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**The Bahamas**

**Credit Enhancement Program for Micro, Small and Medium Enterprises**

**(BH-L1046)**

**Economic Analysis**

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1. Introduction

A. General Aspects

* 1. **Program.** The present economic analysis corresponds to the Credit Enhancement Program for micro, small and medium enterprises. The total amount of the program is US$ 25 million.
  2. **Macroeconomic context**. After a recessionary period that ended in 2015, economic growth has gradually picked up and is estimated at 2.5% for 2018 and 2.25% in 2019, with projections of 1.5% over the medium term[[1]](#footnote-1). The recovery reflects firm economic expansion in the US, the main source of tourists to the Bahamas and the country's main trading partner. On fiscal matters, public debt has steadily increased to levels of around 57%, although the government has recently implemented measures to decrease the fiscal deficit through lower spending. The Bahamas has reactivated the World Trade Organization accession process with a view to secure membership by 2019, helping to remove barriers to trade, foreign investment and protection of property rights.
  3. **The problem of access to finance**. One of the principal constraints to private sector growth is access to finance. A survey to MSME in The Bahamasindicates that access to finance was the second most important obstacle for business growth, after an inadequately educated workforce[[2]](#footnote-2). Only 30% of surveyed firms have a line of credit or loan from a financial institution and less than one-fourth of companies undertaking investment projects in The Bahamas have been funded by private banks[[3]](#footnote-3). The latest Enterprise Survey of The Bahamas[[4]](#footnote-4) substantiates these findings by indicating that only 14.6% of firms used banks to finance investments (versus 38% for Latin America and Caribbean (LAC), at the time) and 78.3% of firms used supplier or customer credit to finance working capital (versus 58.8% in LAC). The need for finance is reflected in another survey[[5]](#footnote-5) which indicates that, while only 11% of MSME obtained financing from a bank to start a business, 50% of respondents revealed they required financing to expand their operations. It should be mentioned that these firms also indicated a need for non-financial assistance, with customer care, technical training and accounting and finance being the most required.
  4. The Bahamas ranks 144th out of 190 countries and 22nd among IDB borrowing countries on an “Ease of Getting Credit” indicator[[6]](#footnote-6), which is based on the absence of an established credit bureau and weak legal rights.
  5. Loan application rejection rates are very high in the Bahamas – nearly 85%, comparable to Trinidad and Tobago, but much higher than Barbados (35%), Belize (42%), Jamaica (55%) or Suriname (27%)[[7]](#footnote-7). MSME who do not apply for a loan have varied reasons, the most cited being that the firm has sufficient capital and that the size of the loan (28%) and maturity are insufficient (21%). While only 38% of firms had invested in fixed assets, 74% of these investments were financed from internal funds and 18% from commercial banks.
  6. **Obstacles for access to finance.** Despite ample balance sheet space, commercial banks are cautious in making new loans and typically do not prioritize MSME, preferring mortgages (that by definition have the collateral required), consumer loans (more tolerant to higher interest rates) or government financing (lower risk and hence less provisions). Observing the sectoral distribution of credit in the banking system, 77% is categorized under personal loans (albeit some of these may include those destined for small business purposes).
  7. The Bahamas financial sector’s restraint from lending to MSME stems from two main problems, which substantiate the low risk appetite from the banks and affect the risk premium in the interest rates: (i) the lack of sufficient collateral to provide coverage for a loan; and (ii) lack of information and financial statements of the firms, as well as of business plans that allow a proper assessment of investment projects[[8]](#footnote-8). The credit constraint was reinforced by the legacy of the prolonged recession and the NPL it produced, however the economic environment has gradually improved[[9]](#footnote-9).
  8. **Program objective.** The general objective of the program is to improve economic activity in The Bahamas. The specific objective is to enhance access to finance of MSME by providing a credit enhancement facility. There would be two components. In the first and largest component, resources from the program will be used to finance the CEF administered by the SBDC, in order to facilitate access to finance for MSME. This instrument is the primary source of financial support for Bahamian MSME promoted by the government. In the second component, the SBDC’s program for advisory and technical assistance to MSME will be supported, as well as the institutional strengthening of the SBDC itself.

