mix to the 1996/97 levels based on the instructions of IC personnel and obtained a salary cost for these years. For the remaining years we restored these cost to the pre 1995/96 levels as we were told that the claims backlog would be eliminated by then and the unit would return to previous levels. Again these costs are assumed to be constant in all future periods after 1998/99 as no information could be provided to forecast future levels. • **Benefits** – Benefits are charged at 20% of the total salaries as per IC instructions
Administrative – O&M	• Basic budget information was available for the years 1995/96 to 1997/98 however, the information provided no	• **Operating & Maintenance –** for the years prior to 1995/96 these costs are reported constant as per the instructions of IC personnel. For 1995/96 and 1996/97 we used the levels provided by IC staff in their budgetary information. For 1997/98 and 1998/99 we did

Item Analyzed	Data Issues	Approach
	breakdown of these costs. As well, O&M figures also included the costs of additional contract personnel hired to process claims.	the same except we backed out the costs for the personnel whom we had already accounted for in the claims salaries section. For the years subsequent to 1998/99 we have assumed a constant level of $900,000. • We backed out costs of the additional personnel hired to process claims and captured these amounts in the claims processing section.
Administrative – Office Space	• IC provided information for the 1997-98 fiscal year.	• The 1997-98 office space costs were calculated by multiplying the 894.5 m^2 used by SBLA staff by the departmental rate of $227 per m^2 per year. The resulting amount was then divided by the number of Full-Time Equivalent SBLA staff in 1997-98 to devise an office space cost per FTE. This rate was then applied to the number of SBLA FTEs in previous years and the estimated number of FTEs in future years.
Claims Paid	• Complete information for the fiscal years 1990-91 to 1997-98 was available in the SBLA database. However, detailed breakdowns of the claims paid costs (i.e., interest, legal and other costs) were not available prior to fiscal year 1997-98. • IC provided projected claims paid rates, by fiscal year.	• Claims paid information were generated from the SBLA database. This information was calculated according to cohorts, (i.e., the amounts of claims paid on loans advanced in 1990-91 were calculated for each fiscal year studied). However, some of the 1997-98 claims had not yet been processed. To account for the expected costs, historical information was used to derive the percentage amount of claim requests paid (94.77%). Then the total value of claim requests outstanding were multiplied by this rate to calculate the full expected claim costs for 1997-98. • The projected default rates were also broken down by cohort. These rates were then applied to the estimated loans outstanding by cohort numbers, which are discussed above. For simplicity sake, the claims paid were not projected past ten years from the date of loan advance, despite the fact that claims may be made for up to three years beyond this time. However, as the outstanding loan balances to which the rates are applied are only estimates, this assumption has only minimal impact on the outcomes of the analysis.
Revenues		
Administrative Fees	• Information available from IC on the administration fees collected was on a cash basis and not an accrual basis.	• To accurately represent the accrual allocation of the administration fees, 1.25% was applied to the estimated loans outstanding by cohort figures after March 31, 1995.
Registration Fees	• Information available from IC on the registration fees collected was on a cash basis and not an accrual basis.	• In order to most accurately represent the accrual allocation of the registration fees, 1% was applied to the total loans made amounts for fiscal years 1990-91 to 1994/5 and 2% was applied to the total loans made amounts for fiscal years 1995/96 and beyond.
Benefits		
Benefits	• Little conclusive information was available from Industry Canada regarding the direct	• Given the data and time limitations of this study the cost/benefit analysis contains no information on benefits of the program. The second section of this study contains an

Item Analyzed	Data Issues	Approach
	benefits to SME's that occurred as a result of the program. Direct benefits would include increases in sales and profits as a result of the loan as well as the improved financial viability of the firm as a result of receiving these funds. The 1996 Equinox Management Consulting study was a "step in the right direction" but more work is likely required in this area.	economic impact analysis of the program which does detail some of the benefits provided such as levels of job creation and capital investment.

Table 2: Cohort Cost/Benefit Analysis

Item Analyzed		Data Issues	Approach
Cohort Cost Benefit Analysis Sheets			
Discount Rate	• The discount rates used for this study were the Scotia McLeod 10 Industrial Bond Rates, provided by the Conference Board of Canada.	• Net Inflow/Outflow figures were obtained for each year of the life of the cohort and these figures were discounted using the appropriate Scotia McLeod Industrial Bond Rates	
Cost of Claims Processed by Year	• Claims processing costs were obtained from the salary figures generated, as described previously. • Yearly distribution rates were developed using historical information in the SBLA database. It should be noted that the data sets are not as comprehensive prior to the 1990-91 fiscal year.	• As claims are processed for a cohort of loans in more than one year, the costs must be allocated according to the level of effort expended in each year. In order to do this, the number of claims processed in each year were calculated for each cohort. This was done using the SBLA database. However, since the database does not include full information on claims for even one cohort, many assumptions had to be made to calculate the yearly effort allocation percentages. • First, all forecasts and estimates were based on information for the 1990-91 cohort, which had the most complete information available. The total amount of claims for the first eight years of the 1990-91 cohort was totaled, and the remaining claims to be processed were estimated. Next, the numbers of claims processed in each year were divided into this total to obtain a yearly percentage distribution. • Fiscal years 1991-92 to 1997-98 were then calculated based upon the information available up until 1997-98, at which point the profile from the 1990-91 cohort was used to forecast future years percentage distributions. While the serious data limitations hampered the ability to make completely accurate forecasts, we are confident that the distribution trends are sufficient for this analysis.	

5.0 Findings

This section of the report highlights the projected discounted net cash inflow (i.e., surplus) or outflow (i.e., deficit) of the program in each fiscal year of periods 11 and 12. These figures only represent the cost of the program to Government, net of revenues, for each of the years reviewed and does not include social costs or benefits. The economic impact analysis section of this report discusses at length the social benefits that can be attributed to the program.

Figure 1 below provides a summary of how our analysis data flows amongst the various cost/benefit spreadsheets. The same process was followed for both the Blended Term scenario and the Full Term scenario.

