

Document of  
The World Bank

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Report No: PAD2050

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$160 MILLION

TO THE

INSTITUTO COLOMBIANO DE CRÉDITO EDUCATIVO Y ESTUDIOS TÉCNICOS EN EL EXTERIOR  
(ICETEX)

WITH THE GUARANTEE OF THE REPUBLIC OF COLOMBIA

FOR AN

ACCESS AND QUALITY IN HIGHER EDUCATION PROJECT - PACES

January 6, 2017

Education Global Practice  
Latin America and Caribbean Region

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**CURRENCY EQUIVALENTS**  
(Exchange Rate Effective December 26, 2016)

Currency Unit = Colombian Pesos (COP)

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US\$1 = COP 2,997

**FISCAL YEAR**  
January 1 - December 31

Regional Vice President: Jorge Familiar

Country Director: Gerardo M. Corrochano

Senior Global Practice Director: Amit Dar

Practice Manager: Reema Nayar

Task Team Leader(s): Pedro Cerdan-Infantes, Javier Botero Alvarez

## ABBREVIATIONS AND ACRONYMS

ACCES	Access with Quality to Higher Education ( <i>Acceso con Calidad a la Educación Superior</i> )
ACCES II	Access with Quality to Higher Education Phase 2 ( <i>Acceso con Calidad a la Educación Superior – Fase 2</i> )
AFD	French Development Agency ( <i>Agence Française de Développement</i> )
APR	Annual Percentage Rate ( <i>Tasa Anual Equivalente</i> )
CNA	National Accreditation Council ( <i>Consejo Nacional de Acreditación</i> )
COLCIENCIAS	Colombian Administrative Department of Science, Technology and Innovation ( <i>Departamento Administrativo de Ciencia, Tecnología e Innovación</i> )
CPF	Country Partnership Framework
DNP	National Planning Department ( <i>Departamento Nacional de Planeación</i> )
GDP	Gross Domestic Product
GoC	Government of Colombia
HEI	Higher Education Institution
ICETEX	Colombian Institute for Educational Credit and Technical Studies Abroad ( <i>Instituto Colombiano de Crédito Educativo y Estudios Técnicos en el Exterior</i> )
IFC	International Finance Corporation
IFR	Interim Financial Report
IPP	Indigenous Peoples Plan
IPs	Institutional Partnerships ( <i>Alianzas Institucionales</i> )
MEN	National Education Ministry ( <i>Ministerio de Educación Nacional</i> )
MIDE	Indicator Index for Higher Education Performance ( <i>Modelo de Indicadores del Desempeño de la Educación Superior</i> )
NPV	Net Present Value
OECD	Organisation for Economic Co-operation and Development
PACES	Access and Quality in Higher Education Project ( <i>Proyecto de Acceso y Calidad en la Educación Superior</i> )
PCT	Project Coordination Team ( <i>Equipo Coordinador de Proyecto</i> )
PDO	Project Development Objective
NDP	National Development Plan ( <i>Plan Nacional de Desarrollo</i> )
QAS	Quality Assurance System ( <i>Sistema de Aseguramiento de Calidad</i> )
R&D	Research and Development
SCC	System of Credit and Collection ( <i>Sistema de Crédito y Cobranza</i> )
SISBEN	Identification System for Social Program Beneficiaries ( <i>Sistema de Identificación de Beneficiarios de Programas Sociales</i> )
SORT	Systematic Operations Risk-Rating Tool
STI	Science, Technology, and Innovation
TEI	Tertiary Education Institution
VCC	Vice-presidency for Credit and Collection ( <i>Vicepresidencia de Crédito y Cobranza</i> )
VES	Vice-ministry of Higher Education ( <i>Viceministerio de Educación Superior</i> )
VFN	Vice-presidency for Finance ( <i>Vicepresidencia Financiera</i> )



**BASIC INFORMATION**

Is this a regionally tagged project? No	Country(ies)	Lending Instrument Investment Project Financing
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- Situations of Urgent Need of Assistance or Capacity Constraints
- Financial Intermediaries
- Series of Projects

Approval Date 30-Jan-2017	Closing Date 01-Dec-2022	Environmental Assessment Category C - Not Required
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Bank/IFC Collaboration Yes	Joint Level Historical Project/Activity implemented in sequence with an IFC activity(Loan/Credit/Guarantee/AAA)
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**Proposed Development Objective(s)**

The objective of the project is to improve the quality of tertiary education in participating institutions and to increase the enrollment of students from disadvantaged socioeconomic backgrounds in quality programs.

**Components**

Component Name	Cost (USD Million)
Undergraduate Student Loans and Creditos Condonables for Graduate Education	404.00
Quality Enhancement of Tertiary Education Institutions and Programs	56.00
Institutional Strengthening	7.00

**Organizations**

Borrower : Instituto Colombiano de Crédito Educativo y Estudios Técnicos en El Exterior (ICETEX)

Implementing Agency : ICETEX



<input checked="" type="checkbox"/> Counterpart Funding	<input checked="" type="checkbox"/> IBRD	<input type="checkbox"/> IDA Credit <input type="checkbox"/> Crisis Response Window <input type="checkbox"/> Regional Projects Window	<input type="checkbox"/> IDA Grant <input type="checkbox"/> Crisis Response Window <input type="checkbox"/> Regional Projects Window	<input type="checkbox"/> Trust Funds	<input type="checkbox"/> Parallel Financing
Total Project Cost: 467.00		Total Financing: 467.00 Of Which Bank Financing (IBRD/IDA): 160.00		Financing Gap: 0.00	

**Financing (in USD Million)**

Financing Source	Amount
Borrower	307.00
IBRD-87010	160.00
<b>Total</b>	<b>467.00</b>

**Expected Disbursements (in USD Million)**

Fiscal Year	2017	2018	2019	2020	2021	2022	2023
Annual	26.40	37.40	37.40	33.40	25.40	0.00	0.00
Cumulative	26.40	63.80	101.19	134.60	160.00	160.00	160.00

**INSTITUTIONAL DATA**

**Practice Area (Lead)**

Education



**Contributing Practice Areas**

Finance & Markets

**Gender Tag**

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

**SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)**

Risk Category	Rating
1. Political and Governance	● Low
2. Macroeconomic	● Moderate
3. Sector Strategies and Policies	● Low
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Moderate
6. Fiduciary	● Substantial
7. Environment and Social	● Low
8. Stakeholders	● Moderate
9. Other	
10. Overall	● Moderate



**COMPLIANCE**

**Policy**

Does the project depart from the CPF in content or in other significant respects?

Yes  No

Does the project require any waivers of Bank policies?

Yes  No

**Safeguard Policies Triggered by the Project**

**Yes**

**No**

Environmental Assessment OP/BP 4.01

✓

Natural Habitats OP/BP 4.04

✓

Forests OP/BP 4.36

✓

Pest Management OP 4.09

✓

Physical Cultural Resources OP/BP 4.11

✓

Indigenous Peoples OP/BP 4.10

✓

Involuntary Resettlement OP/BP 4.12

✓

Safety of Dams OP/BP 4.37

✓

Projects on International Waterways OP/BP 7.50

✓

Projects in Disputed Areas OP/BP 7.60

✓

**Legal Covenants**

Sections and Description

LOAN AGREEMENT - SCHEDULE 2, Section I.G.1.

The Borrower shall carry out the Project in accordance with the IPP.

Sections and Description

LOAN AGREEMENT - SCHEDULE 2, Section I.E.1.

For purposes of carrying out Component 2 of the Project, the Borrower shall enter into an agreement (the Tripartite Special Cooperation Agreement) with Fondo Caldas (as duly represented by the Trustee) and COLCIENCIAS, under terms and conditions acceptable to the Bank.



**Conditions**

Type Effectiveness	Description COLCIENCIAS/Fondo Caldas has contracted a financial management specialist and a procurement specialist under terms and conditions and in a manner acceptable to the Bank, and in accordance with the relevant provisions of the Tripartite Special Cooperation Agreement.
Type Effectiveness	Description The Tripartite Special Cooperation Agreement has been duly executed by the parties thereto.
Type Disbursement	Description Retroactive Financing: no withdrawal shall be made for payments made under Category 3(b) prior to the date of this Agreement, except that withdrawals up to an aggregate amount not to exceed \$200,000 may be made for payments made prior to this date but on or after January 1, 2017 (but in no case more than 12 months before the date of this Agreement), for Eligible Expenditures under said Category.

**PROJECT TEAM**

**Bank Staff**

Name	Role	Specialization	Unit
Pedro Cerdan-Infantes	Team Leader(ADM Responsible)	Team Lead	GED04
Javier Botero Alvarez	Team Leader	Team Lead	GED04
Sandra Ximena Enciso Gaitan	Procurement Specialist(ADM Responsible)	Procurement Management	GGO04
Francisco Rodriguez	Procurement Specialist	Procurement Management	GGO04
Luz A. Zeron	Financial Management Specialist	Financial Management	GGO22
Alba Lorena Torres Roldan	Team Member	Operations	GED04
Carlos Alberto Roa Cardona	Team Member	Team Assistant	LCCCO
Leyla V. Castillo	Team Member	Financial Institutions	GFM04
Paula Andrea Bernal Blanco	Team Member	Executive Assistant	LCCCO





Ricardo Jose Castellon Zamora	Safeguards Specialist	Safeguards	GSU10
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Uriel Kejsefman	Team Member	Operations	GED04
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**Extended Team**

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Location</b>
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COLOMBIA  
ACCESS AND QUALITY IN HIGHER EDUCATION PROJECT - PACES

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## I. STRATEGIC CONTEXT

### A. Country Context

1. **Colombia is among the top performers in the Region with regards to economic growth and poverty reduction over the past decade.** Colombia has maintained a solid track record of effective fiscal and macroeconomic policy management, even during the economic slowdown of 2015, when gross domestic product (GDP) growth reduced to 3.1 percent from 4.6 percent in 2014. The fall in commodity prices led to a decrease in both exports and fiscal revenue, and contributed to a severe currency depreciation, which has driven inflation to 6.8 percent in 2015, its highest level since 2008. Nevertheless, unemployment remained stable at 8.9 percent in 2015, poverty declined significantly from 49.7 percent in 2002 to 28.5 percent in 2014 and the middle class now represents a larger share of the population than the poor, with 30.2 percent of the population considered middle class. This progress is also reflected in increased shared prosperity, with the incomes of the bottom 40 percent of the income distribution growing faster than the general population (4.5 percent versus 3.6 percent).

2. **Despite these improvements, Colombia continues to have one of the highest Gini coefficients in the Region and the differences in social indicators between urban and rural areas persist.** The 2014-2018 National Development Plan (*Plan Nacional de Desarrollo, NDP*) ‘*Everyone for a new country*’ is anchored on the post-conflict agenda and emphasizes the importance of education in improving equity. The potential benefits of sustainable peace for growth and fiscal revenue have been widely documented in the literature. Realizing these gains will depend in part on Colombia’s capacity to expand the access and quality of education at all levels, including tertiary education, especially for the socioeconomically disadvantaged.

### B. Sectoral and Institutional Context

3. **The tertiary education system in Colombia has expanded significantly in recent decades<sup>1</sup>.** Recent policies that focused on increasing enrollment yielded impressive results: the enrollment rate almost doubled between 2004 and 2015, from 27 percent to 50 percent. Still, the country lags behind regional peers in gross enrollment rates (49 percent in Colombia versus 83 percent in Chile or 70 percent in Argentina). Over the past decade, enrollment increased faster in public institutions, where 51 percent of students were enrolled by 2015. Institutions are categorized based on the types of degrees that they can offer as: technical institutes (offering technical degrees only), technological institutions (technical and technological degrees), university institutions (undergraduate degrees, one-year postgraduate specialization and, in some cases, master’s degrees) and universities (all degrees). The system has become increasingly diverse over the past 10 years, with enrollment in non-university institutions growing by 272 percent since 2005, as compared to 152 percent in universities. Yet, in 2015, 66 percent of enrollment was in university programs, 27 percent in technological programs, and only 4 percent in technical programs.