1. Methodology and Assumptions
   1. The financial system cannot provide credit to all enterprises (that present viable projects, with attractive risk and returns profiles) only by the sole acting of private agents. This situation makes necessary public intervention in order to moderate the level of financial restrictions for enterprises that, although being credit constrained, have projects profiles with good expected returns. These credit constraints are not evenly distributed but tend to affect more severely small and younger firms. Public intervention allows to ease these financial restrictions, providing the opportunity to finance productive investments that yield increases in production, sales, employment, value added and productivity. In other words, public intervention allows the expansion of economic activity with positive social returns.
   2. The benefits generated by the program will be approximated by the benefit (in net present value) perceived by the final beneficiaries, which consist of firms that received training by the SBDC and later were granted credit by banks, with the guarantee provided by the CEF. Hence, both components of the program (the guarantee component, and the institutional and technical support one) support the same main economic benefit of the program.
   3. The rationale of this analysis is that once the beneficiary’s firms cease to be credit constrained, they are able to invest in the necessary capital and/or technology that will allow them to increase their production, sales and in the long run productivity. This scenario contrast with the counterfactual in which they are unable to access credit with the adequate term and rate conditions that would allow them to undertake these investments.
   4. Hence, the net present value of the program (NPV) will be calculated as the differential value attributable to the access to financing. This value will come from an additional increase in sales in comparison with comparable firms that do not secure financing and hence continue their current trend in sales growth.

B. Information and Asumptions

* 1. **Target population.** The target population consists of MSME (under SBDC definition[[10]](#footnote-10)) that are registered at SBDC, receive technical assistance from them, and have viable projects that require additional financing. The specific characteristics of these enterprises, such as sales, costs, profits, etc have been obtained through the database of registered MSME at SBDC.
  2. **Firm characteristics.** SBDC maintains a record of administrative and economic information of MSME that are registered with them. The project’s team was able to access to this database in order to calculate the average of the following variables for a typical MSME in their database:
     + 1. The average total annual sales (which include domestic sales plus export sales) is equal to US$130,312.
       2. The average operating margin is equal to 18%, which implies an average annual operating cost of US$106,855.
  3. **Loan tenor**. We will assume a loan tenor of seven years for projects beneficiaries, which corresponds to the projected tenor used by SBDC in the financial modeling of the CEF.
  4. **Average loan amount**. Based on surveys to clients, SBDC projects that the average loan amount will be US$62,680.
  5. **Leverage**. It is expected that each guarantee will cover 75% of the loan amount. During the first three years each dollar of the CEF will cover one dollar of the guaranteed amount per each loan. However, it is projected that between years 4 and 7, each 0.95 dollars of CEF will cover one dollar guaranteed, between years 8 and 15 the corresponding amount will be 0.85 dollars, and between years 16 and 25 the amount will be 0.75 dollars of CEF per each dollar guaranteed.
  6. **Timeline.** To keep consistency with the financial planning of the CEF, for this analysis we will use the same timeline of 21 years that SBDC considers in the financial modelling CEF. Table 2 shows us this model in which the fund finances new enterprises each year for seven years each. The yearly repayment amounts of these loans allows the fund to growth beyond its initial value, thus allowing it to further finance new MSME beyond the 4-year execution period of the program. It is worth mentioning that the high discount rate of 12% used for the Net Present Value (NPV) estimation will render the furthermost values very insignificant.
  7. **Number of beneficiaries.** The annual number of new beneficiaries is shown on Table 2. It is calculated by dividing the total available funds in CEF by the average loan amount. The total available funds in CEF is equal to the annual drawdown (coming from the US$22 million destined to this component) plus the amount repaid in each year by current beneficiaries. The repayment of the loans will allow the CEF to continue guaranteeing new loans after the fourth year of execution. However, the annual number of new beneficiaries will decrease after the fourth year given the assumption (for this analysis) that the CEF will not have another replenishment and given the fact that loan repayments are spread across seven years for each beneficiary.
  8. **Impact on sales.** Impact evaluation literature for credit guarantee programs similar to this one has shown positive effects of this type of intervention on firms sales, profits, employment, among others. For example, the impact evaluation carried for Chile’s Fondo de Garantía para Pequeños Empresarios (FOGAPE) found that beneficiaries from these guarantees had, on average, 6% higher sales and a higher 4% profit[[11]](#footnote-11). Similarly, the impact evaluation for Colombia’s Fondo Nacional de Garantías (FNG) found that the sales of beneficiaries grew 8% more on average that their counterfactual[[12]](#footnote-12). A more recent impact evaluation for credit guarantees programs for SME in Europe found that, after two years of treatment, the sales of the beneficiaries rose by 14,8 percentage points above the control group[[13]](#footnote-13). Given this evidence, and the range of estimated impacts on sales, we will assume the middle value of an 8% impact. However, we will assume that this impact fully materializes after the second year of the loan because we expect the investments to present a delay in yielding results. Hence, during the first year of the loan, we will only assume a half effect of 4%. Additionally, we will consider a medium-to-long run effect on profits, based on the findings reported above. Hence, we will assume that the costs of beneficiary firms reduce in 4% only after the fourth year of execution. With this, we want to reflect that efficiency gains from this kind of intervention take time to materialize but yield economic benefits in the long run.
  9. **Investment Costs.** The total amount of the operation destined to the credit guarantee component is US$ 22 million. However, given that the guarantees will cover for 75% of total loan value, this implies that the $22 million will guarantee US$29.3 million in loans. We will use this latest value as the program cost that we assume will be disbursed in equal quantities of US$7.3 million during the four years of execution. Later on, the repaid amounts of the loans will free guarantee funds that will enable to re-use them to guarantee new operations in the timeline of the analysis.
  10. **Inflation rate.** We will consider an annual inflation rate of 2.2% which corresponds to the projected annual inflation rate from 2019 to 2023 by the IMF (World Economic Outlook 2019).
  11. **Counterfactual scenario.** The scenario without project consist of one in which the MSME don’t have access to the necessary credit to finance their investments. Hence, in this situation, their sales and costs will continue to grow at a constant rate (given in this case by inflation[[14]](#footnote-14)).

