

SURINAME

**FISCAL STRENGTHENING FOR ECONOMIC GROWTH PROGRAM
(SU-L1050)**

ECONOMIC ANALYSIS

APRIL 2017

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I. Executive Summary

- 1.1 This document presents the ex-ante economic analysis of the Fiscal Strengthening for Economic Growth Program (SU-L1050), which will be implemented over the 2017-2021 period. In this context, through a Financial Appraisal methodology, two of the expected results of the Program are evaluated: (i) Tax collection increased by in 0.81% of GDP, as a result of the Value-Added Tax (VAT) implementation; and (ii) an increase in the opportunity cost of the government public resources by 25% of total expenditure, as a result of benefits generated by the full use of the Treasury Single Account (TSA).
- 1.2 Assumption I - It is estimated that the implementation of the VAT will generate a net increase in tax collection of approximately 0.81% of GDP, mainly because the current sales tax in Suriname is inefficient and inequitable, because it does not cover all sectors in the productive chain and generates cascades, collecting more than one time taxes on same product. The VAT will compensate these weaknesses by collecting taxes for all transactions in the productive chain and eliminating the cascade effect. For this purpose, it will be needed the implementation of a modern Tax Management System to register all transitions carried out in the country, bookkeeping debts and credits to the participants of the economic productive chain transactions.
- 1.3 Assumption II – It is estimated that the full implementation of the Treasury Single Account (TSA), will increase the government resources availability in approximately 25% of total expenditure. This will be possible by increasing the availability of public resources for cash management purposes, thereby decreasing the need for Treasury short-term borrowing and consequently lowering the level of public debt. In addition, the increase in the availability of resources in the TSA will save interest payments that otherwise would have to be paid on these short-term borrowings. To the extent that the TSA holds idle short-term balances, the funds could be lent out short-term thereby generating interest earned on the Government accounts. (The opportunity cost of leaving some government short-term balances outside a TSA is the forgone interest payments.)
- 1.4 The program's financial analysis presents an Internal Rate of Return (IRR) of 102% with a Net Present Value (NPV) of US\$ 34,1 million in 10 years. This justifies the US\$ 40 million investment by the Government of Suriname funded by a loan from the Inter-American Development Bank (IDB).
- 1.5 Two evaluations will be performed: a midterm (after 3.5 years from eligibility date or 60% disbursement) and a final evaluation that will be carried out together with the PCR. The final evaluation will use the same methodology used to prepare the ex post economic evaluation, which will collect and replace the information regarding the benefits estimated and will recalculate the IRR and NPV. The information will be collect yearly, using the same sources used for this evaluation. The discrepancies must be justified and measures for mitigation must be recommended. The funds to carry out this consultancy is included in the Program budget.

II. Introduction

- 1.3 The objective of the FISEG program is to support Suriname's efforts to return to a fiscal sustainable path in the medium term through a sustainable reduction of its fiscal deficit. The specific objectives are: (a) increase tax revenue; (b) increase the availability the of resources for government expenditure; and (c) increase investment alternative funds sources:
 - a. **Component 1 – Strengthen revenue administration (US\$23.2 million).** The objective of this component is to revamp the Department of Tax and Customs

(DoTC) institutional organization and support the government in implementing the VAT to improve tax collection. The component will finance the following activities: (i) New Organizational Structure for the Office of Tax Administration (OTA) prepared and implemented; (ii) Taxpayer Service (TS) function and organization in the OTA created and staffed; (iii) New effective Tax Identification Number (TIN) system for all taxpayers in Suriname designed and implemented; (iv) Tax Return (Declaration) Processing using modern procedures and methods designed and implemented; (v) New Tax Payment Processing through the banking system designed and implemented; (vi) Stop filing and refund processing procedures and system modernized; (vii) Tax Audit procedures and system based on risk analysis implemented; (viii) Tax arrears collections procedures and system reviewed and modernized; (ix) Tax appeal processes and institutions reviewed and modernized; (x) Plan for the improvement of Customs processes according to the World Customs Organization (WCO) standards prepared and implemented.; (xi) Customs audit business model reviewed and modernized; (xii) Post clearance audit system implemented; (xiii) New procedures for the adoption of the VAT developed and implemented; (xiv) Plan for the modernization of the Customs ICT implemented; (xv) Operational support for ASYCUDA world (AW) Customs system implementation; (xvi) Plan for the modernization of the new OTA physical infrastructure implemented; and (xvii) Tax legal Framework reviewed and updated.

- b. **Component 2 – Strengthen the PFM (US \$10.2 million).** The objective of this component is to support the government in strengthening the budget decision-making process regarding planning, execution and monitoring. The component will finance the following activities: (i) New Organizational Structure of the Ministry of Finance (MOF) developed and implemented; (ii) Macroeconomic analysis, fiscal and public policy function of the MoF modernized; (iii) Budget Planning business model reviewed and improved; (iv) Treasury Operations developed and implemented; (v) Debt Management operations reviewed and strengthened; (vi) Procurement System reviewed and strengthen; (vii) Accounting system reviewed and strengthened according to the new International Public Sector Accounting Standards (IPSAS); (viii) Internal Control needs assessment and recommendations for improvement prepared and implemented; (ix) State Owned Enterprises (SOEs) business model reviewed and implemented; (x) Internal Audit procedures reviewed and strengthened; (xi) Transparency Portal for the MoF designed and implemented; (xii) Technological infrastructures of the MOF made adequate (OTA, Customs, Directorate of Finance); and (xiii) PFM Legal Framework reviewed and updated.
- c. **Component 3 – Strengthen the public investment system (US \$3.2 million).** The objective of this component is to support the government’s public investment strategy to prioritize and rationalize investment projects based on Value for Money (VfM). This component will finance: (i) Establishment of a Public Private Partnership (PPP) Unit, including a business model and a system for PPP management; and (ii) implementation of an operational plan and funding for planning, pre-investment and feasibility studies in infrastructure and PPPs.