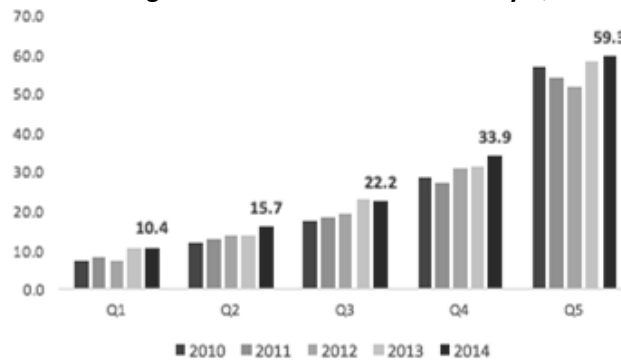
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<sup>1</sup> Throughout this document, “tertiary education” and “higher education” will be used interchangeably.



4. **Despite improvements in access to tertiary education, inequalities in matriculation and graduation persist.** The participation of young people from socioeconomically disadvantaged backgrounds in tertiary education is very low. In 2014, only 10 percent of young people in the poorest quintile enrolled in a higher education program, compared to 59 percent of the richest quintile<sup>2</sup>. That same year, only 13 percent of the rural population enrolled in a tertiary education program, as compared to 60 percent in the main cities. The transition rate of secondary education graduates to tertiary education is low, at only 35 percent. Furthermore, half of the students who enter tertiary education drop out before finishing their studies.

Figure 1: Gross Enrollment Rates by Quintile and Year



Source: Centro de Estudios Distributivos Laborales y Sociales

5. **There are large disparities in the quality of existing programs and institutions.** High-quality accreditation of institutions and programs is the main indicator in the current quality assurance system (*Sistema de Aseguramiento de Calidad, QAS*) in Colombia. Still, only 15 percent of institutions and only 8.5 percent of programs are accredited.<sup>3</sup> This is partly due to the accreditation system’s voluntary process, very high-standards, and rigidity. Accreditation is still a one-model-fits-all recognition that includes a focus on the institution’s research capacity and prevents many types of institutions from seeking and achieving high-quality accreditation.<sup>4</sup> As a result, accredited institutions are most commonly universities (38 percent of universities were accredited in 2015), which is also where the majority of students in accredited programs and institutions enroll (88 percent of students). Only 4 percent of university institutions, 5 percent of technological institutions, and no technical institutions are accredited. The situation is even worse for tertiary education programs: 24 percent of university programs and just 4 percent of technical and technological programs are accredited. The heterogeneity in accreditation aggravates inequalities in access, since vulnerable populations are more likely to attend lower-quality programs and institutions. Low-income students are more likely to enter technical and

<sup>2</sup> Socio-Economic Database for Latin America and the Caribbean (*Centro de Estudios Distributivos Laborales y Sociales* and The World Bank), updated in May 2016.

<sup>3</sup> These figures include all types of institutions and programs. Disaggregated by level of education, 21 percent of university programs, 5 percent of master’s programs, and 8 percent of doctorate programs are accredited (figures for technical and specialization programs are even lower).

<sup>4</sup> Gonzalez-Velosa et al. 2015. Returns to Higher Education in Chile and Colombia. Inter-American Development Bank Working Paper.



technological institutions (34 percent of those in the poorest socioeconomic strata [*estrato*]<sup>5</sup> attend technical and technological institutions versus 15 percent in the richest *estrato*).

**6. The low quantity and quality of research and innovation are a constraint to accreditation for many institutions.** Colombia lags behind regional peers on many indicators of science, technology, and innovation (STI) and research and development (R&D). Investment levels are substantially lower than in most Latin American countries (Colombia spends 0.2 percent of GDP in R&D, versus a Latin American average of 0.8 percent and an average of 2.4 percent in the Organization for Economic Co-Operation and Development (OECD). This in part stems from the very low levels of investment in tertiary education overall (US\$1,800 per student, versus US\$3,225 in Brazil, and US\$11,700 in the OECD). The lack of investment contrasts with the fact that Colombia has one of the highest rates of return for tertiary education in the region (19.6 percent return on equity, only surpassed by Mexico). All of these have resulted in low measures of R&D and innovation indicators.<sup>6</sup> Indeed, only 0.1 percent of Colombian companies are classified as strictly innovative.<sup>7</sup> Colombia also has no national university ranked in the top universities of the world (according to the Shanghai ranking)<sup>8</sup>, whereas comparable regional peers do.

**7. Limited and fragmented funding for research and innovation projects and low availability of advanced human capital are major bottlenecks to improving Colombia's research and innovation system.** Only 9.7 percent of tertiary education faculty staff hold a PhD. Existing research funding is fragmented among too many institutions and programs with small and relatively short-term funding.<sup>9</sup> In addition, the collaboration between academia and the private sector is very limited. While research funding programs abound across the region (e.g., Brazil's US\$2 billion for *Ciencia* and Chile's US\$700 million for *Mecesup*), Colombia does not yet show any comparable levels of investment. The main deficiency is the lack of doctoral graduates: Colombia has one-fifth of the ratio of PhDs per one million people than the Latin American average, with seven PhDs per one million people versus the Latin American average of 37 (Brazil has 69 per one million people).

**8. Improving the access and quality of tertiary education is the chief priority in the NDP.** The NDP also seeks to close access and quality gaps between regions of the country. The plan includes: (a) the development of a tertiary education system that includes and recognizes the diversity of institutions into one system; (b) the development of a QAS that recognizes this diversity, enforces minimum quality standards, and incentivizes continuous quality improvements for all institutions; and (c) the reduction of capacity gaps among regions,

<sup>5</sup> Colombia's socioeconomic strata or *estratos socioeconomicos* were originally created to distinguish which households would get subsidized access to public services and utilities. There are six strata (1-6, from poorest to richest).

<sup>6</sup> Reviews of National Policies for Education: Tertiary Education in Colombia, OECD and World Bank, 2012.

<sup>7</sup> Within different degrees of innovation, 19.3 percent of Colombian companies are identified as "innovative in an extended sense", 3.8 percent as "potentially innovative" and 76.8 percent as "not innovative".

<sup>8</sup> The Academic Ranking of World Universities, also known as the Shanghai Ranking, is one of the most respected world ranking of top universities, published annually by the Shanghai Ranking Consultancy. It uses six main indicators, including the number of alumni and staff winning Nobel Prizes and Fields Medals, the number of highly cited researchers, the number of articles published in the Journal of Nature and Science, the number of indexed articles, and the per capita performance.

<sup>9</sup> Public Expenditure Review of R&D in Colombia. World Bank, Forthcoming.



especially in R&D and innovation. There is also a clear commitment to accelerating the accreditation of programs and institutions: by 2018, only students attending accredited institutions or programs will be eligible for student loans or scholarships.

9. **The National Education Ministry (*Ministerio de Educación Nacional, MEN*) is in the process of implementing the reforms included in the NDP.** The development of the National Tertiary Education System (*Sistema Nacional de Educación Terciaria*) seeks to integrate all types of programs and institutions into one coherent system based on a National Qualifications Framework. Similarly, the MEN is increasingly focusing on quality. Since 2014, it has implemented an assessment system for tertiary education (*Modelo de Indicadores del Desempeño de la Educación Superior, MIDE*) that encompasses various dimensions of quality. The QAS is in the midst of a major reform that seeks to give it greater flexibility and relevance through the establishment of various accreditation levels and the recognition of the diversity of institutions in the tertiary education system.

10. **The World Bank has supported the reform of the structure, processes, institutional agreements and capacity of Colombia's QAS.** As final output of Reimbursable Advisory Services, the Bank delivered five main proposals: (a) the creation of a national agency for quality assessment, with greater autonomy for resources-management and decision-making; (b) greater coherence and continuity in the accreditation processes (targeted changes were proposed); (c) acknowledgment of the differences across types of institutions (university versus technical) and methodologies (including virtual and blended) in the quality guidelines; (d) the development of a new accreditation model that incorporates the institutions' missional profiles and allows for two levels of accreditation; and (e) the articulation of the plurality of information systems into a centralized system that promotes efficiency and transparency in the use of the information and includes processes' traceability. The reform of the quality assurance system is one of the commitments in the NDP and a priority of the MEN.

11. **To address shortcomings with the availability of advanced human capital and to improve research capacity in the regions, the MEN launched the *Colombia Científica Program*.** The program seeks to increase the system's research capacity with a focus on non-accredited institutions and to align the relevance and quality of research with regional needs. Under the MEN's leadership, this program is financed mostly from regional budgets earmarked for science and innovation and supports research projects carried out through partnerships (of local governments, universities and the productive sector), which target regional economic needs. The program is currently being expanded with central government funding and the participation of the MEN, Colombian Institute for Educational Credit and Technical Studies Abroad (*Instituto Colombiano de Crédito Educativo y Estudios Técnicos en el Exterior, ICETEX*), COLCIENCIAS (*Departamento Administrativo de Ciencia, Tecnología e Innovación*) and the Ministry of Commerce.<sup>10</sup> The program will include two major initiatives: (a) Passport to Science (*Pasaporte a la Ciencia*), a scholarship program for graduate studies in world-class universities; and (b) Research Ecosystem (*Ecosistema Científico*), a national competitive research grants program that will finance research projects undertaken through partnerships of universities and the productive sector. Financing will be contingent on the results achieved by the projects. To incentivize collaboration among

<sup>10</sup> Since 2009, with the approval of Law 1286, Colciencias is the Colombian Administrative Department of STI (*Departamento Administrativo de Ciencia, Tecnología e Innovación*), with the functions of designing, updating, coordinating and implementing the National STI Policy.



institutions and with the productive sector, Institutional Partnerships (*Alianzas Institucionales*, IPs), also known as 'Research Ecosystems' (*Ecosistemas Científicos*) will necessarily include (a) one accredited institution, (b) one non-accredited institution, (c) one representative of the productive sector (a firm or business association), and (d) one international partner<sup>11</sup> and will bind them to improve institutional quality in non-accredited institutions, resulting in more accredited programs and institutions in the short- to medium-term.

12. **The MEN is also focused on continuing to improve access to tertiary education for populations from disadvantaged backgrounds.** In 2014, the MEN launched the program *Ser Pilo Paga* program, which provides full scholarships to students from disadvantaged backgrounds who have high academic accomplishments to attend programs in accredited institutions. However, the provision of student loans by ICETEX continues to be the main demand-side financing tool to increase access to tertiary education for disadvantaged populations. ICETEX—an autonomous state-owned financial institution linked to the MEN—is the main provider of student loans for low-income individuals. Most of its loans are allocated giving priority to need, merit, and the quality of institution/program sought, while also emphasizing geographic equity. These loans have been supported by the World Bank through three investment projects<sup>12</sup> under the Access with Quality to Higher Education (*Acceso con Calidad a la Educación Superior*, ACCES) program. ICETEX loans cover 10 percent of the student population, and yet, 68 percent of its loans have gone to students from socioeconomic strata 1 and 2, the poorest segments of the population. Two impact evaluations of the ACCES loans<sup>13</sup> also found positive and significant impacts on enrollment and completion of tertiary education for beneficiaries.

13. **ICETEX launched new credit lines under the program *Tu Eliges (You Choose)*, which offers more flexibility for beneficiaries, targets subsidies based on need and merit, and can finance up to 100 percent of the cost of tuition.** *Tu Eliges* eliminated maximum loan amounts used in previous student loan programs such as ACCES, so that students can afford attending higher-quality institutions. It also offers seven options for credit lines, which differ in interest rates and the loan percentage that needs to be repaid during the period of study. The credit lines with the lowest interest rate (0 percent real interest rate) and the longest repayment term (with 0 or 10 percent of the loan amount paid during the period of study) are targeted to students from disadvantaged socioeconomic backgrounds (the lowest scores in the Identification System for Social Program Beneficiaries [*Sistema de Identificación de Beneficiarios de Programas Sociales*] SISBEN<sup>14</sup>) and the highest academic merit (the highest SABER 11<sup>15</sup> scores). All credit lines offer a one-year grace period upon graduation

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<sup>11</sup> Reviews of National Policies for Education: Tertiary Education in Colombia, OECD and World Bank, 2012; and Education in Colombia, OECD, 2016.