1. Economic Benefit Assessment
   1. **Economic benefits.** The economic benefits of the project are calculated as the expected increase in beneficiaries’ revenue. For each beneficiary, first year benefits are calculated by applying the assumed 4% increase in sales to the corresponding sales in a scenario with no project. From year two onwards, the benefit is calculated using the 8% increase in sales take from empirical literature (se previous section). As mentioned before, the no-project sales growth at the assumed inflation rate of 2.2%. See Table 3 for further details.
   2. **Economic costs.** The economic costs considered in this analysis consist on:
      * 1. The total loan value, which has a 75% covered by the guarantee fund. At the aggregate level, it is expected that the funds will be disbursed in equal parts during the four years of execution. Hence, there will be an investment cost each of the first four years of the analysis.
        2. Operating costs. These are calculated using the information on sales and operating margin for the beneficiaries. It is assumed that there are no short run effects on this variable (during the first four years that coincide with the execution period). However, as mentioned before, we will assume that there is a cost improvement of 4% starting in the fifth year, hence increasing the operating profit, as previous literature has found.
        3. At the aggregate level we will include during the execution years of the project the disbursements associated with the second component of the operation. Although it is expected that the technical assistance provided to MSME will improve not only their chances of getting credit, but also their ability to perform better, and hence positively affect revenue growth, we opt not to have an explicit modelling of their associated benefit for simplicity. However, we include the associated cost in order to account for the total program investment.
   3. **Aggregation.** To aggregate the flows from the individual level to the program level we multiply individual level-variables by the number of total beneficiaries per year. For this purpose, we utilize the assumed distribution of project beneficiaries for the CEF timeline (see Table 2) provided by SBDC. Each year the total number of beneficiaries consist of new beneficiaries (thanks to original CEF funds allocation for the first four years, plus available funds due to loan repayments) and previous years beneficiaries (since we are assuming that the effects on production are long-lasting).
   4. **Net benefits.** The flow of net benefits is calculated as the difference between the net flows in the with-program scenario (which equals total sales minus operating costs, investment cost and Component 2 costs) and the net flows in the scenario with no program (sales minus operating costs).
   5. **Net present value (NPV).** The estimated NVP for the program is US$ 25.6 million with an internal rate of return (IRR) of 20%.
   6. **Sensitivity analysis.** A sensitivity analysis was carried out in which we stressed some key parameters of the model in order to determine their impact in the program’s NPV. Thus, we observe that if the return rate of investment (effect on additional sales) is zero, the NPV is still positive as long as there is some improvement in operating costs in the long run. On the other hand, when we stressed the cost-improvement parameter to 1.07%, the NPV get closer to zero. This shows the importance of the effects on profits in the long run of our 25 years analysis. However, given the length of this period, we consider implausible that the cost will not improve more than 1% on average. Additionally, if we the first year efficiency is equal to 0%, meaning that there is no effect on sales during the first year, the NPV still remains positive, signaling the importance of the long run effects at the time of determining the economic benefits of this type of programs. Finally, we consider a scenario in which we simultaneously stress the rate of return of investment and the cost-improvement parameter. We find that if we reduce both parameters to a value of 2.41% the NPV of the project nears zero. This shows that, together, these parameters are crucial for the long run benefits of the program. However, as was mentioned before, we consider unlikely to both parameters would maintain these low values during the long run considered for our analysis.