III. Assumptions

A. Increase Tax Collection

***Assumption I** - It is estimated that the implementation of the VAT will generate a net increase in tax collection in approximately 0.81% of GDP, mainly because the current sales tax in Suriname is inefficient and unequitable, because it does not cover all sectors*

in the productive chain and generates cascades, collecting more than one time taxes on same product. The VAT will compensate these weaknesses by collecting taxes for all transactions in the productive chain and eliminating the cascade effect. For this purpose, it will be needed the implementation of a modern Tax Management System to register all transitions carried out in the country, bookkeeping debts and credits to the participants of the economic productive chain transactions. This assumption is directly connected with the Result Matrix outcome 1 - Increase the ratio tax revenue and GDP.

- 3.1 **Context:** Direct taxes provide only a small portion of Surinamese governmental revenues, and payments have been in arrears for years. By far the greatest sources of tax revenue are from the bauxite-related industries. Companies are taxed on the sum of all net profits. The corporate income tax has a flat rate of 38%, and the dividend tax is 25%. All the operating costs of a company are tax deductible, at set rates for certain equipment. The main indirect tax is Suriname's Sales Tax (ST). As of 1 December 2002, the basic rate for goods was raised from 8% to 10%, and the basic rate for services, from 7% to 8%. Staple foods are exempt from ST.
- 3.2 To provide an efficient new source of non-mineral revenue, and to fundamentally shift the taxation regime from volatile corporate income-based taxation to a more stable consumption-based taxation system, the Government of Suriname will introduce a Value-Added Tax (VAT) on January 1, 2018. The VAT will replace the existing sales tax, and the policy objective is for it to generate a net revenue increase of 2.5% of GDP. VAT implementation by January 1, 2018 (structural benchmark) requires intensive preparations, which are underway, supported by technical assistance from Caribbean Technical Assistance Center (CARTAC) and the Inter-American Development Bank (IDB). A Steering Committee was established to oversee the work. Key steps include finalizing a detailed, comprehensive, timebound implementation plan for VAT implementation with clear accountabilities, and setting up and assigning staff to the Project Coordination Unit (structural benchmark, end-June, 2016); preparing a White Paper on the VAT policy objectives, and a draft VAT Law, with input from the Fund staff, and submitting them to stakeholders for review (end-August 2016); preparing detailed functional specifications for the VAT IT systems, including specifications for registration, filing (and e-filing), payment (and e-payment), stop-filing control, taxpayer current account, support to arrears collection, audit, and appeals (structural benchmark, end-December 2016); submitting the VAT Law to the National Assembly, and finalizing regulations, by end-September 2017 (structural benchmark).
- 3.3 **Problem:** Sales tax in Suriname, resembles a VAT at the manufacturer's level. It is a transaction-based tax using the invoice-crediting method under which each registered manufacturer levies the tax on every sale and provides the purchaser with an invoice showing the amount of tax paid. A registered manufacturer in turn would credit tax paid on purchases against the tax charged on its sales and remit the difference to the tax office. Wholesalers and retailers are treated as final consumers and are, therefore, outside the tax net. They neither charge GST on their sales nor credit the GST charged on their purchases by the manufacturer. Their value-added escapes taxation entirely. VAT (Value-Added Tax) is collected by all sellers in each stage of the supply chain. Suppliers, manufacturers, distributors and retailers all collect the value-added tax on taxable sales. Suppliers, manufacturers, distributors, retailers and end consumers all pay the VAT on their purchases. Businesses must track and document the VAT they pay on purchases that will be resold in order to receive a credit for the VAT paid on

their tax return. Tax jurisdictions receive the tax revenue throughout the entire supply chain as opposed to at the sale to the final consumer chain.

