Document of the Inter-American Development Bank

**SURINAME**

**Financial Sector Strengthening Program II**

**“FSSP II”**

**SU-L1034**

**Economic Analysis**

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1. Introduction
   1. The proposed program will support the Central Bank of Suriname (CBvS) and other public and private sector institutions implement comprehensive, coordinated and fundamental financial sector reforms. These reforms are designed: (i) to provide the CBvS with the capabilities -- legal and institutional -- in order to bring its financial sector supervision up to international standards; (ii) to enhance the enabling environment[[1]](#footnote-1) of financial institutions and markets, public and private, through enhanced supervision, in addition to other changes in the overall legal, regulatory and institutional framework in which financial institutions and markets operate; and (iii) to allow the CBvS to more effectively and efficiently conduct monetary and foreign exchange policies, and other key responsibilities.
   2. With these, the overall problems of the country’s financial systems that the program aims to address are: (i) the vulnerability of financial institutions and the financial system to macroeconomic shocks, and (ii) the ineffectiveness of the financial system in providing the scope, quantity and quality of financing and other financial services needed for a more dynamic and diversified private sector-led economic growth, and to some degree, for higher household living standards (for further detail on the diagnosis of the problems being addressed, please refer to the POD).
   3. Government authorities, led by the CBvS, have already initiated the first steps of a comprehensive program to fundamentally strengthen the financial sector. The program is designed to address all of the key challenges the sector faces, which include: i) a comprehensive legal and regulatory upgrading to make the legal and regulatory framework for all types of financial markets and regulated financial institutions consistent with international standards; ii) strengthening of the institutional and supervisory capabilities of the Central Bank; iii) an initiative to accelerate the development of inter-bank and securities markets; iv) a fundamental reform of public banks; and v) coordination with the private sector, the establishment of a credit bureau, property registry for non-real estate assets, and the strengthening of the Suriname Stock Market.
   4. **Objective**. The overall objectives of the program are to improve the effectiveness of financial institutions and markets in providing credit and other financial services to firms and households, and to reduce their vulnerability to macroeconomic shocks. The specific objectives are the enhancement of the enabling environment in which financial markets and institutions operate, both public and private, and the strengthening of Central Bank capabilities to conduct its core responsibilities.
   5. **Programmatic loan measures**. The government has requested three loans given the breadth of reforms and the expected time frame needed to complete the reform initiative. The policy and institutional measures for the initial loan (SU-L1023) was focused on fundamental legal and regulatory reforms for the banking sector, the approvals of the detailed plan for enhanced financial institution supervision; and organizational changes in the CBvS to facilitate the implementation of institutional strengthening measures.
   6. The second programmatic loan (SU-L1034) has being designed to complete legal and regulatory reforms for the banking sector, advance legislative reforms in the insurance sector, improve the legal and institutional framework for Anti-Money Laundering/Terrorism Financing, accelerate institutional reforms in the CBvS for financial supervision and other areas, and begin the reform process for inter-bank and securities market as well as public banks.
   7. The third Programmatic Loan, planned for 2015, would be designed to complete the reform agenda addressed by the programmatic (see ¶1.1 above; for further detail please refer to Section B of the loan proposal).
   8. **Program structure.** The first programmatic loan (SU-L1023) focused on the implementation of legislative and regulatory reforms, enhanced financial sector supervision and the initial steps of CBvS institutional strengthening. The [Policy Matrix](http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36342557) (Annex II) of the second programmatic loan (SU-L1034) details the second set of policy measures and their means of verification, as well as the policy triggers for the third and final programmatic loan operation. It is important to mention that all the triggers established for the second programmatic loan have been achieved, with minor adjustments as indicated in the policy matrix.
   9. In addition to the three programmatic Policy-Based Loans (PBL), a complementary Operational Inputs Technical Cooperation (SU-T1058) has been approved and is being implemented. It will finance activities to facilitate the implementation of the CBvS’ financial sector strengthening program.