Figure 1: Cost/Benefit Analysis Flowchart

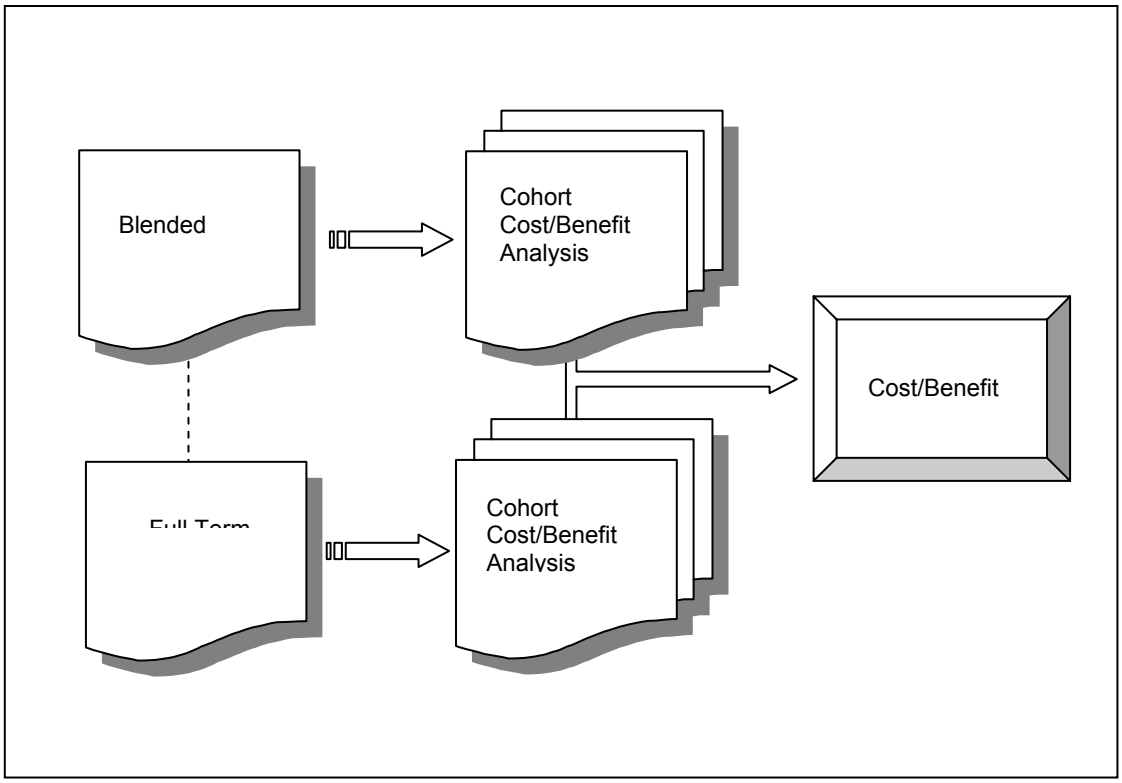
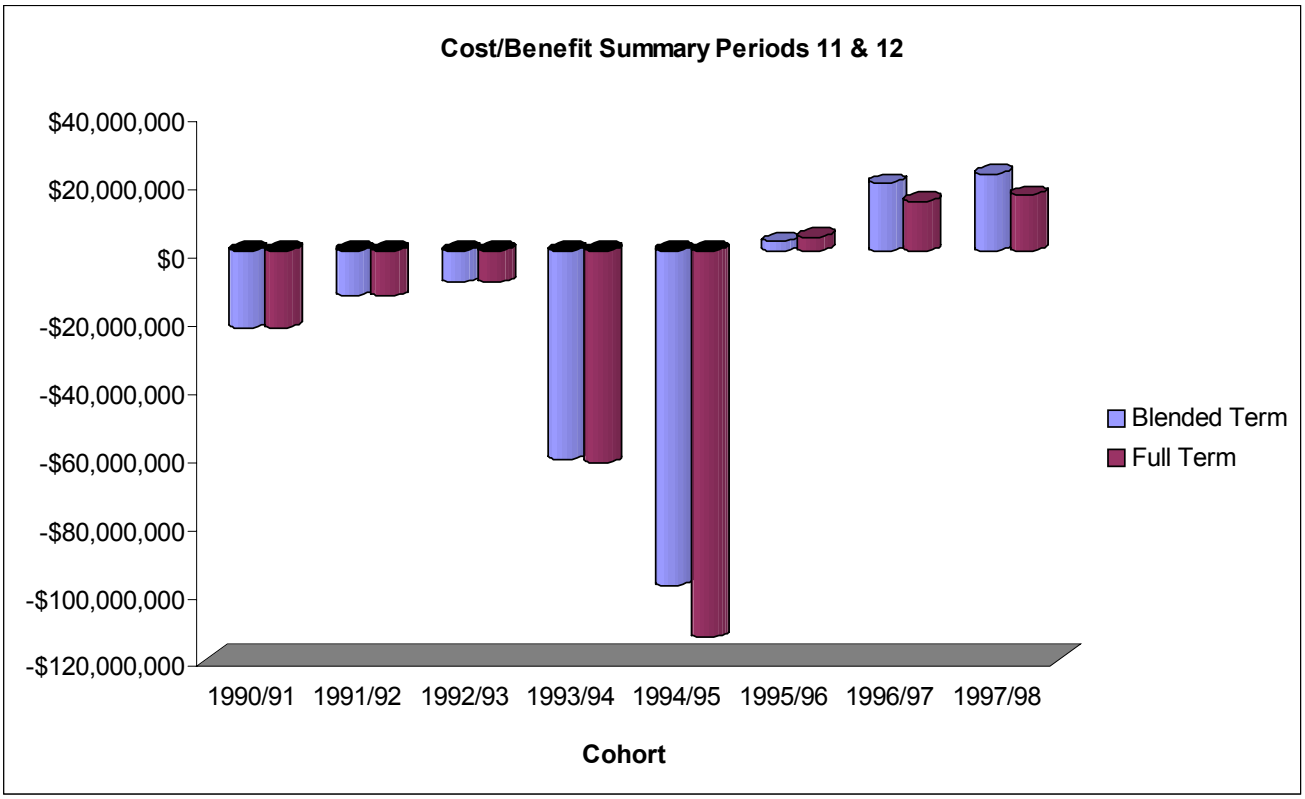


Figure 2, below, depicts the results of our analysis for each cohort under both the Blended Term and Full Term scenarios. It represents the net inflows/outflows to the program attributed to each of the respective cohorts. All costs and revenues related to each cohort throughout its duration have been discounted back to the base year of the cohort to produce a net present value figure. The detailed analysis can be found in the spreadsheets contained in Appendix A. The program's expenses are largely related to claim payments made on registered loans. They also include a relatively small amount that is related to the government's program administration. The program revenues are drawn from both administrative and registration fees.