- 3.4 The value-added tax system, unlike the conventional sales tax system, efficiently addresses the problems of cascading and input tax credit that causes an automatic hike in the consumer price level. The incidence of cascading is avoided with the VAT as the tax is imposed on the value addition at every stage of production. The final consumers are the ultimate bearers of the tax burden. This indirect yet coherent form of taxation involves transparency and is therefore easily comprehensible.
- 3.5 **Solution:** The taxation regime will be reformed from one relying primarily on volatile income taxation to a more stable taxation of consumption (wholesalers and retailers). A key element for this process is the introduction of a Value-Added Tax (VAT) by end 2017, which is intended to be revenue-positive reflecting the shift towards a consumption-based taxation. The VAT would replace the current sales tax, whose base has eroded significantly in the last years, with revenue declining from 4.5% of GDP in 2005 to 2.5% of GDP in 2015. In the short term, the initial goal would be to recover the loss of the sales tax over recent years. The VAT will have a broad base, a single rate, a very small number of exemptions, and a zero rate for exports. As a second round of reform, the direct tax regime and elimination or modernization of smaller nuisance taxes should be dealt with. This part of the reform would be intended to improve overall efficiency, but could be revenue-positive. It would be implemented after the VAT reform is in place to ensure fiscal sustainability and reform consistency.
- 3.6 The economic effect of VAT falls on the final prices of the goods and services while sales tax relies on the final sale to the customers (wholesalers and retailers). The value-added tax system requires an effective accounting. To simplify this requirement, the same tax rate is charged at each stage in the production of the goods and services. The implementation of the tax remains unaffected by the stage in the production cycle or its position with respect to the final customers.
- 3.7 The system of taxation under VAT is also successful in avoiding tax evasion that is frequent in sales tax administration. Sales tax is often considered a burden if the percentage charged goes beyond 10% and is subjected to evasion by the consumers who engage in buying products through the internet and other activities such as buying at wholesale or through an employer. Although tax evasion is not possible in VAT, it is subjected to other fraudulent practices such as carousel fraud. This is one of the prominent practices of theft of the value-added tax. It is prevalent in the nations where the movement of goods between jurisdictions is exempt from VAT. The fraudster is often found levying VAT on products and evading its payment to the government. Such practices can represent a heavy loss of tax incomes for the governments.
- 3.8 VAT is one of the newest instruments of the global economy and is widely accepted and implemented in most of the nations. However, VAT poses constraints in developing countries. The predominance of low per capita income in these nations poses a difficulty for the governments to earn revenue through income tax. As compared to VAT, sales tax is a major revenue earner for the regional governments in such countries.
- 3.9 **Methodology justification:** The project team is aware that a general equilibrium model is the most comprehensive way of estimating the impact of introducing a VAT into an economy, mainly because of the several complex and interactive effects. A general equilibrium model incorporates detailed description of all taxes, production and consumption structures in the economy. However, these models need very accurate and consistent data. In most cases, a social accounting matrix provides the

most pertinent data to construct a general equilibrium model. The social accounting matrix shows the interaction among the various agents in the economy in a given year. However, in the case of Suriname, the team's ability to estimate the benefits of introducing the VAT using a general (or even partial) equilibrium model is constrained significantly by the lack of data. Although data quality and consistency in Suriname is improving steadily, a reliable input-output table and complementary data do not exist.

- 3.10 In this context, the project team believes that instead of trying to gather inaccurate and incomplete information for the preparation of a time consuming and unreliable general equilibrium model, it is preferable to use reliable general information which can produce results very acceptable to support a Cost Benefit Analysis. For this purpose, household final consumption expenditure¹ as a percentage of GDP is used as an indicator, which provides a very reliable percentage about the consumption of the productive chain in Suriname, avoiding mistakes that could be introduced by desegregating the productive chain in sectors. The following table provides the evolution of the household final consumption expenditure in Suriname.



	2011	2012	2013	2014	2015	2016
Suriname	20.7	21.7	23.2	21.4	33.4	..

Source: World Development Indicators. Click on a metadata icon for original source information to be used for citation.

- 3.11 **Methodology description:** Ebrill et. al (2001)² and OECD (2011)³ discuss extensively the efficiency of VAT implementation and its yields for a number of countries. “C-efficiency” or “E^c” is the ratio of the VAT revenue yields to the product of consumption and the VAT standard rate, τ_s :

$$E^c = \text{VAT Revenues} / (\tau_s \times \text{consumption}) \quad [1]$$

- 3.12 Therefore, if VAT is perfectly enforced and levied at a single rate on all consumption, the C-efficiency would be 100%. Poor implementation or policy could lead to low C-efficiency. In their empirical review of VAT implementation around the world, Ebrill et. al. (2001) analyzed the C-efficiency obtained in small countries like Suriname—a quarter of which had populations less than one million. They found that C-efficiency ratios for small countries with VATs were high, averaging 65% (while that for the Western Hemisphere was 57%.) Peters and Bristol (2006)⁴ examined the VAT experience for Caribbean countries and found that they enjoyed high C-efficiencies as well, ranging between 56% and 100%, but averaging 83.5%.

¹ Household final consumption expenditure (formerly private consumption) is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of nonprofit institutions serving households, even when reported separately by the country. This item also includes any statistical discrepancy in the use of resources relative to the supply of resources. Source [World Bank national accounts data](#).