<sup>12</sup> The support to ICETEX started in 2002, through the Higher Education - Improving Access (P074138), continued in 2008 with the Second Student Loan Support Project, Adaptable Program Loan Phase I (P105164, Loan 7515-CO), and in 2014 through the Access with Quality to Higher Education Project - ACCES II – Series of Projects Phase 2 (P145782).

<sup>13</sup> Melguizo, T., Sanchez, F., & Velasco, T. (2016). Credit for Low-Income Students and Access to and Academic Performance in Higher Education in Colombia: A Regression Discontinuity Approach. *World Development*. Sánchez, F., & Velasco, T. (2014). Do Loans for Higher Education Lead to Better Salaries? Evidence from a Regression Discontinuity Approach for Colombia. *Evidence from a Regression Discontinuity Approach for Colombia*.

<sup>14</sup> SISBEN is a proxy-means test system that Colombia uses to identify poor and vulnerable households, families and individuals for social programs.

<sup>15</sup> SABER 11 is a standardized test taken at the end of the 11<sup>th</sup> grade, necessary to access tertiary education.





and a repayment period of twice the duration of the studies. In addition, *Tu Eliges* also offers a combination of long-term, medium- and short-term repayment options where a higher share of the loan amount is repaid during the study period (30 percent, 40 percent, 60 percent and 100 percent). These lines also have shorter repayment periods and are aimed at increasing the financial sustainability of the institution and expanding access to loans for the middle class.

14. **ICETEX is also removing barriers to access loans and putting increased emphasis on the quality of the programs attended by loan beneficiaries.** ICETEX removed the requirement of a co-signer by creating a *Fondo de Garantías* (Guarantee Fund), which serves as collateral for students who cannot provide a loan guarantor. In addition, with the objective of reducing default rates associated with high dropout, ICETEX established the *Fondo de Sostenibilidad* (Sustainability Fund). This fund receives contributions from institutions in proportion to their students' dropout rate (the higher the dropout rate, the higher the contribution), thereby incentivizing institutions to reduce dropout rates. ICETEX also enhanced its targeting of loans for accredited programs and institutions by severely increasing the weight of this variable in the credit-allocation formula. It aims to provide 60 percent of its loans to students attending accredited programs or institutions by 2017 and 100 percent in 2018 (up from 40 percent in 2015). These targets represent a strong incentive for institutions to gain accredited status.

15. **ICETEX is also diversifying and improving the management of its portfolio.** ICETEX is reducing its dependence on central government subsidies by establishing institutional alliances or *Alianzas Institucionales* (henceforth, *Alianzas*) and administrative funds (*Fondos en Administración*) with local governments and the private sector. These partnerships can take different cost-sharing arrangements between the local government and ICETEX. Alliances cover part of the cost of a disadvantaged student's degree (usually two or three semesters), with the rest provided by ICETEX through student loans at low rates. Administrative Funds are special scholarship funds that ICETEX manages for a fee. ICETEX manages an increasing amount of these special funds and special credit lines for disadvantaged populations, including indigenous populations, Afro-Colombians, and victims of the armed conflict. In 2015, 1,125 indigenous persons and 2,166 Afro-Colombians benefited from new credits from these funds. ICETEX has also accomplished substantial progress in the quality of its portfolio. The percentage of nonperforming loans (ratio of loans overdue 90 days divided by the total of student loans in amortization) decreased from 22.9 percent in 2013 to 15.2 percent in 2015. Despite this significant improvement, nonperforming loans remain one of the key factors for the sustainability of ICETEX.

16. **As part of the diversification of its funding sources, ICETEX is expanding its support to improve the quality of institutions and programs.** ICETEX has been assigned a major role as financier of quality improvements in tertiary education in the NDP: ICETEX will fund *Colombia Científica*. In addition, ICETEX has launched a credit line for institutions to finance quality improvements linked to accreditation. This credit line, with a competitive interest rate, is available to all institutions that seek institutional accreditation or accreditation of specific programs. It is also available for private institutions for investments linked to expanding enrollment. The credit line was launched in August 2016, and it is the first time ICETEX has lent to institutions directly.



17. **ICETEX has an ambitious plan that seeks to balance increased coverage, equity, and financial sustainability.** The Government has set ambitious goals for increased access, which demand increases in the number of student loans. The *Tu Eliges* program aims to finance 63,000 new loans in 2017 (up from 59,121 in 2015) and increase the yearly target progressively to 64,000 loans yearly after 2018. However, this expansion comes at a time of limitations in government budget, which result in lower availability of interest rate subsidies. This is in part compensated by increases in *Alianzas* and other sources of funding and with the flexibility of shorter-term loan for some students under *Tu Eliges*. This is done with sustainability in mind. With those targets, financial projections for ICETEX show a positive net cash flow starting in 2022. This net cash flow increases in time, providing assurance of the financial sustainability of ICETEX.

18. **ICETEX requested the World Bank's support for the *Tu Eliges* and *Colombia Científica* programs.** World Bank financing will support the overall ambitious goals of ICETEX, but funding will also come from ICETEX resources and the French Development Agency (*Agence Française de Développement, AFD*). Despite different funding sources, available financing will cover only part of ICETEX's goals with regards to its loan allocation. Should additional financing become available, the program could be scaled up. This project will continue the successful long-term collaboration between ICETEX and the World Bank, including an ongoing project, ACCES II - SOP Phase 2 (P145782) that supports student loans. From 2015, the ACCES project has supported the new long-term credit lines under *Tu Eliges* and the renovations of the previous loans. The ACCES II project is being implemented satisfactorily at a significantly faster rate than planned. PACES will continue the support to ICETEX in the provision of student loans and adds the support for quality improvements in institutions.

### C. Higher Level Objectives to which the Project Contributes

19. The project contributes to the achievement of the strategic objectives of both the Government of Colombia (GoC) (as outlined in the NDP, 2014-2018), and the World Bank (as presented in the Country Partnership Framework [CPF] for FY16-21 Report No. 101552-CO). The project's overall goal of expanding both access and quality mirrors the third pillar of the NDP, '*Colombia, la más educada*' (Colombia, the most educated). Specifically, it contributes to closing the gaps in educational attainment and education quality in Colombia, as well as the CPF's second pillar of 'enhancing social inclusion and mobility through improved service delivery' under its fourth objective of 'improved access to and quality of education'. Similarly, the overall focus on students from disadvantaged households, as articulated in the project development objective (PDO), addresses the NDP's second pillar of an equitable Colombia without extreme poverty and reflects the World Bank's twin goals of ending extreme poverty by 2030 and promoting shared prosperity.

20. The project also contributes to other high-level objectives through its specific components. The special attention given to increasing student loan access for victims of the armed conflict and other disadvantaged population contributes to the CPF's cross-cutting goal of building peace and supporting the post conflict, as well as the NDP's first pillar of a Colombia in Peace. The tracking of student loans' impact across gender and special minorities (e.g., afro-Colombians, people with disabilities) and the preferential targeting of these constitutionally protected populations in the student loan allocation process address the World Bank's gender equity priority and the GoC's objective of reducing the opportunity gaps among its populations.



## II. PROJECT DEVELOPMENT OBJECTIVES

### A. PDO

The objective of the project is to improve the quality of tertiary education in participating institutions and to increase the enrollment of students from disadvantaged socioeconomic backgrounds in quality programs.

### B. Project Beneficiaries

21. The direct beneficiaries of the project include the student loan recipients (82,399), scholarship recipients (95), the tertiary education institutions (TEIs) and firms participating in the Research Ecosystems and receiving institutional loans (at least 16), and researchers and staff of the TEIs –including those filling a number of new positions that will be created. Indirect beneficiaries include all recipients of loans from ICETEX, since the institutional strengthening component of ICETEX will support the entire institution. Many other TEIs will benefit indirectly through enrollment of ICETEX loan recipients and from institutional strengthening efforts committed to in their contracts with ICETEX. In addition, firms, institutions, and society in general would also benefit indirectly from a higher number of higher education graduates. It is expected that over 287,655 students annually, on average, would benefit from ICETEX’s services. The Project will monitor that the allocation of new loans continues to support high participation of women in tertiary education as a ways to reduce gender imbalances in Colombia’s labor market.

### C. PDO-Level Results Indicators

22. Progress toward meeting the PDO will be measured by four outcome indicators:
- i. Number of students from disadvantaged socioeconomic backgrounds enrolled in higher education.
  - ii. Percentage of students from disadvantaged backgrounds enrolled in tertiary education who are enrolled in accredited programs or institutions.
  - iii. Percentage of tertiary education institutions participating in the Research Ecosystem projects that increase their score in a composite index of quality of research, teaching, and internationalization.
  - iv. Number of TEIs receiving competitive research grants that formally initiate the institutional accreditation process and that remain active in the project.

## III. PROJECT DESCRIPTION

### A. Project Components

23. The project will achieve its development objective through the implementation of three components. Component 1 provides financing for *students* to attend tertiary and postgraduate education through student



loans and *creditos condonables*<sup>16</sup>. Component 2 provides financing for *institutions* to carry out quality improvements through competitive research grants and loans for quality improvements leading to accreditation. Component 3 supports project management and *institutional strengthening* of ICETEX.

24. **Component 1. Undergraduate Student Loans and Creditos Condonables for Graduate Education.** (Total: US\$404 million; IBRD: US\$104 million; ICETEX: US\$300 million). The objective of this component is to increase student enrollment and graduation in high-quality programs. This will be achieved by providing: (a) undergraduate student loans (both new loans and loan renewals) to disadvantaged populations<sup>17</sup> to attend tertiary education programs in Colombia, prioritizing accredited programs and institutions, and (b) scholarships for undergraduate students to attend high-quality international graduate programs.

25. **Subcomponent 1.1. Undergraduate Student Loans.** (Total: US\$392 million; Bank: US\$92 million; ICETEX: US\$300 million). This subcomponent will mainly finance the provision of student loans to selected undergraduate students for tertiary education studies in eligible TEIs. The student loans financed by this subcomponent seek to increase equity in access to tertiary education and the quality and relevance of the programs attended by the beneficiaries.

26. Eligibility for loans is determined according to need and academic merit. Currently, the applicant's SISBEN score is used to determine need and the applicant's SABER 11 score is used to evaluate academic merit, with cut-off points for eligibility determined jointly by the DNP, the MEN, and ICETEX. Among eligible students, loans are allocated through a formula that takes into account geographical equity, the student's economic need, academic merit, and the quality of the program the student plans to attend. In addition, the most disadvantaged students with the highest SABER 11 scores receive an interest rate and subsistence subsidy while populations under 'special constitutional protection', including ethnic groups, disabled students, and victims of the conflict, receive preferential treatment in the allocation of loans at zero real interest rates. There is currently a gender gap in the applicants for student loans, with females receiving a higher percentage of loans than males, consistent with already higher graduation rates from secondary education for females. This gender gap is a positive differential that helps combat opposite imbalances later on in the labor market, most notably a large male-female wage gap<sup>18</sup>. The project will try to analyze and better understand them to accordingly tailor promotion activities that could reduce these gaps.

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<sup>16</sup> 'Creditos condonables' refer to scholarships for study at top universities that are contingent on pre-established conditions such as the return to Colombia after graduation. If the student fails to meet these conditions, he or she would have to pay for the cost of the education.

<sup>17</sup> Disadvantaged populations are defined by the National Planning Department (*Departamento Nacional de Planeación*, DNP) based on a combination of SISBEN scores and their belonging to groups with 'special constitutional protection' (ethnic groups and victims of conflict).

<sup>18</sup> Recent data reports point to an even higher male-female wage gap than previously thought (above 20 percent for years 2010-2012). The literature shows that while wage male-female differentials are largely unexplained, occupation segregation and socioeconomic imbalances prevail. Moreover, this wage gap follows socioeconomic imbalances: it is larger among the less and the most skilled (CPF for Colombia for FY16-21 Report No. 101552-CO. World Bank).