Figure 2: Cost/Benefit Summary (Periods 11 and 12)



The results depicted in Figure 2 clearly reflect the impact of the changes that have been made to the Small Business Loans Program in recent years, and are similar for each of the two scenarios. Prior to 1993 the program was of a much smaller scale, and while not achieving cost recovery it was moving towards this. In April of 1993 significant changes were made to the program that, based on our estimates, will result in a net deficit for the government for the 1993/94 and 1994/95 cohorts. The amount of the outflow is subject to interpretation, depending on assumptions and forecasted default rates used in the analysis. In his 1997 report the Auditor General estimated that the net outflow for this period would be in the neighborhood of $210 million dollars[19].

For the periods subsequent to 1995, when new fees were introduced and guarantee rates lowered, we estimate that the program will achieve a net surplus. While the guarantee rate was not reduced until December of 1995, the increased registration fees (2%) and the new annual administration fee (1.25%) that took effect in 1995 served to help offset the losses related to the larger guarantee rate. Again the amount of the recovery is dependent on the assumptions used in the analysis; however, our trend is upward and positive.

Table 3 provides actual figures represented in the preceding graph. As previously mentioned, a detailed analysis of these figures can be found in Appendix A.

Table 3: Cost/Benefit Summary (Periods 11 and 12)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Blended Term	-$22,501,268	-$13,204,904	-$9,243,618	-$61,032,942	-$98,074,203	$2,678,749	$19,892,332	$22,652,065
Full Term	-$22,502,259	-$13,215,118	-$9,303,463	-$62,048,348	-$113,392,225	$4,065,327	$14,662,376	$16,459,471

[19] Excerpt from Standing Committee on Public Accounts, Section 1535, Thursday February 19, 1998. http://interparl.parl.gc.ca/InfocomDoc/PACC/Meetings/Evidence/PACCEV19-E.htm

5.1 Preferred Approach

During the course of conducting our analysis we made several observations as to how the data could be improved for any future cost/benefit analyses that are performed. We have outlined these observations in the table below by each of the line items that we used in performing our analysis. In the past decade alone the program parameters have been changed three times, which serves to complicate the performance of a cost/benefit analysis, especially when data from different program parameters are blended together.

Table 4: Preferred Approach

Item Analyzed	Preferred Data	Preferred Approach
Loan Totals		
Loans Made	The data currently available is adequate.	The approach taken in this assignment is appropriate.
Loans Outstanding – Total	More historical information on outstanding loan totals would be preferred.	Using historical information a more complete amortization profile could have been developed. This profile would then have been used to more accurately project forward the expected totals of outstanding loans.
Loans Outstanding by Cohort	Outstanding loans should be tracked by cohort, not by period. It must be recognized, however, that this would necessitate the cooperation of the lenders. More historical information on the duration (term) of the loans would be preferred. Currently, information is only available for fiscal years 1996-97 and 1997-98. Forecasted default rates are needed – in the words of the Auditor General, the Department needs better tools to properly forecast future loan losses[20]	The lack of information on outstanding loans by cohort makes it extremely difficult to make cost and revenue projections. Were historical information available by cohort, an amortization profile could be developed. More accurate projections of claims costs and revenues could then be made. If such information were available, then improved information on the duration of the loans would also allow for a more accurate amortization profile. Loan amounts could then be amortized over each of one through ten-year terms. Projected default rates would eliminate the need to adjust the projected claims paid amounts. This would provide more accurate defaults to net out of the outstanding loan balance figures.
Costs		
Administrative – Salaries	The salaries and personnel must be tracked by each administrative area as we have attempted to do in our analysis. Salaries should also be tracked by cohort.	Tracking salaries and personnel by each administrative area allows for a more accurate and complete cost/benefit analysis. This approach would enable IC officials to better project future salary and staff levels. Tracking salaries by the cohort also serves to produce a more accurate cost/benefit analysis. Typically this would happen only in the claims processing area. This approach allows IC to more accurately match costs with the items that generated them. For example, if a large amount of loans were made in a given year and in several years time there were substantial claims related to these loans then the costs

[20] Ibid.

Item Analyzed	Preferred Data	Preferred Approach
		related to processing them should be attributed back to the cohort in which they were made. This is the approach we followed in our analysis.
Administrative –Operating & Maintenance	This information should be provided using the same level of detail as the salary section. That is, O&M costs should be broken out by administrative area.	Breaking O&M costs out by functional area would serve to improve the accuracy of any future cost/benefit analyses that are conducted. This is because, in our case, we could not determine what amount of O&M was attributed to areas that would cease to be required after the end of period 12. As a result, we were forced to carry through the entire O&M budget even though this may not be fully accurate.
Administrative – Office Space	Previous years office space costs should be available. Projected office space requirements and costs should be made.	No assumptions should have to be made for past years' costs. These amounts should be taken directly from historical information on the amount of office space used and past rates applied. Future costs could then be estimated from a fuller range of past information.
Claims Paid	Claims costs should break out the interest, legal and "other" costs. This breakout is now being done, and this should assist future studies.	Ideally, the claims costs section would break out the costs of principle payments, interest payments, legal payments and "other" payments. This would provide a more accurate representation of the nature of the costs incurred by the SBLA. Also, the projected rates should be applied to real cohort loan balances, as opposed to estimated totals.
Revenues		
Administrative Fees	Administration fees should be tracked on an accrual basis.	Ideally, these figures should be plugged in based upon what has actually been earned, as opposed to basing the numbers on estimated loan balances.
Registration Fees	Registration fees should be tracked on an accrual basis.	Ideally, these figures should be plugged in based upon what has actually been earned, as opposed to basing the numbers on estimated loan balances.
Benefits		
Benefits	Direct information from program participants on how the program has impacted SME's sales, profits and financial viability.	A previous report prepared for Industry Canada by Price Waterhouse outlines several possible evaluation frameworks for the Small Business Loans Program. By implementing some of these recommendations, such as a survey of program participants, better information could be collected that would enable direct benefits to SME's to be quantified and included in the cost/benefit analysis.