² Liam Ebrill, Michael Keen, Jean-Paul Bodin, And Victoria) Summers (20012) [The Modern VAT](#)

³ [OECD National Account Data Files](#)

⁴ Peters and Bristol (2006) [VAT: Is it Suitable for the Caribbean Community?](#)

- 3.13 Therefore, for a given VAT rate and assuming a C-efficiency, we are able to derive the VAT revenue yield by using consumption forecasts and applying the values to the following re-arranged equation (2):

$$\text{VAT Revenues} = E^c \times \tau_s \times \text{Consumption} \quad [2]$$

- 3.14 As noted previously, Ebrill et. al (2001) and Peters and Bristol (2006) provide reasonable empirical evidence that the C-efficiency of VAT performance in a country like Suriname (small and Caribbean) would likely be around 83%. We therefore explore the benefits that will accrue using a range of performance levels, from 50% to 80%.
- 3.15 The authorities are still determining the VAT rate they will apply, but have indicated it will likely be around 15%, consistent with most CARICOM countries. We use this figure in our base scenario, but report the full range of benefits for rates between 10% and 20% (at 5% increments).
- 3.16 The information used to calculate the nominal household final consumption in US\$ was collected from: (i) WEO IMF April 2017;⁵ and (ii) household final consumption % - World Bank national accounts data⁶, and OECD National Accounts data files.⁷
- 3.17 With the implementation of a VAT, aggregate demand probably will fall. To calculate this, fall the evaluation applied the elasticity factor according to the value recommended by the best practices (see VAT estimation paragraph 3.19). This step will make our estimates significantly more precise.
- 3.18 **Calculation:** This economic analysis presumes that the main benefits from these series of reforms will accrue from the implementation of a value-added tax, which will replace the general sales tax. The study computed these returns under four scenarios of varying levels of efficiency of VAT implementation: 50%, 60%, 70%, and 80% (C-Efficiency ratio).
- 3.19 **Estimation if the VAT were implemented in 2016.** This estimation calculates the VAT for Program benefit calculation, including the Nominal VAT Revenue, decreasing the elasticity of revenue and increasing the fiscal multiplier, eliminating the effect from the possible reduction in consumption (because of increasing tax revenue coverage), as well as, including the government gains from the increase in government expenditure (from investments). For this purpose, the following formulas were used:

1. Nominal VAT Revenue = $E^c \times \tau_s \times \text{Consumption}$

2. Real VAT Revenue = VAT Nominal Revenue $\times E^r$

3. Government gains = (Real VAT Revenues – Sales Tax revenue) $\times M^f$

E^r = **elasticity** is a measure of a variable's sensitivity to a change in another variable. In this case, it refers to the percent change in the value of final consumption, due to the percent change in the prices of goods and services produced by the tax. According to best practices, if there is not enough

⁵ [WEO IMF April 2017](#)

⁶ Household final consumption expenditure (formerly private consumption) is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of nonprofit institutions serving households, even when reported separately by the country. This item also includes any statistical discrepancy in the use of resources relative to the supply of resources. Source [World Bank national accounts data](#).

⁷ [OECD National Account Data Files](#)

information to calculate an accurate elasticity, as is the Suriname case, it is recommended to use a 1% multiplier.⁸⁹

M^f = **fiscal multiplier** is a measure of the effect of a change in the level of government expenditure on the subsequent increase in income level of the country assuming that all additional resources will be used for investment. In this case, the change in government expenditure refers to the increase generated by the introduction of the VAT. Again, when there is an absence of information for an accurate estimation, best practice recommends using a multiplier of 1.1 as calculated by Ilzetzki, Mendoza and Végh¹⁰ for 44 developing countries.

Consumption in Suriname is approximately 33.4% of GDP = US\$4,879 million x 33.4% = US\$1,629 million in 2016

Table 1: Estimation of the VAT - 2016 (Million US\$)

Consumption 33.4 % GDP	Efficiency E ^c %	Tax rate τ_s %	Nominal VAT	Government Losses (elasticity)	Real VAT	Government Gain (fiscal multiplier)	VAT for benefit calculation	% of GDP	Benefit
\$1,629.59	50%	10%	\$81.48	\$0.81	\$80.66	(\$0.45)	\$80.21	1.29%	-58,854,833
		15%	\$122.22	\$1.22	\$121.00	(\$0.01)	\$120.99	1.95%	-26,766,824
		20%	\$162.96	\$1.63	\$161.33	\$0.43	\$161.76	2.61%	5,321,185
	60%	10%	\$97.78	\$0.98	\$96.80	(\$0.28)	\$96.52	1.56%	-46,019,629
		15%	\$146.66	\$1.47	\$145.20	\$0.26	\$145.45	2.35%	-7,514,018
		20%	\$195.55	\$1.96	\$193.59	\$0.79	\$194.38	3.14%	30,991,593
	70%	10%	\$114.07	\$1.14	\$112.93	(\$0.10)	\$112.83	1.82%	-33,184,425
		15%	\$171.11	\$1.71	\$169.40	\$0.52	\$169.92	2.74%	11,738,787
		20%	\$228.14	\$2.28	\$225.86	\$1.14	\$227.00	3.66%	56,662,000
	80%	10%	\$130.37	\$1.30	\$129.06	\$0.08	\$129.14	2.08%	-20,349,222
		15%	\$195.55	\$1.96	\$193.59	\$0.79	\$194.38	3.14%	30,991,593
		20%	\$260.73	\$2.61	\$258.13	\$1.50	\$259.62	4.19%	82,332,407
* Elasticity = 0.99 Fiscal multiplier = 1.1 Sales tax = US\$121.9 (2.5% of GDP) GDP = US\$ 4,879									

- 3.20 **Conclusion:** According to Table 1, to generate a reasonable result from the VAT implementation, the Government of Suriname has to achieve an efficiency of 80% and a tax rate of 15%, which will generate after decreases due to the Government losses elasticity and increases due to the Government fiscal multiplier, a tax collection of approximately 3.31% of GDP. This is 0.64% higher than the present sales tax, representing US\$30,9 million in 2022 when the VAT is fully implemented. It is expected that the VAT implementation will perform as follow:

Table 2

2018	2019	2020	2021	2022
20%	40%	60%	80%	100%
6,198,319	12,396,637	18,594,956	24,793,274	30,991,593

- 3.21 **Estimation of the impact for the society.** Despite increased tax collection resulting from VAT implementation, it is expected that in the special case of Suriname the impact will be positive and very possibly will increase consumption in the medium-term. This conclusion is justified by considering that the Sales Tax presents important cascade effects that suggests that this tax is inefficient, however sales tax does not

⁸ Annalisa Fedelino, Anna Ivanova, and Mark Horton (2009) [Computing Cyclically Adjusted Balances and Automatic Stabilizers](#)

⁹ Robert Hagemann and Christian Brachet (1999) [The Structured Budget Balance](#)

¹⁰ Ilzetzki, Mendoza and Végh (2011) [How Big \(Small?\) are Fiscal Multipliers?](#)

collect tax from wholesalers and retailers productive chain. This means that ordinary people pay more tax than the producers, manufacturer and commerce, which makes the sale tax very inequitable. When these taxes are split among the entire productive chain by the introduction of the VAT, the consumers with the elimination of cascades will pay less tax and will be hypothetically able to consume more. The compensation for loss of the cascade is the greater VAT revenues due to the VAT having an efficiency of 80% according to table 1, which will cover many more areas of the productive chain than the sales tax. Additionally, tax evasion will automatically decrease, because the VAT is paid at all stages of the productive chain using the concept of debts and credits, resulting in a natural incentive for intermediaries not to miss a payment in this chain as they would not be able to claim the corresponding credit. Thus, government losses are minimized with these built-in incentives in place.

- 3.22 **Assumption Validation:** There are dozens of successful cases of VAT implementation around the world; however, the most recent case is the Bahamas, which implemented its VAT in 2015 and is in the same region. According to the IMF Article IV 2016 report,¹¹ a smooth VAT introduction has contributed to fiscal consolidation. VAT revenue over the first 12 months, at \$536 million (about 6% of GDP), has exceeded expectations. As a result, the FY2014/15 (ending in June 2015) deficit is estimated to have declined to 4.4% of GDP (down from a revised 5.6% in FY2013/14). Available data for the first seven months of FY2015/16 suggest a further decline in the deficit, by about 1 percentage point, compared to the same period a year ago. The central government debt-to-GDP-ratio nevertheless reached 66.5% in December 2015, pointing to limited fiscal space. The current account deficit declined significantly, to 15.3% of GDP in 2015 (compared to 22% a year earlier), driven primarily by lower imports owing to the decline in oil prices and halt to Baha Mar construction. International reserves, supported in part by government external borrowing, increased to \$981million at end-March 2016, equivalent to about 2.4 months of next years' projected imports of goods and services.

B. Increase the benefits generated by the Treasury Single Account (TSA)

***Assumption II** – It is estimated that the full implementation of the Treasury Single Account (TSA), will increase the government resources availability in approximately 25% of total expenditure. This will be possible by increasing the availability of public resources for cash management purposes, thereby decreasing the need for Treasury short-term borrowing and consequently lowering the level of public debt. In addition, the increase in the availability of resources in the TSA will save interest payments that otherwise would have to be paid on these short-term borrowings. To the extent that the TSA holds idle short-term balances, the funds could be lent out short-term thereby generating interest earned on the Government accounts. (The opportunity cost of leaving some government short-term balances outside a TSA is the forgone interest payments.) This assumption is directly connected with the Result Matrix outcome 2 - Increase the availability of resources for an effective government public expenditures.*

- 3.23 **Context.** A treasury single account (TSA) is an essential tool for consolidating and managing governments' cash resources, thus minimizing borrowing costs. In countries with fragmented government banking arrangements, the establishment of a TSA should receive priority in the public financial management reform agenda. Drawing on the lessons of the IMF's work in several countries in establishing TSA's, this paper explains its concept, essential features, and potential benefits. It also presents alternative models and approaches for designing a TSA that take into account

¹¹ [Article IV Bahamas 2016](#). Page 2.

specific country contexts as well as the preconditions and desirable sequencing for its successful implementation. Finally, the paper includes country examples from different regions in support of the analysis and recommendations.