27. This subcomponent also finances loan renewals for disadvantaged students who are continuing their studies and loans for disadvantaged populations provided under *Alianzas*, in which partners (local governments, other ministries, or the private sector) cover part of the direct cost of attending tertiary education or provide an interest rate subsidy for eligible populations.

28. **Subcomponent 1.2. Creditos Condonables for Postgraduate Education.** (Total: US\$12 million; IBRD: US\$12 million). This subcomponent will finance the provision of *creditos condonables* to selected graduate students for postgraduate education in foreign universities. The *creditos condonables* will cover the cost of postgraduate education abroad in knowledge areas prioritized in the NDP, regional economic development plans, and *Ecosistemas Científicos* (research projects financed by Component 2). The *creditos condonables* will cover a predetermined percentage of the total amount depending on the type of degree, as long as the student (a) graduates from the program and (b) returns to Colombia to be employed in academia, the public sector, or any institution in the STI system, as defined in the 2016-2025 STI policy.

29. Priority for *creditos condonables* will be given to teachers from non-accredited institutions, specific ethnic groups, and students who graduated from public universities and/or public secondary school. Among eligible students, beneficiaries will be selected based on their academic merit and the alignment of their research interests with the prioritized knowledge areas. The subcomponent will support *creditos condonables* for master's and PhD degrees (with a target of 45 and 50 *creditos condonables*, respectively) in international universities within the top 500 in the Shanghai ranking. The *creditos condonables* will cover tuition costs, as well as transportation and living expenses, with a predetermined maximum amount varying by type of program and location. Students who complete their respective programs will receive support for their return to Colombia, including with job search in academia and the private sector, and for partnering with the research alliances.

30. **Component 2: Quality Enhancement of Tertiary Education Institutions and Programs** (Total: US\$56 million; IBRD: US\$56 million). The objectives of this component are to improve the quality of TEIs by strengthening their research and innovation capabilities, and enhancing their collaboration with the productive sectors in the regions. This will be done through financing competitive research grants for IPs between universities and the productive sector. With their own resources, and to complement these grants, ICETEX will provide loans for institutions seeking to improve quality indicators and looking to finance high-quality accreditation processes.

31. *Competitive Research Grants for Institutional Partnerships.* This component, which will be implemented by COLCIENCIAS, will provide: (i) grants to eligible TEIs to support academic research and innovation initiatives; and (ii) financial support to COLCIENCIAS in connection with the implementation of this component of the Project. The grants will be allocated competitively for the implementation of research and innovation projects that respond to regional productive sector needs. The projects will be implemented by IPs that include (a) at least two domestic TEIs (one leading institution with proven research capabilities and one non-accredited institution), (b) at least one international university, and (c) at least one private firm or business association. An IP may also involve other partners, such as regional research centers and/or local governments.



32. The proposal will be prepared jointly by the members of the IP, and funds will be allocated to the IP on a competitive basis. The criteria for the selection of research projects will include (a) relevance of the research for knowledge and the local economy, (b) the quality of the methodology used for the research project, (b) the quality of the research team, (d) the impact on the quality of the non-accredited institution, and (e) the financial coherence of the proposal.

33. The research and innovation projects will support improvements in participating TEI in: (a) strengthening human capital by both attracting short-term collaborators and providing long-term formation and training of human capital (Masters and PhD scholarships for Colombian teachers in Colombian universities and professional training for support staff), (b) improving research and innovation processes, especially strengthening postgraduate degrees and institutional strengthening of processes linked to accreditation and (c) strengthening of research and innovation inputs by providing adequate equipment and inputs needed to conduct research. All financed projects will also support the institutional accreditation process for participating non-accredited institutions.

34. The competitive research grants will be implemented by the accredited leading institution in the IP, and disbursement to the IPs will be made based on achieving specific yearly targets. These yearly targets will be agreed by the IPs upon being selected for the program. After an initial disbursement, progress toward these targets will be monitored and subsequent disbursements will be conditional on making adequate progress.

35. The component will finance: (a) expenses associated with visiting academic staff and attending short courses; (b) long-term formation and training of human capital, PhD scholarships for teachers in accredited Colombian universities, and professional training for support staff; (c) software, hardware and equipment; (d) inputs including research materials and tests; (e) consulting services for improving associated processes, including reinforcement of postgraduate degrees (curriculum renewals or creation of new curricula); (f) institutional strengthening of the IP's TEIs (initiating and supporting the high-quality accreditation process), (g) knowledge transfer and dissemination; and (h) cost of protection of knowledge (patents).

36. This component will be implemented by COLCIENCIAS through Fondo Francisco Jose de Caldas (*Fondo Caldas*, a flexible financial mechanism created to finance STI activities, which can integrate different sources of funding) through a Subsidiary Tripartite Agreement with ICETEX (*Convenio Interadministrativo*).

37. To complement the competitive research grants and support the accreditation, ICETEX will finance the provision of loans to non-accredited TEIs or programs to support their academic accreditation. It will finance loans to institutions that seek institutional accreditation or the accreditation of specific programs. Eligible institutions include both public and private institutions that are seeking accreditation for the institution or one of its programs and go through an assessment of credit worthiness. Institutional loans will finance only expenses related to quality improvements and accreditation processes: consulting services and academic and process improvements.

38. **Component 3: Institutional Strengthening.** (Total: US\$7 million; ICETEX: US\$7 million). The objective of this component is to improve ICETEX's management practices and capacity, strengthen its long-term



sustainability and promote evidence-based decision-making. Although this component will be financed entirely by ICETEX, the Bank will provide technical assistance during design and implementation.

39. **Subcomponent 3.1: Project Management and Monitoring.** (Total: US\$0.6 million; ICETEX: US\$0.6 million). This subcomponent will support Project management, coordination, implementation, and monitoring including, *inter alia*, the carrying out of Project audits.

40. **Subcomponent 3.2: Capacity and Sustainability Strengthening.** (Total: US\$6.4 million; ICETEX: US\$6.4 million). This subcomponent supports the strengthening of ICETEX’s institutional capacity through, *inter alia*, the provision of goods and the provision of technical assistance and training. In particular, the subcomponent will finance (a) improvements in technological capabilities of ICETEX; (b) efforts to improve the financial sustainability, efficiency, and quality of ICETEX’s services; and (c) monitoring and evaluation. The Bank will provide technical assistance across these efforts, as it has done in previous operations.

41. This subcomponent will finance the implementation of (a) a new core banking system; (b) the development of new financial products, including an in depth study of how an Income Contingent Loan allocation mechanism could operate in the Colombian context, with a focus on the financial consequences for individuals, institutions, and ICETEX; (c) an impact evaluation of the project; and (d) a gender study focused on education loans. A customer relations platform will improve the beneficiary feedback to ICETEX, and new financial education products will be developed for potential beneficiaries. The impact evaluation of the project will focus on the impact of student loans on labor market outcomes. Existing impact evaluations were only able to evaluate academic outcomes, such as enrollment and graduation. Over a longer term, the ultimate outcome of interest is the graduate’s performance in the labor market. The research design will be a follow-up to the evaluations carried out for academic outcomes, using the same methodology and, to the extent possible, with the same sample. The gender study will seek to diagnose the gender-dimensions of tertiary education loans, access and graduation, to better understand and address gender gaps in tertiary education and the labor market.

**B. Project Cost and Financing**

42. Total project financing requirements are estimated at US\$467 million. The project will be financed as follows: US\$160 million through a loan from the IBRD, and the remaining US\$307 million by ICETEX.

Project Components	Project cost	IBRD Financing	Counterpart Funding
Undergraduate Student Loans and Scholarships for Graduate Education	404.00	104.00	300.00
Quality Enhancement of Tertiary Education Institutions	56.00	56.00	0



and Programs			
Institutional Strengthening	7.00	0.00	7.00
<b>Total Costs</b>	467.00	160.00	307.00
Total Project Costs	467.00	160.00	307.00
<b>Total Financing Required</b>	467.00	160.00	307.00

### C. Lessons Learned and Reflected in the Project Design

43. The project has been designed taking into consideration and incorporating lessons learned from the Second Student Loan Support Project, APL Phase I (P105164), Access with Quality to Higher Education Project - ACCES II, other similar Bank operations in the Region and from other national experiences in the fields of higher education and quality assurance. These include the following:

44. **Subsidies.** Interest rates and subsistence subsidies are very effective at removing barriers for the poorest students, but they are costly. They require a substantial amount of government subsidy for the duration of the loan repayment, since the subsidy is transferred to ICETEX at the time the student repays. This threatens the sustainability of the student loans scheme in the context of volatile public spending due to macroeconomic factors. To mitigate this risk, ICETEX is leveraging resources for subsidies from local governments and private sector.

45. **Implementation Arrangements.** The special needs of coordinating the more innovative component of this operation (Tertiary Education Institutions and Programs Quality Enhancement) will be better served by partnering with the institutions in Colombia with the most experience in the management of competitive grants for research and innovation (*COLCIENCIAS* through *Fondo Caldas*). This is to avoid duplication of responsibilities among implementing government institutions and to take advantage of the know-how of institutions. This is the logic for *COLCIENCIAS* implementing Component 2 of this project.

46. **Financial Terms.** The financial terms of the Bank loan under ACCES II were developed in close collaboration between the Bank and ICETEX. These were important to reduce ICETEX's financial risk, and included the Bank assistance in Foreign Exchange transactions. This was particularly important to guarantee the sustainability of the student loans component by matching the currency and length of the student loans to those in the Bank loan. The conversion of funds to local currency at the time of disbursement minimized exchange-rate risk and involved the simultaneously acquisition of swaps that locked future debt repayments into a concrete Colombian Pesos amount.

47. **Importance of governance and capacity.** Incentives alone are unlikely to drive significant quality improvements. The governance of the system and the capacity of institutions to carry out these improvements are crucial elements for success. Limiting access to financing for student loans to accredited institutions provides a clear incentive for accreditation. However, if institutions do not have autonomy for decision making





or the accreditation system does not function properly, the incentive is unlikely to have the desired effect. Similarly, if institutions do not have the managerial or financial capacity to carry out the necessary changes for accreditation, incentives will not result in significant improvements in quality. In order to provide access to credit and to qualified technical assistance, the project includes a provision that allows for loans to the institutions themselves for technical assistance and reforms leading to accreditation.

## IV. IMPLEMENTATION

### A. Institutional and Implementation Arrangements

48. ICETEX is the borrower and the main implementation agency, responsible for the overall project implementation, monitoring and reporting. It is also directly implementing two out of the three components of the project (Components 1 and 3). Component 3 will be implemented exclusively with counterpart funds, with the World Bank having a supervisory and monitoring role. In order to ensure implementation of Component 2, COLCIENCIAS and ICETEX will enter into a Subsidiary Tripartite Agreement with *Fiduprevisora S.A*, which is the legal entity representing *Fondo Caldas*. The Subsidiary Tripartite Agreement will ensure that funds will be transferred from ICETEX to *Fondo Caldas* for the purpose of subsequently awarding the research grant. In the event of a change in the trustee of *Fondo Caldas* (currently *Fiduprevisora S.A*), ICETEX will inform the Bank and prepare an action plan (including a time-table) indicating the actions taken or to be taken; and thereafter amend the Tripartite Special Cooperation Agreement, on terms and conditions acceptable to the Bank and in accordance with the action plan.

49. The project will be integrated in the regular operation of ICETEX and its units. The director of planning of ICETEX will be the main counterpart of the World Bank and will act as the project manager, with overall responsibility for implementation and reporting. Under the director, two coordinators will oversee the implementation of different components of the project, all part of the Project Coordination Team (*Equipo Coordinador de Proyecto*, PCT). One coordinator will be responsible for Component 2, providing oversight and support to COLCIENCIAS in the implementation. The second coordinator will be responsible for Components 1 and 3.