6.0 Economic Impact Analysis

As a sub-section of the overall cost/benefit analysis of the SBL Program, Industry Canada requested that an economic impact analysis be undertaken to determine benefits and costs to Canada which accrue outside borrowing firms. The reference period for this analysis is also lending periods 11 (April 1, 1990 to March 31, 1993) and 12 (April 1, 1993 to March 31, 1998).

In undertaking our economic impact analysis we first explore the question of what comprises an economic impact study. Next, we examine current sources of information. This is followed by an attempt to leverage key findings from previous studies, and some alternative uses of current data sources, into some new information about the economic impact of the SBL Program. Finally, we discuss the information gaps that currently inhibit a full treatment of the economic impact of the SBL Program, and suggestions as to how to "close the gaps."

6.1 Definition of an economic impact study

While economic impact can be defined as the effects of an industry or a set of economic activities on a national economy, it is a term with numerous interpretations. Essentially, it is a set of performance indicators to measure economic activity on some level. Impacts can be measured at the establishment, or borrower level (or sub-establishment, like the business unit), at the industry level, or the level of the total economy. There are direct effects, and indirect effects, or "spin-offs." Ideally, one would like to cast the widest net possible, measuring all economic impacts, regardless of size. In practice, however, measurement can be somewhat problematic, especially for indirect effects.

A recent KPMG report summarized the difficulty of doing an economic impact analysis of the SBL Program.[21] Essentially, the report stated that since the SBL Program program can be best thought as a facilitator of loan transactions, as opposed to an industry or set of economic activities, it is difficult to asses its stand-alone economic impact. Data limitations outlined at the beginning of this study further complicate the issue.

Performance indicators are quantifiable expressions of those program elements that are to be subject to measurement.[22] Accordingly, economic performance indicators for the SBL Program should provide relevant and sufficient information on its economic impact, to support Industry Canada in the day-to-day management, and lending institutions in their day-to-day delivery, of the Program.

With regards to the SBL Program the key issue, apparent from reports written to date, is employment. Specifically, job creation, job maintenance, and job displacement, within and outside the borrowing firms. This focus on employment is the result of two factors. First, and most importantly, is that from a policy standpoint jobs are critical. Second, and almost as important, is the fact that employment, while difficult to measure, is one of the few areas of economic impact that can be reasonably estimated with the available information.

In a perfect world, key performance measures for an economic impact study would include, but would not be restricted to, the following:

- net increase in employment;

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21 KPMG Management Consultants, *A Review of Issues Surrounding Benefit-Cost Analyses of the Small Business Loans Program*. May 1998.

- net increase in GDP;
- net increase in productivity;
- net increase in number of small businesses;
- net increase in business investment;
- net increase in sales and profits;
- net increase in product and process innovation;
- net increase in exports;
- net increase in wages and salaries;
- effects on government balances, including taxes;
- net increase in production costs; and

For the purpose of this study the scope will be confined to jobs, and growth in some key areas like profits, sales, and capital investment.

6.2 Current sources of information

Currently the Directorate of the Small Business Loans Program collects borrower data through the Small Business Loan Registration form that the lending institution completes when a loan guarantee is extended. The registration form records a variety of information about the applicant to ensure eligibility for the program. It has been altered over the past few years to facilitate the collection of more detailed data.

In terms of information useful for measuring economic activity, the registration form collects, among other things, data on the number of additional employees expected to be employed as a direct result of the loan. Information about the amount of lending against a number of classes of assets including equipment and machinery, alterations to

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[22]Hudson, Mayne, Thomlison, *Action-Oriented Evaluation in Organizations*, P: 131, 1992.

premises by tenants or owners, the construction of buildings, the purchase of land, and the purchase of existing buildings, is also recorded.

Three reports have been commissioned by Industry Canada that attempt to measure the economic impact of the SBL Program. These studies (*Recent Experience with the SBL Program: Economic Impacts, Incrementality and Risk Profile Analysis* by Haines and Riding, *The Small Business Loans Act Economic Impacts* by Informetrica, and *Impact of SBL Program Lending: An Evaluation of the Economic Impacts of the SBL Program Program* by Equinox Management Consultants) have been summarized elsewhere.[23] As such, our approach is to leverage the findings of these studies towards a more complete understanding of the economic impact of the SBL Program. It should be noted at the outset, however, that there is still much work that needs to be done in this area.

The studies by Haines and Riding and Equinox attempt to quantify economic impacts using a combination of administrative data from borrower registration forms and survey data from telephone interviews with samples of SBL Program and non-SBL Program loan recipients. The study by Informetrica uses an econometric forecasting model to derive multipliers for comparing a base case economy to one which includes the SBL Program.

These three studies demonstrate the varying levels of scope that an economic impact analysis can take. In the Equinox and Haines and Riding studies the economic impact focuses on firm-level job creation, borrower performance, and survival—a micro-economic approach. The Informetrica approach, on the other hand, takes a more broad, macro-economic view of impacts, focusing on industry and total-economic output,

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[23] KPMG Management Consultants, *A Review of Issues Surrounding Benefit-Cost Analyses of the Small Business Loans Program*. May 1998.

employment, and real incomes. Informetrica's approach is a dynamic one that takes into account both the direct effects of business investment spending, and the indirect, or "spin-off," effects of business investment. Effects in the first year are taken into account in succeeding years.

Results of all three studies depend on assumptions about loan incrementality. The question of incrementality comes down to determining whether an SBL loan would still have been made in the absence of the Program, or to what extent another loan would have been granted under the same conditions. Incrementality is central to an economic impact study. The importance of incrementality assumptions to the results will be demonstrated in the upcoming sections on jobs and growth. All three papers agree that the SBL Program has a positive economic impact, they just differ about how significant that impact is.