- 3.24 A government lacking effective control over its cash resources can pay for its institutional deficiencies in multiple ways. First, idle cash balances in bank accounts often fail to earn market-related remuneration. Second, the government, not having ready access to these resources, incurs unnecessary borrowing costs in raising funds to cover a perceived cash shortage. Third, idle government cash balances in the commercial banking sector are not idle for the banks themselves, and can be used to extend credit. Draining this extra liquidity through open market operations also imposes costs on the central bank. Establishing a unified structure of government bank accounts via a treasury single account (TSA) will solve these problems, improving cash management and control. It should, therefore, receive priority in any public financial management (PFM) reform agenda. A TSA also facilitates better fiscal and monetary policy coordination as well as better reconciliation of fiscal and banking data, which in turn improves the quality of fiscal information. Finally, the establishment of an effective TSA can significantly reduce the debt servicing costs.
- 3.25 **Problem:** The MOF organizational structure does not follow best practices in terms of structural function / entity. Although basically all PFM functions exist, they are spread among several entities, some of which are not the best suited to carry out some specific activities. For example, there is no single entity responsible for Treasury operation, cash management, public investment, accounting, and procurement. These activities are spread among various departments in the Directorate of Finance of the MoF, but important Treasury activities are also carried out by the lines ministries. There is no formal job description and operating manuals to perform the PFM functions, as well as there is no permanent training program to prepare the personnel to carry out their activities. Actually, only about 75% of the government short-term funds are managed by the TSA.
- 3.26 **Solution:** Implement a comprehensive TSA into which excess cash balances of all government agencies are swept on a daily basis. This reform would be part of a broader initiative to create a new organizational structure of the Ministry of Finance (MOF), including technical assistance.
- 3.27 **Methodology:** The methodology used consists of calculating the opportunity cost of the 25% government resources not managed through the TSA. For example, the short-term borrowing could be decreased, because the GOB can use temporarily the resources available in the TSA. Additionally, the resources idle in the TSA can be remunerated by the Central Bank.
- 3.28 **Calculation:** The calculation considers that interest paid on the 25% resources out of the TSA in a period of only 30 days (1 month) in a year. Taking into account that the Central Bank interest rate in Suriname is around 12.50%.¹²

$$\text{Interests gained} = (\text{Total expenditure} * 25\%) * (12.50 / 12)$$

$$\text{Interests gained} = \text{US\$ } 1,527 \text{ million} * 25\% * 1.04\% = \text{US\$ } 397,0 \text{ million} * 1.04 = \text{US\$ } 3.97 \text{ million in 2015, US\$ } 1,39 \text{ in 2016, and US\$ } 2,05 \text{ million in 2017.}$$

¹² [Suriname Interest Rates](#)

Table 3 (WEO IMF April 2017)

Shaded cells indicate IMF staff estimates										
Country	Subject Descriptor	Units	Scale	Country/Series-specific Notes	2012	2013	2014	2015	2016	2017
Suriname	Gross domestic product, current prices	National currency	Billions		16.434	16.981	17.294	16.669	22.239	28.583
Suriname	Gross domestic product, current prices	U.S. dollars	Billions		4.980	5.146	5.241	4.879	3.570	3.641
Suriname	General government total expenditure	National currency	Billions		4.785	5.595	5.527	5.230	4.645	6.220
Suriname	General government total expenditure	Percent of GDP			29.114	32.948	31.959	31.377	20.888	21.762

3.29 **Conclusion:** With the incorporation of all government expenditure resources in the TSA will generate in 2015 savings in interest not paid of approximately US\$3.79 million and US\$3.39 million in 2017.

Table 4

Year	2012	2013	2014	2015	2016	2017
Primary expenditure	29.24	32.9	31.9	31.3	20.88	21.7
Primary Expenditure				1,527,127,000	536,616,000	790,097,000
Interests Gained				3,976,893	1,397,438	2,057,544

IV. Return Benefit Estimation

4.1 According to the Base Scenario presented below, the implementation of the VAT and the full incorporation of the public resources in the TSA, will generate a Government income increase of US\$8,2 million in 2018 and an income increase of US\$33,0 million in 2022.¹³ Subtracting the total economic costs (including capital and maintenance costs) from these benefits over a 10-year period yields a Net Present Value (NPV) of US\$34,1 million, using a discount rate of 12.5%. The corresponding Internal Rate of Return (IRR) is 102%.

Table 5

Base Scenario - 80% efficiency and 15% tax rate

En US\$										
Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
1. Total Economic Costs	5,096,019	6,794,691	11,135,556	7,738,211	6,039,538	943,519	15,348,615	943,519	943,519	943,519
1.1 Capital (Investment) Economic Costs	5,096,019	6,794,691	10,192,037	6,794,691	5,096,019	0	0	0	0	0
1.2 Maintenance Economic			943,519	943,519	943,519	943,519	15,348,615	943,519	943,519	943,519
2. Financial Benefits	0	8,255,863	14,454,181	20,652,500	26,850,818	33,049,137	2,057,544	2,057,544	2,057,544	2,057,544
2.1 Government Incomes	-	8,255,863	14,454,181	20,652,500	26,850,818	33,049,137	2,057,544	2,057,544	2,057,544	2,057,544
2.1.1 VAT Tax collection	-	6,198,319	12,396,637	18,594,956	24,793,274	30,991,593	-	-	-	-
2.1.2 TSA interests	-	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544
Net Current Value	-5,096,019	1,461,171	3,318,625	12,914,289	20,811,281	32,105,618	-13,291,071	1,114,025	1,114,025	1,114,025
Present Value (discount rate)	-5,096,019	1,304,617	2,645,588	9,192,136	13,225,945	18,217,590	-6,733,670	503,928	449,936	401,729
Net Present Value (NPV)	34,111,780									
Internal Rate of Return (IRR)	102%									

V. Sensitivity Analysis.

5.1 For the sensitivity analysis, the team used a traditional approach, which estimates the minimum returns to the project that generate a positive NPV and consequently already justifies the investment. For this purpose, according to table 6, instead of an efficiency