1. Assumptions and Methodology

**Methodology**

* 1. For the sake of consistency, the economic analysis for the proposed second programmatic loan applies the same methodology used to estimate the benefits during the approval of the first programmatic loan, and also includes the third tranche of the series in its scope. Benefits from the reforms supported by a Policy-Based Programmatic (PBP) are expected to be attained as a result of the entire series of loans, which in most cases integrate the preparation, implementation and supervision of such reforms.
  2. Benefits are assumed to be equal to the reduction in the loss of annual GDP, due to a reduction of the probability of a banking crisis. This reduction in the probability of a crisis is expected to take place as a result of the enhanced supervision and regulatory framework resulting from the implementation of the policy measures included in this program (considering both the first, second and third loans, as it is assumed that they are all complementary and necessary to fully oversee an efficient implementation of the reform).
  3. The difference between the estimated costs of crisis incurred in the absence of the proposed reforms, and those incurred once the reforms are fully implemented, constitutes the program’s economic benefit. On the cost side, the expenses incurred for the implementation of such reforms have been estimated, adding up to the cost of the loan. The resulting net cash flows have been discounted at a rate of 12% (standard for IDB programs), in order to obtain a Net Present Value (NPV) as fundamental indicator of the viability of the program.
  4. The value added of the IDB Loan and Technical Assistance Program is based on the notion that IDB support increases the ability of authorities to implement such an ambitious agenda and helps to build broader support amongst stakeholders for the agenda. Without IDB support, in coordination with other international institutions, the probability of success would likely be lower and the pace of implementation slower.

**Assumptions**

* 1. A study conducted by the Basel Committee on Banking Supervision (BCBS) estimates the expected economic benefits resulting from the enforcement of an enhanced regulatory framework, in terms of lower economic output losses due to a reduction of the probability of a crisis. The BCBS study specifically focuses on increased capital and liquidity requirements, but the analysis takes these as a proxy for an overall enhancement of the regulatory framework and supervision, which would result in a lower probability of a financial crisis. The study’s estimates are based on data from banking crises in 25 countries since 1985.[[2]](#footnote-2)

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 1: Expected benefits of reducing the annual probability of crises** | | | |
| Reduction in probability of crises (in percentage points) | Crises have no permanent effect on output | Crises have a long-lasting or small permanent effect on output | Crises have a large permanent effect on output |
| 1 | 19% | 63% | 158% |
| 2 | 38% | 126% | 316% |
| 3 | 57% | 189% | 474% |
| Source: Basel Committee on Banking Supervision, “An assessment of the long-term economic impact of stronger capital and liquidity requirements.” All figures are in percentage of long-run GDP per year. | | | |

* 1. Based on this data, the methodology for this analysis uses the following procedures, inputs and assumptions:
     1. Using the levels of reduction in probability of crises between 1 and 3% defined in the BCBS study as the main framework, the analysis assumes an average value for the estimation of benefits: a reduction of the probability of a crisis of 2% as a result of the implementation of the program reforms.[[3]](#footnote-3)
     2. It is assumed, conservatively, that a potential crisis in Suriname would not have a permanent effect on output. The analysis calculates the present value of the cumulative cost of a crisis for a period of 5 years (considered in this case a no permanent effect).
     3. The total benefit was calculated according to the chart above, using Suriname’s 2012 GDP estimations (constant prices) from the IMF.
     4. The reduction in lost output (GDP) estimated by the BCBS uses a discount rate of 5%. In order to apply the required IDB 12% discount rate, a non-discounted benefit stream was calculated over a 15-year period. To allow for a conservative estimation of benefits, the potential financial crisis was assumed to take place during the last five years of the period.
     5. The PBP is comprised of 3 operations of up to US$155 million of which Ordinary Capital is US$105 million and China Co-financing Fund is US$50 million. For calculations of the costs for this analysis, we have considered the amounts of the first loan (US$40 million), the second loan (US$100 million), and the third loan (estimated on US$15 million).
     6. Additional recurrent costs of implementation have been estimated on US$1 million, based on a detailed budget prepared by the Central Bank of Suriname, and agreed with the Bank, as part of the preparation of the approved TC SU-T1058 (see ¶1.9 above). These recurrent costs will be covered by the funds allocated for the TC, in the amounts of US$820,000 (US$650,000 of financing from the Institutional Strengthening fund and US$170,000 of counterpart financing).[[4]](#footnote-4) It is assumed that the additional funds to cover the total costs (US$ 180,000) will be additional local contributions to the program, including the costs incurred by banks for compliance of new regulation[[5]](#footnote-5) (see Annex I).
  2. Given the complex and dynamic nature of the reform process, the present structure will allow a continuing dialogue between the authorities and the IDB to review progress, adjust targets, provide technical assistance, and evaluate the program’s objectives. However, it is assumedthat the reforms proposed by the program will be sustained and continued.[[6]](#footnote-6)
  3. It is also assumed that the complementary Technical Cooperation will provide needed support (procedural and financial) to the CBvS to help ensure that the reform program is implemented effectively and in a timely manner.