Statistics Canada data sources were also consulted for this study, in the hopes of uncovering information useful in evaluating the economic impact of the SBL program. Investment and Capital Stock Division provides data for public and private investment (actual and intentions) by industry, including detailed CANSIM matrices providing time-series expenditure data on capital equipment and construction. Some limited use is made of these data here. The Survey of Employees, Payrolls, and Hours (SEPH), and the Labour Force Survey (LFS), are not useful in the context of the SBL Program because of the difficulty of attributing employment gains or losses to the Program. The merits of two other sources of data, surveys by Micro-Economic Analysis Division and Small Business and Special Surveys Division, were outlined in PricewaterhouseCoopers' Evaluation Framework for the Small Business Loans

Program document. Access to these information sources involves expensive linkages and special tabulation runs which are beyond the scope of this project.

6.3 Existing Information on the economic impact of the SBL Program

Clearly, the SBL Program has a "presence" in the Canadian economy (see Table 5). A total of 240,437 new SBL Program loans have been extended for small businesses in periods 11 and 12, totalling some $13.2 billion. SBL Program loans have largely been targeted towards new and early-stage small businesses. Data available for the last five fiscal years (1993-94 to 1997-98) by age of business show that fully 37% of new loans were issued to start-ups and a further 22% were made to businesses that had been in existence for less than three years.[24]

Table 5: Loans made under the SBL Program (Periods 11 and 12)

Year	# of Loans Made	$ Amount (000's)
1990-91	10,626	413,258
1991-92	10,557	397,275
1992-93	13,154	502,141
1993-94	43,351	2,548,790
1994-95	68,378	4,397,108
1995-96	34,613	2,243,151
1996-97	31,003	2,018,962
1997-98	28,755	1,951,892
Totals	240,437	$13,161,215

Source: SBL Program Annual Report, Mar. 31, 1998

[24] Industry Canada, *SBLA Annual Report on Operations for the 12-month period ended March 31, 1998.*

6.3.1 Employment

Estimated employment figures come from three sources: historical estimates provided by the borrowers at the time of the loan application; follow-up surveys of borrowers by Haines and Riding and Equinox; and from the Informetrica econometric model. Borrower estimates at the time of the loan application are inherently rough because they represent additional jobs borrowers think they will generate as a result of the loan, not what did occur as a result. Survey results, which offer a chance to see the effects of loans after a period of time has passed, may suffer from selection bias depending on the frame used to draw the sample (one survey used the CFIB membership list as a frame and thus only sampled well-established firms who can afford the CFIB membership fee), and/or small sample sizes (sample sizes for one survey giving annual estimates of actual employment varied from 10 to 96 respondents per year). Finally, the econometric model used to derive multipliers relies on underlying assumptions about how the economy operates, for example how markets clear, which may or may not be appropriate. Mindful of these limitations, we now turn to an analysis of the studies.

At the time of the loan application borrowers estimated for fiscal year 1997-98 that they would create 38.2 jobs for every million dollars of lending, or about 2.6 jobs created per loan. We have coupled Haines and Riding and Equinox survey data with SBL administrative data to find that these two studies estimate 104.2 and 77 jobs per million, and 5.3 and 3.9 jobs per loan, respectively. In order to compare these estimates to Informetrica's estimates it is necessary to apply incrementality.

Table 6 summarizes current employment estimates of the SBL Program from all known sources, under an assumption of 60% incrementality. This assumption was chosen because it is the approximate finding of the Haines and Riding (converse of finding that 30-40% of term loans made under the SBLA are to firms that are otherwise bankable) and Equinox studies (Equinox was actually 54%). In addition, Haines and Riding's 60% incrementality finding was quoted by Informetrica in their study, and used to derive

results from the Informetirca model. As the table shows, even when all estimates are placed on a more level playing field the differences are substantial. This is strong evidence of the need for a more rigorous economic evaluation program.

Table 6: Employment Estimates for 1997-98 Fiscal Year as a Result of the SBL Program

Source	# of Jobs Created Per Loan	Jobs Per $1 million of lending
Haines & Riding Survey (1994 survey data)	3.4*	62.5*
Equinox Survey (1996 survey data)	2.3*	46.2*
Borrower Applications (1997-98 admin data)	1.4*	22.2*
Informetrica Informed-Model (5-year model average)	0.5	8.4
Informetrica Say's Law (5-year model average)	1.5	22.8

*figures adjusted to reflect incrementality assumption of 60%

To demonstrate the effect of the sensitivity of incrementality and other assumptions, consider Table 7. Here we applied Informetrica's employment multipliers to the SBL Program administrative data over the last five fiscal years to arrive at estimated 5-year total employment estimates as a result of the actual loan amounts guaranteed during that period. Results are presented in two views of the world, a model-informed view and a Say's Law view.

The model-informed estimate is Informetrica's best estimate of how the Canadian economy actually functions. The Say's Law estimate is a more theoretical view of the economy, where increases to the stock of productive capital are met by an increase in aggregate demand sufficient to employ all additional capital stock (i.e. markets clear, there is sufficient demand to meet supply). Say's Law, which is a purely theoretical model not observed in any mature economy in the world, should thus be viewed as an upper bound on our employment estimate. Clearly, though, this exercise demonstrates

how highly dependent the economic impact of the Program is on assumptions made in measurement. One's view of a program which created 37,000 jobs over 5 years is dramatically different than one that created 185,000, or up to 500,000 jobs over the same period.

Table 7: Sensitivity Analysis of Informetrica Model

% of Loans Which are Incremental	Model-Informed Number of jobs over 5 Years	Say's Law Number of Jobs Over 5 Years
20%	37,011	99,975
40%	74,023	199,949
60%	111,034	299,924
80%	148,045	399,898
100%	185,057	499,873

Other issues related to employment that need to be taken into account are displacement effects (within and outside the borrowing firm), and the quality of the jobs being created, maintained, or displaced. (i.e., temporary or permanent, full-time or part-time, high skill or low skill). Future data collection should address these issues.

6.3.2 Growth

When speaking of growth we are speaking in a general sense - growth of firms (i.e., sales, profits and productivity), growth in industry and total-economy output, and growth in real incomes. Each of the three economic impact studies on the SBL Program have something to say about growth.

Surveys of borrowers by Haines and Riding and Equinox find very positive results. As a direct result of a loan through the SBL Program, the majority of borrowers experienced increased sales. One survey by Haines and Riding found that 64.5% of respondents

indicated average annual sales increases of $341,000. Many experienced cost reductions (29.1%) as a results of their investment, and some developed an increased ability to export (9.2%). Many respondents also indicated that the SBL program helped their firm survive. These results suggest that small business owners are attributing a large part of their success to receiving a loan under the Program.