¹³ Note that after 2022 there are no further increases in VAT tax collections compared to the “without case” of continuing with the current sales tax. Thus, line item 2.2.1 in table 5 drops to zero.

of 80% and a tax rate of 15% as was considered in the Base Scenario, the VAT is implemented with an efficiency of 70% and a tax rate of 15%. At this lower efficiency rate the VAT when fully implemented will generate a gross benefit in 2022 of US\$11,7 million which still results in a positive NPV

Table 6: Estimation of the VAT - 2016 (Million US\$)

Consumption 33.4 % GDP	Efficiency E ^c %	Tax rate τ_s %	Nominal VAT	Government Losses (elasticity)	Real VAT	Government Gain (fiscal multiplier)	VAT for benefit calculation	% of GDP	Benefit
\$1,629.59	50%	10%	\$81.48	\$0.81	\$80.66	(\$0.45)	\$80.21	1.29%	-58,854,833
		15%	\$122.22	\$1.22	\$121.00	(\$0.01)	\$120.99	1.95%	-26,766,824
		20%	\$162.96	\$1.63	\$161.33	\$0.43	\$161.76	2.61%	5,321,185
	60%	10%	\$97.78	\$0.98	\$96.80	(\$0.28)	\$96.52	1.56%	-46,019,629
		15%	\$146.66	\$1.47	\$145.20	\$0.26	\$145.45	2.35%	-7,514,018
		20%	\$195.55	\$1.96	\$193.59	\$0.79	\$194.38	3.14%	30,991,593
	70%	10%	\$114.07	\$1.14	\$112.93	(\$0.10)	\$112.83	1.82%	-33,184,425
		15%	\$171.11	\$1.71	\$169.40	\$0.52	\$169.92	2.74%	11,738,787
		20%	\$228.14	\$2.28	\$225.86	\$1.14	\$227.00	3.66%	56,662,000
	80%	10%	\$130.37	\$1.30	\$129.06	\$0.08	\$129.14	2.08%	-20,349,222
		15%	\$195.55	\$1.96	\$193.59	\$0.79	\$194.38	3.14%	30,991,593
		20%	\$260.73	\$2.61	\$258.13	\$2.84	\$260.97	4.21%	83,388,258

* Elasticity = 0.99 Fiscal multiplier = 1.1 Sales tax = US\$121,9 (2.5% of GDP) GDP = US\$ 4,879

5.2 Specifically in this case, the project will generate an NPV of US\$402,641, with a positive Internal Rate of Return of 14%.

Sensitivity - 70% efficiency and 15% tax rate

En US\$

Description	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
1. Investment Costs	5,096,019	6,794,691	11,135,556	7,738,211	6,039,538	943,519	15,348,615	943,519	943,519	943,519
1.1 Economic Costs	5,096,019	6,794,691	10,192,037	6,794,691	5,096,019	0	0	0	0	0
1.2 Maintenance Economic Costs			943,519	943,519	943,519	943,519	15,348,615	943,519	943,519	943,519
2. Financial Benefits	0	6,753,059	9,100,817	10,274,695	11,448,574	13,796,332	2,057,544	2,057,544	2,057,544	2,057,544
2.1 Government Incomes Increase	-	6,753,059	9,100,817	10,274,695	11,448,574	13,796,332	2,057,544	2,057,544	2,057,544	2,057,544
2.1.1 VAT Tax collection	-	4,695,515	7,043,272	8,217,151	9,391,030	11,738,787	-	-	-	-
2.1.2 TSA interests	-	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544	2,057,544
Current Value	-5,096,019	-41,632	-2,034,740	2,536,485	5,409,036	12,852,812	-13,291,071	1,114,025	1,114,025	1,114,025
Present Value (discount rate 12%)	-5,096,019	-37,172	-1,622,082	1,805,420	3,437,540	7,293,031	-6,733,670	503,928	449,936	401,729
Net Present Value (NPV)	402,641									
Internal Rate of Return (IRR)	14%									

ANNEX – Economic / Shadow-Price Calculation

A. Investment Costs

- 1.1 The investment costs comprise the equipment direct costs and other indirect costs, such as supervision costs, training and other services, as well as contingency cost. The unitary prices of these categories had been gathered from the Project Annual Operating Plan (POA).
- 1.2 The total project investment amount based on market price is approximately US\$40 million. The details / categories of this investment are presented in Table 1 as follow.

Table 1 - Financial Costs by Categories (US\$)	
Categories	Costs
IT Equipment	15,195,610
Services (Construction)	6,410,000
General Services	4,887,658
Labor	11,748,640
Contingency	2,000,000
Total	40,241,908

- 1.3 Table 2 presents the distribution of the financial costs in US\$ through the years of project implementation.