50. Subcomponent 1.1 (*Undergraduate Student Loans*). The Vice-presidency for Credit and Collection (*Vicepresidencia de Crédito y Cobranza*, VCC) will lead the implementation of student loans. This includes the strategy, processes, and procedures; student loan allocation; entering into an agreement with the student ("Student Loan Agreement"), prior to the provision of any undergraduate student loan and under terms and conditions acceptable to the Bank (including the obligation of the student to repay the Student Loan to ICETEX); and all actions related to the approval and certification of loans administered by ICETEX. The VCC will provide pertinent information to the project manager to support the project's monitoring and evaluation. Other units within ICETEX also play a role in the implementation of these loans, including the Vice-presidency for Finance (*Vicepresidencia Financiera*, VFN), which is in charge of the direction, coordination, and control of ICETEX's budget and accounting as well as of the setting of rules for financial operations. The Vice-presidency for



Operations and Technology (*Vicepresidencia de Operaciones y Tecnología*) administers ICETEX's information systems and provides accountability for the timely disbursement of approval and renewals of loans.

51. Subcomponent 1.2 (*Scholarships for Postgraduate Education*). ICETEX's Office of International Relations will coordinate the call for applications, the review and dissemination of the terms of reference, assess the suitability and completion of the student applications, organize the evaluation committee, enter into an agreement ("Scholarship Agreement") with the student (prior to the provision of any postgraduate scholarship) under terms and conditions acceptable to the Bank, support the student registration process in the foreign university, maintain contact with the students during the time of study, and carry out the technical and financial supervision of the scholarship progress.

52. Component 2 (*Competitive Research Grants for Institutional Partnerships*). COLCIENCIAS will carry out the implementation and monitoring of the component. The participation of COLCIENCIAS is central to the success and sustainability of the project, since COLCIENCIAS is the institution responsible for STI programs in Colombia and has the expertise to manage and supervise these types of projects. Funds for this component will be transferred from ICETEX to the *Fondo Caldas*. ICETEX will transfer the resources under the umbrella of the tripartite subsidiary agreement between ICETEX, COLCIENCIAS and *Fondo Caldas* that spells out the specific tasks and responsibilities and fund flows associated with the management of the grants program to be carried out by COLCIENCIAS.

53. COLCIENCIAS will operate the selection, monitoring and evaluation of the IP projects supported under the component, and the implementation of the competitive grants will be integrated into the regular operation of COLCIENCIAS. The Component will be managed by a team in COLCIENCIAS consisting of at least one procurement specialist and one financial management specialist. The IPs of each competitive research grant will sign a contract with COLCIENCIAS ("Competitive Research Grant Agreement"), prior to the provision of any competitive research grant and under terms and conditions acceptable to the Bank, outlining the transfer of funds, responsibility, and other contractual obligations related to the execution of the funds. Funds will flow from ICETEX to *Fondo Caldas*, and from there to the institutions. Prior to the provision of any Competitive Research Grant, ICETEX shall require COLCIENCIAS to enter into an agreement with the corresponding Eligible TEI.

54. Two coordination committees will guide the implementation of this component: a management committee and a technical committee, comprising members from four institutions, the MEN, COLCIENCIAS, ICETEX, and the Ministry of Commerce. The management committee will consist of the heads of the institutions or their delegates and its role will be to provide overall policy guidance to the project. The members of the technical committee will come from the same institutions. The technical committee will meet to review the operational plan and procurement plans to guide COLCIENCIAS, and to provide guidance to COLCIENCIAS in the technical aspects of implementation of the component (for example, to propose revisions to the Operations Manual). Most of the operational decisions associated with the daily operation of the grants will be under the purview of COLCIENCIAS.



55. The competitive research grants will be managed by the IPs under the leadership of an accredited institution. These partnerships will be formed under a special cooperation agreement, defined in the Science and Technology Law (*Ley 1286 de 2009*) that provides them with the legal authority to sign contracts and manage research funds. These partnerships are signed under joint responsibility of all members and all members are collectively responsible for the project implementation and fund use. Before any transfer of funds to these partnerships, they will have to enter into a contractual arrangement (“Non-Accredited TEI Agreement”) with COLCIENCIAS and *Fiduprevisora S.A.*, representing *Fondo Caldas*, which will specify, among other things, the uses and reporting of funds and procurement and financial management rules, as well as monitoring and reporting mechanisms.

56. The Project’s implementation risk is assessed as moderate. ICETEX has previously implemented three Bank-financed operations, during which the institution’s implementation capacity was strengthened through technical assistance from the Bank and by accumulated experience. Satisfactory ratings of the implementation of these projects, as demonstrated in the latest Implementation Status and Results report of ACCES II, reflect this robust capacity.

## **B. Results Monitoring and Evaluation**

57. The monitoring and evaluation for all indicators of the project will be undertaken by ICETEX. The coordination unit will be responsible for collecting information from different institutions for reporting on the agreed results as defined in the results framework as well as overall implementation of the project. Data on PDO indicators will be provided by the MEN. Progress on intermediate indicators will be reported by operational units within ICETEX and COLCIENCIAS that are in charge of implementation. All indicators will be disaggregated by gender whenever possible.

58. COLCIENCIAS will supervise, monitor and evaluate the projects financed through the competitive research grants. This will include the verification of results achieved by the different partnering institutions using their monitoring units. As the Bank counterpart, the PCT in ICETEX will review the relevant information and send biannual progress reports to the Bank, which include all the documentation of progress toward accomplishment of targets in the results framework. Contract supervisors, presently assigned to the Commercial and Marketing Office, will be responsible for monitoring ICETEX’s contracts with TEIs. The PCT will also be responsible for the impact evaluation.

## **C. Sustainability**

### ***Financial Intermediary Assessment***

59. As the intermediary financial institution of a World Bank credit line, ICETEX was subject to an appraisal process to ensure satisfactory compliance with eligibility criteria for Financial Intermediary Financing. This is the fourth World Bank loan supporting ICETEX for lending activities to disadvantaged undergraduate students. The institution has consistently improved its portfolio administration and collection practices, along with its ITS.



However, challenges remain in terms of achieving sound and steady portfolio quality indicators and increasing levels of total debt recovery. Current financial capacity and future sustainability of ICETEX is highly dependent on government budget support and on the planned improvements in management and diversifying funding sources to expand current coverage of student loans.

60. ICETEX fulfills a fundamental role in the provision of long term financing for tertiary education in Colombia. There is no market for long-term financing of education and private players, mostly commercial banks, only provide short to medium term loans for education purposes. ICETEX is a state-owned financial institution with a lending portfolio of about COP 3.2 trillion and is the sole provider of long-term student loans in the country. ICETEX key financial soundness indicators will be closely monitored throughout project implementation to ensure continued strengthening of overall financial performance. Currently, ICETEX holds COP 3.7 trillion in assets and COP 2.2 trillion in total equity. Total debt accounts for 22.4 percent of total assets and comprises mainly the existing World Bank loan.

61. The credit line will finance long-term student loans with an expected tenure of maximum 16 years, which includes five years of disbursements and no repayments, one year grace period after finalization of studies, and 10 years of loan repayment. As a general rule, the actual repayment period for a subloan will be equal to double the time of studies that were financed. There are no single borrower limits and a maximum of 100 percent of tuition can be financed, provided eligibility criteria is met. Total maturity of the subloans will be determined by the required financing and length of the tertiary studies. For students starting their first semester, the loan disbursement period could range from a minimum of three to a maximum of five years of study. Similarly, for students applying for a loan while already enrolled in a TEI, the loan disbursement period and total maturity will be shorter. There will be no sectoral or geographical restrictions, apart from those incorporated already in the selection criteria. The sub-loans will be extended on special financial conditions, including an interest rate subsidy granted by the Government to guarantee a zero percent real interest rate to the selected low-income beneficiaries, as well as a fixed real interest rate of 10 percent for the rest of the beneficiaries. All sub-loans, including subsidized (IPC+0 percent) and non-subsidized (IPC+10 percent) are indexed to the end-of the previous year annual inflation. The decision on the real interest rate to be charged for long-term student loans lies with the Board and is formalized annually through the '*Reglamento de Crédito del ICETEX*' (ICETEX Loan Bylaw).

62. The subsidies are transferred to ICETEX directly by the Ministry of Finance based on previous agreement and planning with the Ministry of Education. Subsidies are calculated annually based on the overall existing portfolio, origination of new subsidized loans and expected loan renewals, taking into consideration the agreed real interest rate for each sub-loan. The agreed real interest rate is fixed at the time of loan origination and remains unchanged for the duration of the loan. The Ministry of Education is responsible for managing the budget process with the Ministry of Finance and DNP on behalf of ICETEX.

63. While ICETEX maintains a relatively sound operational structure, portfolio quality presents a major challenge for the financial soundness and operation of the institution. Despite continuous improvement over recent years, loan portfolio quality indicators are well above desired levels. Non-performing loans stood at 22.4 percent as of September 2016. The indicator has significantly improved due to a stricter policy on loan write-



offs, combined with enhancements introduced in loan collection and recovery processes. The institution has also been making efforts to increase loan loss provisions, with the current level at 15.2 percent. In line with these efforts, profitability indicators have decreased in the past two years mainly due to the increase in loan loss provisions and loans written off. Return on assets decreased from 8.2 percent in June 2015 to 3.9 percent in June 2016. Similarly, return on equity went from 14.1 percent to 6.6 percent in June 2016. Throughout project implementation, portfolio quality and debt recovery ratios will be closely monitored. In addition, semi-annual project progress reports will include a detailed report on non-performing loans by region, TEIs and income groups, and will try to identify the main causes behind them.

64. The current financial capacity and future sustainability of ICETEX are highly dependent on government budget support, particularly the programs with implicit interest rate subsidies. The project fits into a larger government policy that supports access to and financing of tertiary education in Colombia. The government-subsidized scheme (established by law) complements the loan facility. Subsidies are only targeted to priority low income segments with clear selection rules established by ICETEX. To cover the associated costs of the subsidy in ICETEX's balance sheet, the Government transfers an amount equal to the 'interest rate subsidy' as part of the annual budget allocation to ICETEX.

65. Areas for further institutional strengthening and development have been identified throughout project preparation, including (i) strengthening corporate governance, (ii) enhancing IT management and information systems, (iii) risk management practices, and (iv) loan collection and debt recovery practices. Progress under these areas will be monitored during project implementation. As part of institutional development and business goals going forward, ICETEX is currently working with the IFC on carrying out an institutional assessment for strengthening corporate governance. Thus, the plan to further improve its financial performance and overall financial sustainability will need to go hand in hand with organizational and corporate governance reforms to help improve professionalization and modernization of ICETEX as a development financial institution. Specific actions would need to include: (i) designing and implementing action plan to strengthen corporate governance, (ii) integrating and consolidating core systems and databases, (iii) developing internal capacity in core areas, including financial planning and risk management, (iv) monitoring progress and indicators under the new structure for loan collection and debt recovery, including newly assumed responsibility for executing judicial processes, and (v) developing a strategy to improve financial literacy of students at loan origination and raise overall awareness of credit issues (i.e. obligations and responsibilities, building credit history, among others). This may include implementing key facts statements and designing targeted awareness-raising campaigns.

### ***Financial Sustainability***

66. ICETEX's main income sources are loan collection and the interest rate subsidies the MEN transfers as an operational income, whereas the main use of resources is the provision of loans and debt servicing. Thus a simple sustainability analysis evaluates whether the amounts of collection and subsidies are enough to cover new loans, as well as renewals for the duration of the loans and debt servicing. Drawing on the projections of the existing portfolio of ICETEX and projecting different scenarios of loan provisions, this analysis shows that as long as targets for loans remain below 64,000 loans per year, the resource needs between 2017 and 2022 for



ICETEX amount to US\$450 million. In addition, as the project moves forward, these projections show that ICETEX will have a positive net cash flow starting in 2022. As a result, the investment is financially sustainable for ICETEX. A more detailed analysis is available in project documents.