The Informetrica study, on the other had, is not nearly as positive with regards to the growth side of the economic impact. In fact, the study says that on the whole the balance of the SBL Program is neutral. Realizing any output, employment, and income effects depends on whether the new capacity displaces current productive capacity, or not. In addition, imports would be expected to rise because investment is often equipment-intensive and Canadian businesses typically have to purchase this equipment from abroad. Finally, since a majority of the investment is concentrated in service sector industries, particularly commercial services and retail trade, there is little opportunity for the type of productivity gains or new exports that would more readily occur in goods industries like manufacturing.

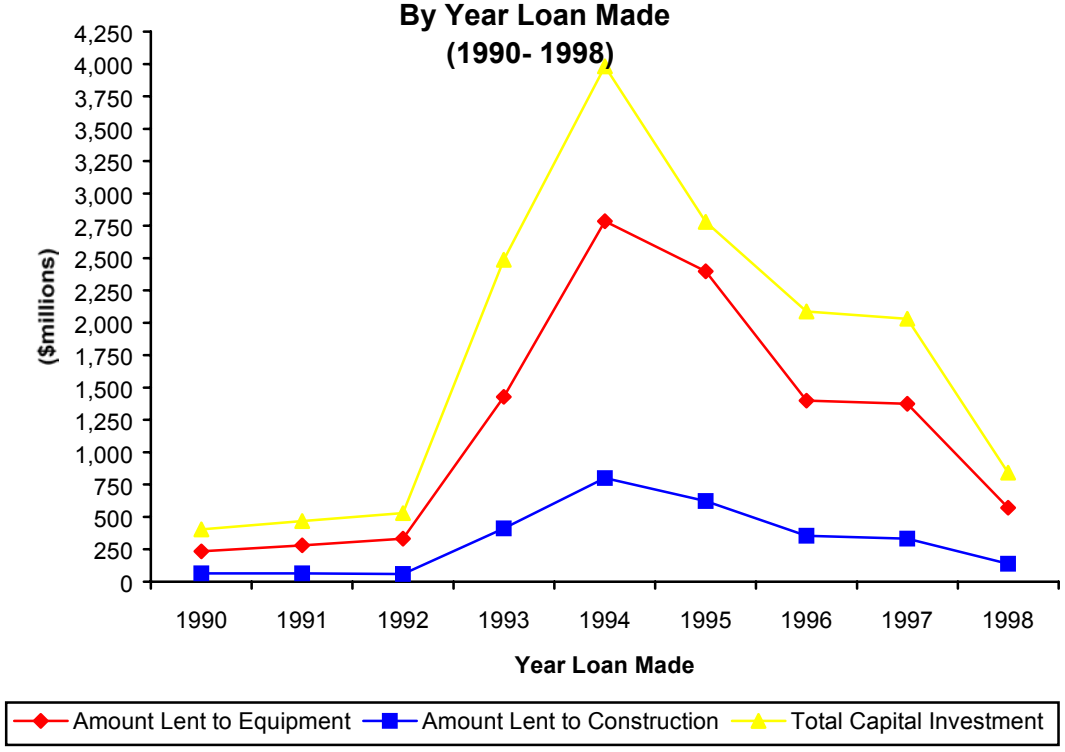
Since the primary use of loan proceeds is to obtain new equipment or to fund new property/floorspace, and capital investment is one area of economic impact that has not been explored in any depth by the other studies, we decided to take a closer look at this area.

To determine the economic impact of the SBL Program in regards to capital investment we examined the SBL administrative data on capital investment as recorded in the year the loan was made. We narrowed the definition of capital investment to include the amount of lending against new machinery and equipment and the amount of lending against construction (building and engineering), including alterations/renovations. Purchases of land and/or existing buildings were not included since these are not, in fact, new additions to operational capital stock. We then drew a comparison to the

overall business and government capital investment in plant, equipment, and construction in the economy since 1991.

As demonstrated in Figure 3, the total amount of lending against new equipment and machinery increased from $235 million in 1990 to $2.8 billion in 1994 before falling to $1.4 billion in 1997, reflecting program changes outlined earlier in this study. As of March 31st, 1998 this figure stood at $570 million. The total amount of lending against construction (both building and engineering), but excluding the purchase of land or existing structures, increased from $64 million in 1990 to $801 million in 1994 before falling $334 million in 1997, again reflecting program changes. As of March 31st, 1998 this figure stood at $138 million.

Figure 3: Amount Lent Against Equipment and Construction and Total Capital Investment By Year Loan Made (1990- 1998)



The total amount of lending against both capital equipment and construction doesn't represent the total amount of capital investment that resulted directly from the BIL since the granting of the loan is contingent on the borrower also investing capital against the purchase of equipment or construction.[25] The total capital investment generated under the SBL Program program was determined by measuring the difference between the percentage of the total asset costs (capital investment) financed by the SBL Program and the contribution of the borrower to the purchase of those assets. The summation of these amounts allows us to determine the total capital investment resulting from the Program. Thus, in 1990 the total capital investment increased from $404 million in 1990 to $4 billion in 1994 before falling to $2 billion in 1997, and to $842 million as at March 31st, 1998.

Table 8: Total Canadian Public and Private Capital Expenditures vs. Total Capital Expenditure on Construction and Equipment Generated by the SBL Program

Year	Public and Private Capital Expenditures on Plant and Equipment ($millions)	Total Capital Expenditure on Construction and Equipment Generated by SBL Program ($millions)	Percentage of Capital Expenditure on Plant and Equipment Accounted to the SBL Program
1990	N/A	404.35	N/A
1991	128,009.90	467.50	0.4%
1992	122,188.80	528.97	0.4%
1993	121,253.90	2,486.93	2.1%
1994	130,131.20	3,982.72	3.1%
1995	127,802.80	2,779.05	2.8%
1996	137,712.00	2,089.05	1.5%
1997	155,629.40	2,031.36	1.3%

[25] The percentage of the asset cost financed by the SBLA has varied from 80% of equipment and 90% of land/buildings on a BIL made prior to April 1st, 1993, 100% of all assets on a BIL made after March 31st, 1993 and 90% of eligible assets on a BIL made after December 31, 1995.