Table 2 - Financial Costs per Year						
Fuente	Year 1	Year 2	Year 3	Year 4	Year 5	Total
BID	6,036,286	8,048,382	12,072,572	8,048,382	6,036,286	40,241,908
Local	0	0	0	0	0	0
Total	6,036,286	8,048,382	12,072,572	8,048,382	6,036,286	40,241,908
%	15	20	30	20	15	100

- 1.4 In order to convert the investment costs from market prices to social prices, the material and equipment costs were classified into their national and imported components, and the labor costs classified according to non-skilled and skilled. This classification is presented in Table 3 as follow:

Table 3 – Financial Costs by Type of Inputs (US\$)	
Inputs	Costs
National Origen Equipment	0
Imported Origen Equipment	15,195,610
National Origen Services	6,410,000
Imported Origen Services	4,887,658
No-Qualified Labor	0
Qualified Labor	11,748,640
Contingency	2,000,000
Total	40,241,908

- 1.5 Because the market prices do not represent the real opportunity costs of the Project's financial resources, due to the presence of imperfections such as taxes (subsidies), price fluctuations, and market monopolies, these market prices must be adjusted using a conversion factor, which transforms the market price to an efficiency price, called Social Price or Shadow-Price. To carry out this conversion the following factors were applied:
 - a. Standard Conversion Factor (SCF) for traded goods: The estimation was performed using the Surinam external commerce data in 2013 -2015 period, as follow:

$$SCF = X + M / (X + M + T)$$

Where,

X: Surinam total exports.

M: Surinam total imports.

T: Surinam Customs tax collection.

The information is presented in the flowing table.

Standard Conversion Factor			
Categories	2013	2014	2015
Exports (millions US\$)	2,594.00	2,356.00	1,856.00
Imports (millions US\$)	2,726.00	2,773.00	2,702.00
Customs Revenue (millions US\$)	125.00	125.00	125.00
FCS*	0.936	0.935	0.937
FCS average*	0.936		

- b. Conversion Factor regarding national products and materials: the conversion factor used was 0.842, which already eliminates the 10% (Average sales Tax) effect of the sales tax that is included in all products commercialized in the country.
- c. Conversion Factor regarding imported products and materials: the conversion factor eliminates the sales tax and the Customs taxes applied to imports. The relevant data is presented as follows:

Imported Equipment Conversion Factor			
Categories	2013	2014	2015
Imports (millions de US\$)	2,726.00	2,773.00	2,702.00
Taxes on Imports (millions de US\$)	150.00	150.00	150.00
FC*	0.948	0.949	0.947
FC average*	0.948		

- d. Skilled Labor: for this factor, the employees' salary deductions were eliminated, which basically represent simple transfers without benefits, as presented in the following table:

Salaries Deductions	
Category	Deduction Employee %
Social Security	7.50
Pension Fund	6.70
Total	14.20
FC	0.858

- e. To salary contribution factor is applied the standard conversion factor in order to keep the analysis homogenous.
- f. Thus, the Skilled Labor Conversion Factor (SLCF) is:
- $$SLCF = 0,858 * 0,936 = 0,803$$
- g. The same criteria are applied to Unskilled Labor as used for Skilled Labor, excluding the salaries contribution, which is mere transfer. Additionally, a factor

associated to unemployment rate to this category, presented by the following equation.¹⁴

$$UCLF = W * SLCF * (1 - U) = 1.0 * 0,803 * (1 - 0,055) = 0,759$$

Where:

ULCF: Unskilled Labor Conversion Factor

W: Enterprises salaries costs (indices 1.0)

SLCF: Skilled Labor Conversion Factor

U: Unemployment rate

- 1.6 To the costs of each expenditure category (see table 6) are applied the conversion factors to eliminate the indirect taxes (sales tax and Customs taxes) and other labor market distortions, resulting in a total market price 84.34% of the total financial investments.

Table 4: Economic Input Investment Cost (en US\$)			
input economic	Costs Financial	Correction Factor	Economic Costs
National Equipment Origen	0	0.900	0.00
Imported Equipment Origen	15,195,610	0.948	14,405,095.96
National Labor Origen	6,410,000	0.858	5,499,780.00
Imported Service Origen	4,887,658	0.948	4,633,389.68
No-Qualified Labor	0	0.759	0.00
Qualified Labor	11,748,640	0.803	9,435,191.80
Contingency	2,000,000	0.000	0.00
Total	40,241,908	84.42	33,973,457

B. Maintenance Costs

- 1.7 The lifespan of the most important investment components are presented in table 5 as follow:

Table 5 : Duration			
Assets	Years	Inv. Fin.	Inv. Social
Labor Training 5%)	1	1,174,864	943,519
General Equipment	5	15,195,610	14,405,096

- 1.8 The Cost Benefit Analysis considers a 10-year period over which the returns to the project is calculated. It is assumed that training will be carried out every year, and the equipment maintenance and replacement will be performed during the project's 6th year of execution. The total economic cost estimated is approximately US\$33.9 million.

Table 6: Maintenance Economic Costs (US\$)					
Assets	Duration	Financial Costs	Economic Costs	Number of Years	Amount
Labor	1	1,174,864	943,519	10	9,435,192
General Equipment	5	15,195,610	14,405,096	2	28,810,192
Total Investment					38,245,384

¹⁴ The equation assumes that the Project Labor is calculated based on the average of actual employees in other activities (with same salaries) and the unemployed, for whom the opportunity cost is zero.

1.9 Table 7 presents the distribution of the financial and economic costs.

Table 7 - Investment Costs per Year						
Fuente	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Financial Costs	6,036,286	8,048,382	12,072,572	8,048,382	6,036,286	40,241,908
Economic Costs	5,096,019	6,794,691	10,192,037	6,794,691	5,096,019	33,973,457
%	15	20	30	20	15	100

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