1. Economic Benefits, Costs And Returns
   1. **Benefits.** The economic analysis is based on an estimation of the cost savings due to a reduction on the probability of a banking crisis (see ¶2.5, assumption “a” and “b”). The savings on estimated annual fiscal costs, otherwise incurred on weathering a crisis in the absence of the proposed reforms, constitute the program’s economic benefits. For practical purposes, the allocation has been distributed equally, and in order to give the analysis a more conservative approach the values have been accounted for throughout the last five years of projection (see ¶2.5, assumption “d”); the later a crisis happens, the lesser the value of the savings from implementing measures to reducing its impact today.
   2. **Costs.** On the cost side, the expenses incurred for the implementation of such reforms have been estimated, adding up to the cost of the loan. Hence, the total costs of the program include the repayment of the loans (first, second and third programmatic loans), the technical cooperation funds and the costs related to the implementation of the reforms incurred by the public sector (see ¶2.5, assumptions “e” and “f”).
   3. It is important to mention that in addition to the actual reduction in the loss of output, the program should also deliver a series of positive externalities that result from the increased access to finance that the reforms should facilitate. These externalities include a more rapid, diversified, and sustained economic growth,[[7]](#footnote-7),[[8]](#footnote-8) although it is very difficult to estimate the degree up to which this increased access to finance will generate additional economic benefits.
   4. The net present value of the benefits, projected for a span of 15 years is US$686.4 million. The net present value of costs is US$49.5 million. Comparing these figures, the net benefits for the program (discounted at a rate of 12% and based on a 15-year term by which the loan is assumed to have been repaid) result on a positive present value of US$636.9 million (see Annex II).

**Table 2: Summary of Cost Benefit Analysis – PBP NPV (thousands of USD)**

|  |  |
| --- | --- |
| NPV of Benefits | $686,430 |
| NPV of Costs | $49,523 |
| **NPV of Programmatic PBL** | **$636,907** |

* 1. It is important to reiterate that these calculations are based on a conservative scenario where the shock of a crisis does not have a permanent effect in the economy of the country and that the only aspect considered are the losses of output for the country.

1. Sensitivity Analysis
   1. For the sensitivity analysis, a set of three key assumptions used for the calculations have been varied in order to measure the tolerance of the calculations above in relation with its economic viability.
   2. The parameters used are: i) the assumed rate of reduction of the probability of a crisis, from the 2% used above to a 1% and a 3% (following the three levels established in the BIS report); ii) the assumed implementation costs, increasing them to twice (2x) and five times (5x) the assumed value; and iii) the tenor of the cash flows in which the shock and effect of a potential crisis is assumed to occur.
   3. A summary of the results of this exercise are shown in the table below:

**Table 3: Summary of sensitivity analysis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Reduction in probability of crisis** | **1%** | **2% (base)** | **3%** |
| **Program NPV (thousands of USD)** | $ 293,692 | **$636,907** | $980,122 |
| **Assumed costs of implementation** | USD 1 million (base) | USD 2 million (2x) | USD 5 million (5x) |
| **Program NPV (thousands of USD)** | **$636,907** | $636,152 | $633,889 |
| **Tenor of cash flows assumed for crisis shock and effect** | 15 years (base) | 20 years | 25 years |
| **Program NPV (thousands of USD)** | **$636,907** | $419,823 | $270,725 |

1. Conclusions
   1. The economic analysis presented shows a significant positive economic impact of the program (NPV of US$636.91 million); even when key assumptions were made conservatively.
   2. Complementarily, the sensitivity analysis shows that when parameters are made more conservative, the outcome remains positive in all analyzed scenarios.
   3. Based on this analysis, the project team recommends that the bank approves financing for this second programmatic loan.