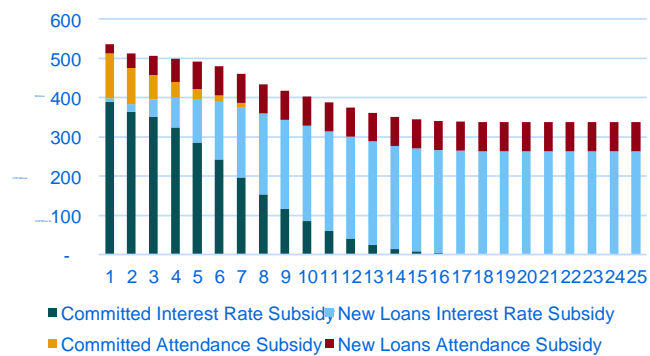
*Fiscal Sustainability*

67. Student loan programs worldwide, especially those that include subsidies, are dependent on transfers from the Government, since education and human capital have positive social externalities and suffer from underinvestment from the private sector in the absence of public intervention. Yet, the fiscal sustainability of this investment depends on the amount of resources needed from the central government for interest rates and subsistence subsidies. To limit the amount for these subsidies, the MEN has capped the number of interest rate

subsidy beneficiaries in each new cohort. In 2016 there will be 22,000 new beneficiaries of 0 percent real interest rate, and from 2017 onward there will be only 20,000. This change will release the MEN investment budget of the current pressure. To maintain the focus on equity levels, ICETEX is strengthening its IPs program to leverage resources from local governments and the private sector to lower the cost for students.

68. To be able to attain its proposed goals, ICETEX has received a AAA rating from Fitch Ratings in Colombia. ICETEX estimates show that the proceeds from the Bank loan are critical to maintain ICETEX's current coverage of students. Thereafter, ICETEX will be able to achieve a sustainable operation—while maintaining current coverage ratio—through government transfers (which will stabilize around 45 percent of ICETEX's total income by 2016), improved portfolio collection, and an increase in other alternative sources of income. Efforts have also been made on the cost side. Total administrative costs have been decreasing from 6 percent of total costs in 2006 to 3.1 percent in 2012. In a worst-case scenario, in the absence of external credit and with all other conditions being equal, portfolio simulations suggest that ICETEX will still be sustainable in the long term. In this case, however, the coverage ratio will need to be adjusted from the current 22% of the targeted population to 15% for the period 2017-2040.

Figure 2: Subsidy Distribution 2016 Prices





69. ICETEX is nonetheless reducing its dependency on governmental transfers. Loan repayment will be enhanced through a number of initiatives, including prevention programs that increase financial literacy strategies for prospective and current beneficiaries, and increased contact with students during and after their tertiary studies. Collection efficiency will be strengthened through improved and targeted strategies for debt recovery, which will be based on recently developed risk management models, paying particular attention to the portfolio at risk between 0 and 60 days. Collection of the portfolio past due more than 60 days will continue to be monitored with targeted strategies and the call center will continue to be outsourced to specialized collection companies, while the portfolio management and collection responsibility remains with ICETEX. ICETEX is currently working on improving the existing contracts to enhance performance and strengthen the overall monitoring of call center companies. ICETEX will also receive technical assistance under the Project to explore other possible funding sources including the creation of an endowment, public-private partnerships, and the Friends and Beneficiaries of ICETEX Fund through which former recipients of student loans will fund current students.

#### **D. Role of Partners**

70. AFD will provide US\$150 million to ICETEX for three years to finance undergraduate student loans in a similar way as Subcomponent 1.1 (Undergraduate Student Loans). The projects were prepared in parallel, with participation of AFD members in the discussions at all stages of preparation. AFD's project objective is aligned with this project, as is the target population and the results indicators for Subcomponent 1.1. The implementation of the AFD project will also use the same mechanisms and teams in ICETEX as the World Bank project.

71. IFC is carrying out an institutional assessment to support the strengthening of corporate governance of ICETEX. This support will assist ICETEX with its future institutional development and business goals. The project is engaged in this assessment, as its outcomes will contribute to the implementation of Component 3.

### **V. KEY RISKS**

#### **A. Overall Risk Rating and Explanation of Key Risks**

72. **Risks.** The overall risk rating for the proposed Project is assessed as moderate. Most risk categories have a moderate or low rating, reflecting ICETEX's strong institutional capacity and proven record as a reliable partner and implementing agency, and the Project's broad political support, anchored in the NDP's priority of the education agenda. However, the fiduciary risk is substantial due to the complexity of the institutional arrangements for Component 2, including COLCIENCIAS/*Fondo Caldas* implementing Competitive Research Grants carried out by eight university Alliances. The plurality of institutions involved will necessitate efficient coordination among institutions and guidance and support for institutions with less capacity and/or experience carrying out this type of grant. These risks are mitigated by well-defined administrative agreements and a detailed Operation Manual, which outlines coordination mechanisms to guide project implementation and



limits the role of management and technical committees in the day-to-day operation of the project. The selection of COLCIENCIAS as the implementation agency is another mitigating factor, given the institution’s strong experience and capacity for funding competitive research projects in Colombia, including under the Bank-supported Strengthening the National System for Science, Technology and Innovation project (P117590). The overall project risk for procurement is also substantial, taking into account that most of procurement activities will be carried out by grant beneficiaries. To mitigate this risk, COLCIENCIAS will supervise all procurement activities with its own specialized staff and/or consultants who have significant experience in Bank-funded procurement.

**VI. APPRAISAL SUMMARY**

**A. Economic and Financial Analysis**

73. The expected economic value of the project takes into account the returns to the main actors involved: students, TEI, ICETEX and the GoC. The analysis is conducted separately for the student loans component, the *creditos condonables* component, and the competitive research grants component.

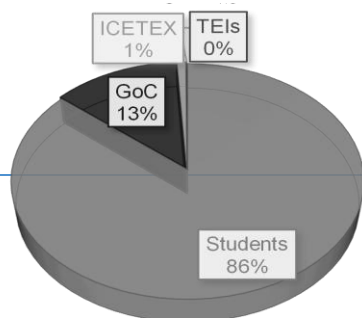
74. Student loans. Table 1 outlines the anticipated costs and benefits for each actor in the cost-benefit analysis. While certain cost-benefits are net transferences among the actors, the highest social returns derive from the increase in income perceived by the students in the labor market once they graduate, as compared to the income they would otherwise have with only a high school diploma.

**Table 1. Implementation and Benefits of the Project – Principal Actors**

	<b>Students / Graduates</b>	<b>TEIs</b>	<b>ICETEX</b>	<b>Government of Colombia</b>
<b>Study Period</b>	- Attendance Cost	- Operative Costs		
	- Tuition Cost	+ Tuition Cost		
	+ ICETEX Disbursements		- ICETEX Disbursements	
	+ Attendance Subsidy			- Attendance Subsidy
	+ Interest Rate Subsidy		+ Interest Rate Subsidy	- Interest Rate Subsidy
	- Interest Rate Subsidy			
<b>Graduation Period</b>	+ Δ Income		+ Principal Payments ICETEX	
	- Δ Social Security Contrib.		+ Interests Payments ICETEX	+ Δ Social Security Contrib.
	- SISBEN Subsidies access			+ SISBEN Subsidies access
	+ Interest Rate Subsidy		+ Interest Rate Subsidy	- Interest Rate Subsidy
	- Interest Rate Subsidy			

Source: Author mapping of project actors based in Nakajima (2016)

**Figure 3. Distribution of Social Returns**



75. The net present value (NPV) of the investment, considering cohorts until 2040 and their working life-spans, is COP 360 billion (US\$120 million at exchange rate

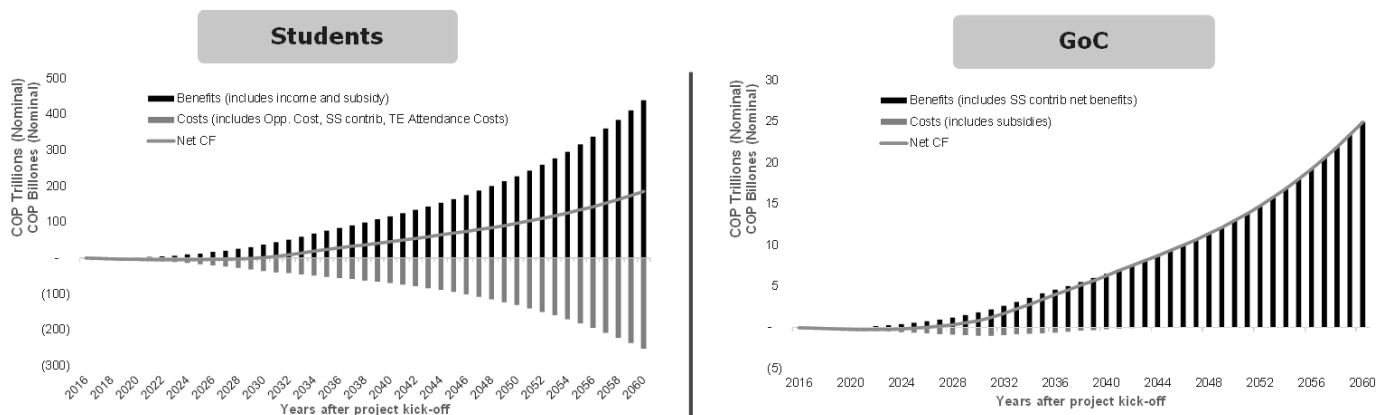




of COP 3,000 per U.S. dollar,—currently assumed) at 2016 prices, discounted at an interest rate of 6.77 percent. This NPV is distributed among students (86 percent), the GoC (13 percent), ICETEX (1 percent), and the TEIs (0.1 percent).

76. Students’ NPV of COP 310 trillion (US\$103.3 billion) also represents an internal rate of return of 17.7 percent Annual Percentage Rate (APR) for the total cash flow of the students, which includes the opportunity costs (high school diploma income), the increase in social security contributions, and the costs associated to tertiary education, as well as the benefits, which include the change in income and the attendance subsidy received. On the other hand, the GoC invests the different subsidies related to the program and receives as benefits the increase in social security contributions. If the current state of these variables is a good approximation to the future, the GoC will receive an internal rate of return on its investments of 25.9 percent APR, while it will perceive an NPV of COP 46 trillion (US\$15.3 billion at the currently assumed exchange rate). TEIs will generate an NPV of COP 360 billion (US\$0.12 billion) after covering their operational costs. ICETEX will receive COP 3.11 trillion (US\$1.03 billion) after accounting for the default rates and its implicated projected loss over the loan recovery. This amounts to an internal return on the investment of 9.54 percent APR.

Figure 4: Cost-benefit analysis



### Economic Analysis of Component 2

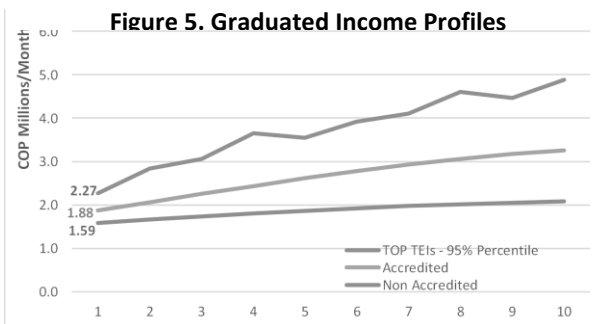
77. The main outcome anticipated from Component 2 is an increase in the quality of the TEIs. To achieve this increase, three key goals are considered: (a) the consolidation of research and innovation capacities; (b) the strengthening of the academia-industry links; and (c) the support for accreditation processes. While there is extensive literature on the benefits of investing in R&D on growth and from the increased level of connections among the academy and the industry, it remains difficult to gain quantitative insights. However, the overall projected impact on the quality of tertiary education will generate a positive return from an increased level of income expected by students in the labor market.



78. Through this component, the TEIs may be able to receive either grants or credits. Since investments in TEIs are comprehensive, they have the potential to effectively improve their quality and relevance. Investments through the Competitive Research Grants will be used to improve quality indicators, to strengthen the research and innovation capacity, and to stimulate the academia-industry synergies. The positive impact on growth of the investment in research and innovation, in particular public investment, is well documented.<sup>19</sup> Although R&D is mostly concentrated in universities and the Government, the investments in research by the productive sector are more likely to introduce innovation.<sup>20</sup> Through the credits, the investments are to be mainly focused on the improvement of infrastructure, the faculty, and the upgrading of curricula. Thus, both grants and credits will have a positive effect on the quality and relevance of tertiary education.