Placing this investment in the context of the total economy, Table 8 compares private and public capital expenditures in plant, equipment, and construction in the overall economy to the capital activity generated as a result of loan guarantees under the SBL Program since 1990. In 1991, capital expenditures under the SBL program accounted for only 0.4% of all capital expenditures on plant and equipment, they peaked at 3.1% in 1994, before falling back to 1.3% in 1997. Thus, not surprisingly, the total capital expenditure generated by loan guarantees under the SBL Program accounted for a very small proportion of overall capital expenditures in plant and equipment in the overall economy.

6.3.3 Summary

The studies that Industry Canada has commissioned to date have largely indicated that there are a number of positive social and economic benefits that result from the existence of the SBLA. These same studies, however, have disagreed on the magnitude of these benefits. Employment gains as a result of the SBLA range from 0.5 to 3.4 jobs per loan, or 8.4 to 62.5 jobs per million dollars of lending. Central to any discussion on the economic impact of the SBLA is the issue of incrementality, which has been, and will continue to be, the greatest challenge in achieving wide consensus on the magnitude of the program's "impact".

6.4 Closing the information gap

Overall SBL Program performance evaluation may involve program administrators, borrowers, and lenders equally. For an evaluation of the economic impact of the program, however, the burden lies mainly with borrowers, and small business owners in general. Certainly information from the SBL Program Administration at Industry Canada and lending institutions is useful, but many outcomes will not occur for some time after the loan is granted. For this reason, we need to track the firms themselves. PricewaterhouseCoopers recently provided an evaluation framework for the Small

Business Loans Program, and some of the issues and recommendations of that report would aid greatly the undertaking of an economic impact study.

Small businesses that have received a Program loan will need to be included in sample surveys to answer questions related to key areas of performance. These surveys would be similar to those done by Haines and Riding and Equinox but would include more detailed questions. Information about items such as the number of jobs created, maintained or displaced needs to be tracked over time, as well as growth in sales, productivity, exports, and other "wish list" items. PricewaterhouseCoopers has consulted SBL borrowers and found that that they would be willing to participate in telephone or mail surveys for the purpose of evaluating Program results. Borrowers also indicated that they would be willing to share information such as their business revenues and the impacts that the SBL loan had on employment in their business as long as this information remained confidential.[26]

However, it is also important to know how SBL participants are performing relative to non-SBL participants, for a number of reasons including assessing incrementality. Ideally, a longitudinal database that would include information on SBL borrowers and

[26] There were 28,755 SBL Program borrowers in FY 1997-98. Given this number, a sample size of approximately 380 would yield results at a 95% confidence level with a margin of error of plus or minus 5%. (assuming no stratification).

small businesses that have not borrowed under the Program would be extremely useful to make comparisons over time between Program users and non-users. [27]

The development and maintenance of this database would first involve augmenting the current SBL borrowers database to incorporate values for which comparisons between a control and experimental group would be valuable (e.g., number of jobs created over a period of time, level of sales and exports, production costs). The second step would be populating the database with the additional information needed for SBL borrowers and the control group of non-SBL borrowing small businesses. Benchmark data could be collected through a baseline survey. The data would then be updated on a periodic basis (e.g., annually for SBL borrowers and every two years for other small businesses) through the conduct of additional surveys.

A longitudinal database on SBL and non-SBL borrowers could be used to address the following evaluation questions:

a) **To what extent are loans made under the SBL Program incremental?** The survey will allow the evaluators to determine whether Program participants believe they would have obtained a loan in the absence of the Program. In some cases, this issue might be a matter of perception (especially for those borrowers who are not aware that their loan is an SBL loan). However, asking respondents to identify the rate at which their loan requests were rejected using other financing vehicles, prior to being accepted for an SBL loan, will provide an indication of the incrementality of the Program.

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[27] Given an approximate number of 904,800 small businesses in Canada (firms with fewer than 50 employees, 1996 figure[27]), a similar sized survey to the one above would yield similar levels of precision (again, assuming no stratification).

b) What impacts, if any, does the SBL Program have on job creation/maintenance/ displacement within the borrowing firm? What are the related costs and benefits? What impacts, if any, does the SBL Program have on job creation/maintenance/ displacement outside of the borrowing firm? The survey would be used to ask respondents the extent to which, based on their own estimates, the loan they obtained under the Program allowed them to create or maintain jobs. It would also determine the extent to which this loan led to the displacement of workers within their own organization (for example, by replacing some workers with equipment). Asking this question of borrowers some time after they have obtained their loans will contribute to compensating for the potential unreliability of the estimates provided at the time of the application. The survey of borrowers could also be used to ask respondents the extent to which they feel jobs were created, maintained or displaced in other organizations (e.g., suppliers, competitors) as a result of them receiving an SBL loan.

c) What impacts, if any, does the SBL Program have on the performance of small businesses? The survey would be used to obtain estimates from Program borrowers on the extent to which they feel their SBL loan allowed them to improve their performance in areas such as productivity, production costs, exports, business investment, sales and profit, research and development, and product conception.

6.5 Challenges in achieving a more complete economic impact study

In their Evaluation Framework for the SBLA, PricewaterhouseCoopers identified a number of issues and challenges that can be anticipated for the future evaluation of the SBL Program. Some of these issues and challenges are directly related to performing an economic impact study. This section identifies these anticipated issues and challenges and provides suggestions for addressing them:

a) Access to borrower telephone numbers

SBL borrower telephone numbers are not readily available. While researching SBL borrowers' business telephone numbers or purchasing databases on small businesses would be possible, this approach could be costly and time consuming. One option that Industry Canada should consider is requesting that lending institutions provide borrower telephone numbers on the SBL loan registration forms. Telephone numbers could then be entered in the SBL Program databases and would be readily available for recruiting borrowers for the surveys needed to report on the Program's performance measurements. Lenders consulted stated that they would consider providing this information on the loan registration forms, as long as the forms included a borrower consent agreement that borrowers would be required to sign for disclosure of this information. SBL borrowers consulted also stated that they would not object to providing their business telephone number on their loan application form.