ANNEX I: - Indicative Budget (implementation costs)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Quantity** | **Unit Value** | **IDB** | **Counterpart** | | **TOTAL\*** |
| **CASH** | **IN-KIND** |
| **1. Program Management and Policy Advice** |  |  | **150,000** | **0** |  | **150,000** |
| Program Manager/Senior Policy Advisor | 1 | 150,000 | 150,000 |  |  | 150,000 |
| **2. Strengthening of the Legal and Regulatory Framework for Financial Markets and Institutions** |  |  | **100,000** |  |  | **100,000** |
| Review of draft laws and preparation of regulations. | 5 | 17,000 | 85,000 |  |  | 85,000 |
| Logistics/Operational | 4 | 3,750 | 15,000 |  |  | 15,000 |
| **3. Enhancement of Supervisory and Enforcement Capabilities** |  |  | **150,000** |  |  | **150,000** |
| Advice and learn-by doing training. | 9 | 15,000 | 135,000 |  |  | 135,000 |
| Logistics/Operational | 5 | 3,000 | 15,000 |  | 0 | 15,000 |
| **4. Design and implementation of a CBvS human capital strengthening system** |  |  | **55,000** | **50,000** | **50,000** | **155,000** |
| Design of system | 5 | 7,000 | 35,000 |  |  | 35,000 |
| Training | 24 | 6,000 | 20,000 | 50,000 | 50,000 | 120,000 |
| **5. Public Bank Reform** |  |  | **150,000** |  |  | **150,000** |
| Design and implementation of reform | 9 | 15,000 | 135,000 |  |  | 135,000 |
| Logistics/Operational | 4 | 3,750 | 15,000 |  |  | 15,000 |
| **6. CBvS business and administrative procedures and systems** |  |  | **45,000** |  |  | **45,000** |
| Design and implementation new procedures and systems | 4 | 10,000 | 40,000 |  |  | 40,000 |
| Logistics/Operational | 1 | 3,750 | 5,000 |  |  | 5,000 |
| **Administration** |  |  |  |  | **50,000** | **50,000** |
| **Audit** |  |  |  | **20,000** |  | **20,000** |
| **TOTAL** |  |  | **650,000** | **70,000** | **100,000** | **820,000** |
| **Local banks and institutional costs of implementation** |  |  |  | **100,000** | **80,000** | **180,000** |
| **TOTAL** |  |  |  |  |  | **1,000,000** |
| Prepared by the Central Bank of Suriname, and agreed with the Bank, as part of the preparation of the approved TC SU-T1058 | | | | | |  |
| \*Totals are rounded up |  |  |  |  |  |  |

ANNEX II: Annual estimated cash flows of the PBP (thousands of dollars)



1. Enabling environment refers to the overall legal, regulatory and institutional environment under which the financial institutions operate. [↑](#footnote-ref-1)
2. Basel Committee on Banking Supervision, “An assessment of the long-term economic impact of stronger capital and liquidity requirements”, Bank for International Settlements, Switzerland, August 2010. [↑](#footnote-ref-2)
3. The technical assistance provided to the CBvS is expected to ensure the required capabilities to implement the reforms, and conduct supervision up to Basle Core Principle standards, are achieved. However, this figure also takes into account the vulnerability of the economy and financial sector to external shocks because of the economy’s dependence on only 3 extractive commodities for over 90% of its exports, which in turn represent about 50% of GDP. [↑](#footnote-ref-3)
4. The TC will finance (i) the Program Manager for the Financial Sector Strengthening Program, who will also serve as a policy advisor for financial sector supervision, preparation of regulatory reforms: (ii) consulting and training services for the Supervision Enhancement Plan, (iii) key measures of the CBvS institutional strengthening plan; (iv) the design and implementation of public bank reform. [↑](#footnote-ref-4)
5. Detailed costs and benefits of financial institutions are not presented. There is no information of the specific allocation for these and the assumptions needed to estimate them are considered to be out of the scope of this analysis. [↑](#footnote-ref-5)
6. The government, in particular through the CBvS, has demonstrated its commitment to the reform. There is a strong consensus for the need and implementation of these measures. [↑](#footnote-ref-6)
7. International Monetary Fund, “Financial Deepening, Property Rights and Poverty: Evidence from Sub-Saharan Africa”, Working Paper, Singh, Raju Jan and Huang, Yifei, August 2011. [↑](#footnote-ref-7)
8. Corporación Andina de Fomento, “Servicios financieros para el desarrollo: Promoviendo el acceso en América Latina”, Reporte de Economía y Desarrollo, April 2011. [↑](#footnote-ref-8)