79. As the quality and relevance of tertiary education expands, it is estimated that the attainable income of its graduates will increase. The NPV of this component was calculated under that assumption, and considering cohorts until 2030, since the benefits from the increased income will be part of the entire career of the graduates, starting in 2020 to allow the implementation of the project to kick in. As in the economic analysis of Components 1 and 3, a couple of assumptions were made: increases in the quality of education will directly relate to increases in the wages of those students receiving degrees at participant universities. Leading TEIs have already attained their high-quality accreditation, whereas participant TEIs will attain high-quality accreditation, at least in the related program once the project is implemented. It is assumed this will be related to an increase in program graduates' wages. The differential is estimated as the main return to the project. Before presenting the results, it is worth mentioning that this is not the only expected return as it is also anticipated that the cooperation between TEIs will lead to spin-offs or patent registrations, which could affect the productive sector and which cannot be properly assessed with the available information.

80. According to the *Observatorio Laboral*, labor income once a graduate joins the labor market is COP 1.59 million for non-high-quality accredited BA degrees, COP 1.88 million for high-quality accredited BA degrees, and COP 2.27 million for graduates from the established leading TEIs. Under these assumptions and considering a discount rate equal to the inflation rate plus an opportunity cost of 5 percent, for those students graduating in leading universities, the project will be related to an increase in the NPV over their lifetime of COP 173 million (US\$57,666). Other participant universities' graduates will see their lifetime labor income increase by COP 262 million (US\$87,333).



81. For the aggregated return, the average graduation cohort of high-quality accredited TEIs and the graduation rate increase of the last three years were considered, according to the *Observatorio Laboral*. It is found that the representative research ecosystems will be related to an NPV of COP 61 billion (US\$20.33 million) and a return on the investment of 12.44 percent APR.

<sup>19</sup> Agénor, P. R., and K. C. Neanidis. 2015. Innovation, public capital, and growth. *Journal of Macroeconomics*.

<sup>20</sup> OECD. 2015. Science, Technology and Industry Scoreboard: Innovation for growth and society.



## B. Technical

82. The rationale of the selected technical approach is based on previous experiences with the World Bank support to ICETEX and international evidence and best practices. Components 1 and 3 build on the experience gained and lessons learned from these previous engagements, especially from the ACCES II - Series of Projects Phase 2, whereas Component 2 incorporates lessons learned and captured in international evidence. Together, all the components are directed toward the achievement of the objective to improve the quality of tertiary education and to increase the enrollment of students from disadvantaged socioeconomic backgrounds.

83. The program is expected to positively affect (a) access, by supporting new enrollment to tertiary education through student loans and *creditos condonables*; (b) equity, by creating opportunities for students from lower socioeconomic strata, who would otherwise not have access to tertiary education; (c) quality, by encouraging students to pursue their education in high-quality accredited programs and through research and innovation projects that will enhance the capabilities of TEIs; and (d) relevance, by articulating those investigative and innovative capacities with regional and the productive sector needs.

84. The main changes introduced within the new model for student loans, *Tu Eliges*, were aligned to the objectives of increasing enrollment, equity, and the focus on quality. This program puts together long-, medium- and short-term repayment options, eliminating restrictions for the more disadvantaged students, with interest rates to be assigned depending on the socioeconomic background and academic merit of the student. In addition, ICETEX has sought to substitute subsidies to increase the number of benefited students. The *Alianzas* scheme is introduced as a way to alleviate the debt burden of low-income students. The *Alianzas* are an agreement between local governments and ICETEX, in which the former commits to pay part of the students' tuition costs, reducing the size of the student debt and allowing a lower interest rate (although it does not commit to subsidize the interest rate). On the other side, parallel processes will support the improvement of the quality of tertiary education through two different instruments: (a) the development of STI and R&D activities and (b) the support of accreditation processes.

85. Other international practices have highlighted the importance of stronger monitoring and evaluation mechanisms and efficient sustainability plans, two elements that have been carefully considered during the design of the project. In addition, ICETEX has implemented best practices among financial institutions worldwide, and it continues to do so under Component 3.

## C. Financial Management

86. A Financial Management Assessment of ICETEX and COLCIENCIAS was conducted in accordance with the World Bank's policy OP/BP 10.00 for the implementation of PACES. Given the complexity of the institutional arrangements under Component 2, the assessment has concluded that to have adequate financial management arrangements in place for project implementation, important mitigation measures have to be implemented, such as (a) an Operational Manual with clear roles and responsibilities of participating entities in



the project, including but not limited to ICETEX, COLCIENCIAS, *Fondo Caldas*, and the Institutional Partnerships (TEIs Alliances); (b) the Subsidiary Tripartite Agreement between ICETEX, COLCIENCIAS, and *Fondo Caldas*; (c) COLCIENCIAS develops the instrument for the grant calls (*Convocatorias*); (d) COLCIENCIAS hires qualified financial and procurement specialists and an accountant to support and supervise the financial management by the TEIs Alliances; (e) the external audits include an interim review of the TEIs Alliances; (f) the TEIs Alliances prepare annual operating and procurement plans, documents that will be the basis for periodic monitoring and for the preparation of interim financial reports (IFRs) and cash forecasts; (g) project disbursements under the Research Ecosystem component will be based on International Financial Reporting Standards with cash projections for the next six months.

87. **Organizational structure.** ICETEX's PCT will be reporting to the project manager, the current director of the Planning Office. The PCT will be integrated by three coordinators and a supporting team. A financial specialist within ICETEX's Finance Vice-presidency will be responsible for the accounting and financial reporting of project activities. ICETEX components are implemented by the Vice-presidency of Credits for the loans to students (*Tu Eliges*) subcomponent and the Special Unit for *Colombia Científica* within the Office of International Relations for the subcomponent 1.2.

88. COLCIENCIAS PCT will be comprised of: a project coordinator reporting to the Promotion of Research Directorate; two technical professionals for each TEIs Alliance to support and monitor their project activities; and the World Bank Group responsible for the fiduciary aspects of the component.

89. **Staffing arrangements.** As in the current Bank-financed project with ICETEX, Loan 8354-CO, the financial specialist within VFN will be responsible for the accounting and reporting of the project, including consolidation of the Research Ecosystem financial information reported by COLCIENCIAS. COLCIENCIAS will hire qualified Financial and procurement specialists, staff that will provide the TEIs Alliances technical assistance and monitor the financial and procurement management.

90. **Budgeting arrangements.** ICETEX, as the Borrower and executing entity, will be responsible for preparing and monitoring the annual operating plan and the respective budget, including the budget and execution of the funds managed through COLCIENCIAS. The VFN is responsible, in coordination with the General Secretariat and Planning Advisory Office, for the preparation of the annual budget and its implementation. The budget will follow its established procedures monitored through Apoteosys, its budget and accounting information system.

91. **Accounting and financial reporting.** ICETEX's financial management information system, Apoteosys, integrates the budget, accounting, treasury, and vendor modules. The accounting information is reconciled on monthly basis with the loans to students' portfolio information system (C&CTEX), arrangements that will support the *Tu Eliges* program. The chart of accounts and the Apoteosys system will reflect the accounting and reporting of the project expenditures under the other project components, including the control of funds transferred to COLCIENCIAS and the respective expenditure justifications provided by COLCIENCIAS. The accounting information will be complemented, for withdrawal applications and financial reports for project purposes, with information captured within off-balance sheet accounts (*Cuentas de Orden*). COLCIENCIAS will



maintain an adequate financial management system to monitor the budget and accounting of the Component 2 and will implement an accounting software, to account for the project operating costs incurred by COLCIENCIAS and consolidate the information reported by the TEIs Alliances under semester IFRs submitted within 30 days after the semester being reported.

92. COLCIENCIAS will ensure that the information regarding Component 2 contained in the IFRs submitted to the Bank every six months is supported by adequate records and supporting documentation in accordance with Bank requirements. IFRs once reviewed, approved and recorded, along with the cash forecasts and technical reports, will be consolidated and submitted to ICETEX within 60 days after the semester being reported. At the same time ICETEX will account and consolidate the information for the preparation of the IFRs, which are to be submitted to the Bank within 60 days of the semester being reported. Format and contents of the IFRs, at the three levels, TEIs Alliances, COLCIENCIAS and ICETEX, are defined and included in the project Operational Manual. The IFRs will serve as a basis for the annual financial statements to be audited and the interim review to the TEIs Alliances.

93. Monitoring and conciliation of the transfers to the Higher Educational Institutions (HEIs) for loans to undergraduate students will continue under the Vice-presidency for Operations and Technology (*Vicepresidencia de Operaciones y Tecnología*). The project will finance US\$92 million of the *Tu Eliges Program* out of which approximately 95 percent of the funds will be channeled to over 220 HEIs. ICETEX, COLCIENCIAS and the TEIs Alliances should retain all records (contracts, orders, invoices, bills, receipts and other documents), evidencing expenditures under their respective parts of the project until at least the later of (a) one year after the Bank has received the audited financial statements covering the period during which the last withdrawal from the Loan Account was made; and (b) two years after the Closing Date. ICETEX and COLCIENCIAS shall enable the Bank's representatives to examine such records.

94. **Internal controls.** ICETEX has well established internal control and procedures, while COLCIENCIAS has some areas that need to be improved. Nevertheless, the proposed institutional arrangements with COLCIENCIAS comprises mitigation measures, including strengthening of the PCT technical and fiduciary teams, periodic on-site supervision of the TEIs alliances, monitoring by ICETEX, and the external audit interim reviews of the TEIs Alliances. The project operational manual incorporates aspects such as: (a) roles and responsibilities of participating entities in the program, ICETEX, COLCIENCIAS, *Fondo Caldas*, and the TEIs Alliances; (b) the fiduciary aspects applicable to ICETEX, COLCIENCIAS, *Fondo Caldas*, and the TEIs Alliances; (d) methodology for the allocation of the program resources; (e) the tools to be applied for the monitoring of the loans and performance of the program; (f) procedures within COLCIENCIAS for: (i) the grant calls (*convocatorias*) and their evaluation, (ii) the monitoring activities of the technical and fiduciary activities carry out by the TEIs Alliances; (g) the agreed IFRs; and (h) mitigation measures for the disbursements to the TEIs Alliances, such as: (i) COLCIENCIAS maintains at all times an updated monitoring program of the TEIs Alliances, in the technical and fiduciary aspects; (ii) first disbursement to the TEIs Alliances is subject to COLCIENCIAS assessment of their adequate financial management capabilities, including staff in terms and qualifications satisfactory to the Bank; (iii) COLCIENCIAS maintains qualified financial and procurement specialists to supervise and provide TA and training to the TEIs Alliances: (iv) Operating Manuals include positive and negative lists, and eligible and ineligible expenditures, to be financed under the project; (v) disbursements of additional funds are subject to



forecast for the next semester for activities programmed in the annual operating and procurement plans; and (vi) COLCIENCIAS performs semi-annual visits to the TEIs Alliances and conducts an annual evaluation on the progress of the planned activities and indicators.

95. **Disbursement and Flow of funds.** Overall disbursement arrangements will follow standard disbursement policies and procedures established in the Disbursement Guidelines for Investment Project Financing and in the Disbursement Letter of the Project. The following disbursements methods will be used: (i) reimbursement for component 1 implemented by ICETEX, loans to undergraduate students (*Tu Eliges*) and *creditos condonables* to graduate students, and (ii) advances to a designated account for component 2 implemented by COLCIENCIAS, to finance the Competitive Research Grants for IPs and COLCIENCIAS’s management costs. For the latter component, ICETEX will open a designated account in US Dollars at the Citi Bank from where funds will be transferred to COLCIENCIAS and deposited in a separate account in pesos at the Banco BBVA, account managed by *Fondo Caldas*. Disbursements for project eligible expenditures, via reimbursements or advances, will be IFRs based. ICETEX will submit to the Bank a provisional IFR in Pesos for component 1, and the Bank will reimburse the reported expenditures for the semester, or more often, as needed. ICETEX will submit a consolidated IFR covering one semester for all components in US Dollars for advances requests and documentation of project expenditures under component 2. Advances to the designated account, with a variable ceiling, will be based on the forecast of cash flow for one semester, derived from the programmed costs in their annual operating and procurement plans, for both COLCIENCIAS and the Partnerships (TEIs Alliances). The continuity of the IFRs-based disbursements for the TEIs Alliances will be subject to the auditors’ opinion on the eligibility of the expenditures reported in the IFRs; satisfactory TEIs Alliances’ financial management performance; and the submission of acceptable audit reports within the contractual date; otherwise, the World Bank will evaluate suspending disbursements or agreeing mitigating measures.