b) Determining incrementality

The question of incrementality comes down to determining whether an SBL loan would still have been made in the absence of the Program or to what extent another loan would have been granted under the same conditions (e.g., value of loan, maturity term, interest rate and loan fees). This will be a challenging evaluation question to answer, even with a longitudinal database, since the only individuals who truly know are the ones granting the loan application. It is recommended that numerous indicators and multiple lines of evidence are used to address this question, including asking the lending institutions.

c) More detail in industry classifications

At present, the level of information related to SBL borrower business activities is based on eighteen Standard Industrial Classification codes at the two digit level. At this level, gaps are particularly evident in the category of "Other Service Industries" which does not clearly identify the business activity in which the majority of SBL borrowers are found.[28] For example, during fiscal year 1996-97, the value of loans categorized within this sector was $418 million.[29] In order to better identify the type of borrowers receiving SBL loans and to provide sufficient information to address the economic impact, it is recommended that this code be broken down into more identifiable business activities. In addition, loan registration forms should also provide more detailed information on growth sectors such as knowledge-based sectors. It is recommended that Industry Canada consider the knowledge-based Standard Industrial Classification codes used by the Thompson and Lightstone annual survey, Small and Medium Sized Businesses in Canada: An Ongoing Perspective of their Needs, Expectations and Satisfaction with Financial Institutions sponsored by the Canadian Bankers Association. This survey includes knowledge-based activities at the four digit level such as Electronic Parts and Components, Telecommunications and Equipment and Computer Services.[30] In addition, Industry Canada may want to consider requesting information on the loan registration forms related to SBL borrowers' professions. This will also help to ensure that a more complete profile on borrowers' business activities is being captured.

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[28] Industry Canada's Small Business Loan Registration Form, July 26, 1996.

[29] Industry Canada, *Small Business Loans Act: Annual Report on Operations for the 12-month period ended March 31, 1997*, p. 11.

[30] Thompson Lightstone & Company Ltd., *Small and Medium Sized Businesses in Canada: An Ongoing Perspective of Their Needs, Expectations and Satisfaction with Financial Institutions,* 1997.

d) Minimize respondent burden on small businesses

As with any evaluation, collection of information for future economic impact studies of the Small Business Loans Program will impose a burden on the participants since they will be asked to contribute their time to the evaluation in the form of a survey interview. The issue of time is particularly important for small business operators since they often perform multiple roles and handle various responsibilities simultaneously. This should therefore be kept in mind when requesting their participation. Survey lengths should be kept to a minimum (15 to 20 minutes is ideal), increasing the likelihood that potential respondents will agree to participate. The questions developed for the survey should also be clear and easy to answer to avoid respondent frustration. Question clarity and "user-friendliness" are usually assessed through a survey pre-test.

Obtaining the participation of stakeholders and key informants in the interview process is typically not a problem if the purpose of the interview is clear . When first contacted, the individual must therefore be clearly explained the context in which the interview will be conducted (i.e. for evaluating the economic impact of the SBL Program) and the importance and value of their participation. It is also preferable to schedule interviews ahead of time and to conduct them in person since this facilitates the development of a rapport between the interviewer and the interviewee.

e) Awareness on the part of SBL borrowers that their loan is an SBL loan

It is expected that a number of small businesses who have obtained a loan under the SBL Program are not aware that this loan is an SBL loan. The survey of SBL borrowers would assess the specific level of awareness of this population on this issue. However, it will be essential to ensure that SBL borrowers know which loan the survey is referring to in order to obtain valid answers from them (for example, on the impacts of the SBL Program on job creation/maintenance/displacement).

In order to alleviate the challenges associated with conducting a survey on a loan of which borrowers may not be aware, it is recommended that a telephone (rather than a mail survey) be conducted. This would allow interviewers to provide explanations to respondents and ensure that both share the same understanding of the program to be examined. It is also recommended that the level of awareness of respondents be assessed at the beginning of the survey questionnaire. In the absence of awareness, it will be important for the interviewers to have information on the lender and the value of the loan, to ensure that the respondent knows which of their loans, if they have many, the survey is referring to.

f) Awareness of future developments in data warehousing and credit scores

Although accessing lenders' data on SBL Program loans and other loans made to small businesses is currently a challenge, lending institutions appear to be in the process of developing data warehouses within the next two to five years, upon completion of their Year 2000 initiatives. As part of the implementation process for these initiatives, they plan to do the required data scrubbing to eliminate multiple system file duplications and gaps. As a result, lenders may potentially have reconcilable commercial loan information (including SBL loan data) in the future. Furthermore, they are also moving towards being able to capture information such as operational costs for lending activities, up-to-date borrower business profiles (e.g., business activity, business age, business revenues) and demographics of borrowers (e.g., age, gender) in these data warehouses. Upon lenders' consent, these data warehouses could provide potentially valuable information for reporting on the SBL Program's economic impact in the future, such as reporting on accessibility to financing under the SBL Program and on the extent to which the Program is incremental.

In addition to data warehouse initiatives, lending institutions are increasingly using a credit scoring system as an adjudication tool in commercial lending. Credit scoring is the

process of assigning a numerical value (the credit score) to a credit applicant that indicates the probability that the applicant will or will not exhibit the behaviour at risk. The behaviour at risk is commonly a measurement of payment default or account write-off. Credit scores predict a behaviour by matching the characteristics of an applicant to other applicants for which there is behaviour experience. The numerical credit score is determined by assigning points to a small number of factors that have shown, through analysis, to predict the risk of the behaviour occurring. The higher the score, the lower the risk.[31] As a by-product of the credit-scoring initiative, some lending institutions plan to create and maintain a credit scoring database of key credit-related business and borrower demographic indicators which would provide very useful data for analyzing loan performance rates. It is recommended that Industry Canada consult lending institutions on their data warehouse and credit-scoring initiatives to determine the possibility for any potentially feasible partnership arrangements whereby these data sources could be used to report on the SBL Program's economic impact in the future.

[31] Price Waterhouse, *Overview of Credit Scoring for Commercial Banking*, August 1997.

Appendix A

Blended Team Scenario Spreadsheets
Full Term Scenario Spreadsheets
Cohort Cost/Benefit Analysis Spreadsheet

Blended Term Scenario Spreadsheets

Full Term Scenario Spreadsheets

Cohort Cost/Benefit Analysis Spreadsheets