**Table 1. Sensitivity analysis**



1. Conclusions
   1. The present economic analysis calculates the flows of economic benefits and costs associated to the beneficiaries of the credit guarantee program. We relied on data and estimations provided by SBDC in order to account for the expected number of beneficiaries and the projected evolution of the guarantee fund. Additionally, we have relied on assumptions derived from empirical literate on credit guarantees programs in Latina America and the Caribbean, as well as from other regions. The analysis was based on a timeline consistent with SBDC projections and with the long run nature of programs effects. The analysis yielded an estimated NPV value of US$ 25.6 million and an IRR of 20%. The sensitivity analysis showed that the NPV remains positive under extreme parameter changes or equals zero under scenarios with low likelihood in the long-run. Hence, the project’s team recommends the approval of the operation.

**Table 2. Projected timeline of CEF funds and project's beneficiaries**



**Table 3. Program's Net Present Value Calculation**



1. IMF 2018 Art IV Consultation. [↑](#footnote-ref-1)
2. Productivity, Technology and Innovation in the Caribbean 2014 Survey (PROTEqIN). [↑](#footnote-ref-2)
3. IDB Group Country Strategy with The Commonwealth of The Bahamas (2018-2022), based on the 2014 PROTEqIN. [↑](#footnote-ref-3)
4. <http://www.enterprisesurveys.org/data/exploreeconomies/2010/bahamas>. [↑](#footnote-ref-4)
5. Bahamas Small and Medium Sized Enterprises Needs Assessment Survey, IDB, 2013. [↑](#footnote-ref-5)
6. World Bank, 2019. [↑](#footnote-ref-6)
7. PROTEqIN [↑](#footnote-ref-7)
8. These were the reasons cited by banks through interviews by the program team. [↑](#footnote-ref-8)
9. IMF 2018, op cit. [↑](#footnote-ref-9)
10. Less than US$ 5 million in annual revenue and less than 50 employees. [↑](#footnote-ref-10)
11. Drexler, A., K. Cowan, and A. Yáñez. (2008). “The Effect of Partial Credit Guarantees on the Credit Market for Small Businesses: The Case of FOGAPE (Small Businesses Credit Guarantee Fund of Chile).” Paper read at the conference on “Partial Credit Guarantee Schemes Experiences and Lessons.” Washington DC:The World Bank. [↑](#footnote-ref-11)
12. Irani Arraíz, Marcela Meléndez and Rodolfo Stucchi, Office of the Evaluation and Oversight, IDB (2012), “Partial credit guarantee and firm performance: evidence from the Colombian National Guarantee Fund”. [↑](#footnote-ref-12)
13. Bertoni, F., Brault, J., Colombp, M., Quas, A., Signore, S. (2019), “Econometric study on the impact of EU loan guarantee financial instruments on growth and jobs of SMEs”, European Investment Fund, Working Paper 2019/54. [↑](#footnote-ref-13)
14. An additional growth rate associated to the GDP growth could be assumed, but since this would apply to both scenarios (with and without project) it would make no major difference in our estimates. For simplicity we omitted this additional growth rate. [↑](#footnote-ref-14)