96. **Project operating costs.** The project will finance the incremental costs incurred by COLCIENCIAS under the Competitive Research Grants for IPs of Component 2, related to the contracting of *Pares* (Peer reviewers from international TEIs) for the evaluation of proposal and annual supervision of the TEIs Alliances, technical and fiduciary staff, and related expenses for the monitoring and support required under the component.

**Table 2: Disbursement Categories**

Category	Amount of Loan to be Financed (US\$)	Percentage of Loan to be Financed (US\$)
1. Student Loans under Subcomponent 1.1	<b>92,000,000</b>	<b>100%</b>
2. <i>Creditos condonables</i> under Subcomponent 1.2	<b>12,000,000</b>	<b>100%</b>
3(a) Grants under Component 2 (i)	<b>53,400,000</b>	<b>100%</b>
3(b) Goods, non- consulting services, consulting services, operating costs and training under Component 2 (ii)	<b>2,600,000</b>	<b>100%</b>
Total Project Costs	<b>160,000,000</b>	

97. **Audit arrangements.** The project annual financial statements will be audited by a private firm under terms of reference and list of audit firms acceptable to the Bank. As part of the external audit, the auditors will conduct an interim review of the activities implemented by the TEIs Alliances, covering the first semester of the



fiscal year and the results of the review will be communicated in a management letter within 90 days after the semester reviewed. The project annual audited financial statements will include an opinion on the eligibility of the expenditures incurred by the TEIs Alliances and reported in the IFRs, report to be submitted to the Bank not later than six months after the end of each audited period along with the entity, ICETEX, audit financial statements. Project audit costs, components implemented by ICETEX and COLCIENCIAS, will be financed by ICETEX.

98. According to the Policy on Access to Information of the Bank-financed operations, the Borrower will disclose the project audited financial statements in ICETEX and COLCIENCIAS’ web sites. Following the Bank’s formal receipt of these statements from the Borrower, the Bank will make them available to the public in accordance with the World Bank Policy on Access to Information.

99. **Retroactive financing.** The project will finance up to US\$200,000 in retroactive expenditures incurred from January 1, 2017 (but in no case more than 12 months before the date of the Loan Agreement), to the date of the Loan Agreement is signed, to finance COLCIENCIAS’ expenditures for goods, consulting services, non-consulting services, training and operating costs under Component 2.

100. **Counterpart contribution.** ICETEX will finance the operating costs for the project coordination, including the core project support team and the institutional strengthening component, estimated in US\$307 million. The TEIs Alliances will provide in-kind contribution up to 30 percent of their proposed costs.

101. **Implementation support.** The financial management team will monitor the implementation of the action plan resulting from the assessments of ICETEX and COLCIENCIAS, to ensure the successful implementation and that the deadlines are met. During project implementation, semiannual financial management supervisions will be conducted, including selective supervisions at the TEIs Alliance level, and the review of the periodic unaudited IFRs, interim audit review reports, and the annual external audit.

Table 3. FM Action Plan

Action Plan	Completed by
1. Subsidiary tripartite agreement between ICETEX, COLCIENCIAS, and Fondo Caldas a. Acceptable draft approved by the Stakeholders and the Bank b. Agreement is signed	Negotiations Effectiveness ( <i>effectiveness condition</i> )
2. ICETEX and COLCIENCIAS have established the PCT	Negotiations
3. COLCIENCIAS has fiduciary team in place for the management of the grants Component	Effectiveness condition for Component 2
4. Acceptable draft of model contract between COLCIENCIAS, <i>Fondo Caldas</i> and the TEIs for competitive research grants	Negotiations



#### D. Procurement

102. **Procurement will be conducted according to the World Bank's 'Procurement Regulations for IPF Borrowers', issued in July 2016**, for the supply of goods and non-consulting and consulting services under Component 2. The World Bank's Standard Procurement Documents will govern the procurement of World Bank-financed Open International Competitive Procurement. For procurement involving National Open Competitive Procurement, and other methods, the documents will be agreed with the Bank.

103. **Procurement activities will be undertaken by COLCIENCIAS's PCT at the central level and grants' beneficiaries at the subproject level.** ICETEX is the borrower and will be the entity responsible for the entire implementation of the project, and will directly implement components 1 and 3. COLCIENCIAS will support ICETEX in the implementation of Component 2.

104. A procurement capacity assessment was carried out to ICETEX and COLCIENCIAS in September 2016, and the analysis concluded the following:

- (a) The two entities have experience in dealing with projects funded by the Bank, however, for the implementation of this project, complex and clear institutional arrangements are required to ensure proper implementation.
- (b) ICETEX has created a PCT that will be led by the director of Planning Office of the entity. This PCT will be responsible for the implementation of the components under its responsibility with the support of ICETEX's institutional structure. For Component 2, this ICETEX's PCT will be responsible for coordinating and monitoring the implementation by COLCIENCIAS.
- (c) No procurement activities were identified to be carried out by ICETEX. Component 1, consisting of loans to students (*Tu Eliges*) and the master's and PhD *creditos condonables* for graduate students to be granted (*Pasaporte a la Ciencia*); and Component 3, ICETEX's institutional strengthening, financed with counterpart funds.
- (d) COLCIENCIAS is the entity responsible for science and technology in Colombia and will be responsible for the implementation of Component 2. COLCIENCIAS is the Administrative Department of STI and the assessment reviewed the organizational structure, the staff responsible for procurement, the relationship between the procurement, technical, administrative, and financial offices, the Operation Manual, and the supervision and controlling systems. The analysis concluded that COLCIENCIAS is an entity that operates under a clearly defined legal framework with clear internal procedures and has the expertise to manage and supervise the implementation of the competitive grants.
- (e) For the implementation of the Component 2, COLCIENCIAS will manage the procurement activities through the Directory for the Advancement of Research (*Dirección de Fomento a la Investigación*) with the support of the Multilateral Financing Group (*Grupo de Banca Multilateral*), that will include a dedicated and experienced procurement specialist for supervision, monitoring and technical assistance. The flow of funds to COLCIENCIAS will channel through its *Fondo Caldas*, which will be responsible for signing contracts that are fully or partially financed with the loan resources under the project and that are required at the central level by COLCIENCIAS's request. At the grants level, *Fondo Caldas* will enter into an agreement between ICETEX, COLCIENCIAS and each member of the IPs that has benefited from the competitive grants. The agreement will establish the obligation to carry out





the procurement activities in accordance with the procedures included in the Project Operational Manual.

- (f) At the subproject level, procurement will be carried out by the beneficiaries in accordance with the rules set forth in this annex and detailed in the Operational Manual. COLCIENCIAS will be responsible for the procurement at the central level and monitoring and supervising procurement conducted by the beneficiaries. COLCIENCIAS will guarantee during project implementation that procurement supervision will be carried out by its own specialized staff or by consultants with significant experience in Bank-funded procurement.
- (g) COLCIENCIAS developed a central level procurement plan for the first 18 months of project implementation. The plan foresees three procurement contracts for goods (US\$139.910), two for consulting services (US\$771.790), ten for project implementation support personnel and sixty-four Individual Consultants (US\$1.436.300).

105. At subprojects' level, most procurement activities will be carried out by grant beneficiaries, who will need to consider the subproject's magnitude and the complexity of the implementation given the nature of the winning research grant proposal.

#### **Procurement Arrangements**

106. **Procurement of Goods and Non-consulting services:** *Project management firm (US\$128,910), accounting software (US\$1,000), and logistics (US\$10,000).* The open national competitive procurement approach is supported by the availability of bidders in the local market and the small contracts planned. The Request for Bids will be the selection method for the project management firm, given that (a) the borrower is able to specify detailed requirements to which bidders respond by offering bids and (b) the services are available in the market. The Request for Quotations will be the selection method for the accounting software and logistics, given that the project involves small contracts and procurement of limited quantities of readily available non consulting services.

107. **Procurement of Consulting Services:** *Assessment of the financial capacity of grants' beneficiaries (US\$171,790).* Considering that this will be a small contract and that there are a number of qualified consultants that can carry out this assignment (consulting firms and audit firms), the suitable market approach will be an open competition in the national market, while Least-Cost Selection will be the selection method (considering the nature of the services and the need to take into account the quality of the proposals and the least cost of the services).

108. *Impact assessment of grants' implementation (US\$600,000).* Considering that this will be an important contract, the suitable market approach will be an open competition in the international market, while Quality- and Cost-Based Selection will be the selection method (considering the nature of the services and the need to take into account the quality of the proposals and the cost of the services).

109. **Project Implementation Support Personnel and Individual Consultants (US\$1,436,300):** Project implementation staff, individuals contracted by COLCIENCIAS to support project implementation, other than individual consulting positions identified in the Legal Agreement, may be selected by COLCIENCIAS according to



its personnel hiring procedures for such activities, as reviewed and found acceptable by the Bank and established in the Operational Manual. Individual consultants identified in the Legal Agreement, will be selected according to the procurement regulations, paragraphs 7.34 to 7.39.

110. **Competitive Research Grants:** Procurement of goods, non-consulting services and consulting services will be carried out in accordance with the procedures set forth in the Operational Manual. Under sub-projects, beneficiaries will decide what investments to make in accordance with their business plans and competitively selected proposals. The grant application will contain a business plan including a simplified procurement plan with a list of the goods and services to be procured and their estimated cost. The hiring of consultant firms and highly specialized individual consultants will also be listed in the grant application and will follow the procedures for hiring firms and individuals established in the Operational Manual. In general, grants under the program shall follow the procedures established in the Operational Manual. Achieving the objectives of the subproject requires financing both procurable (goods, services, and consultants' services) and non-procurable items (such as scholarships and stipends). In each case, the Operational Manual will specify the appropriate documentation necessary for the beneficiaries to keep and to submit as part of the regular reporting process.

#### E. Social (including Safeguards)

111. Colombia has a significant presence of Indigenous Peoples, Afro-descendants and Roma. In the country there are about 87 indigenous peoples, located in *resguardos*, not delimited indigenous bases and territories in different regions of the country. Similarly, the Afro-Colombian population, although located throughout the national geography, has a greater presence in the departments of Valle, Antioquia and Bolívar. On the other hand, the Roma community is a mainly urban population, located in the north and south-west of the country. The legislation in force in Colombia, as of Law 1381 of January 2010, protects the rights of students belonging to indigenous peoples or to Afro-Colombian, raizal and palanqueras communities, among which is to speak their own language and make use of this right in all contexts. Laws, norms, and government policies, enshrined in the National Constitution, insist on the recognition of diversity, respect for cultural differences and participation in education. The presence of indigenous students in Colombian universities is a phenomenon of the last two decades that tends to grow rapidly, given the higher levels of schooling that have been attained in secondary education in recent decades. It is important to recognize that most of the TEIs in the country have policies, programs and mechanisms that address the access and retention needs of people from ethnic groups.

112. The Indigenous Peoples policy OP/BP 4.10 is triggered by the potential presence of indigenous and Afro-Colombians groups among the beneficiaries of the credits and *creditos condonables* granted by ICETEX, or as residents or employees of the IPs. ICETEX, as the leading institution, is responsible for the preparation of an Indigenous Peoples Plan (IPP) that includes Afro Colombians, in coordination with COLCIENCIAS. The processes of free, prior and informed consultation began in August 2016 and the plan was finalized in October 2016. The objective of the IPP is to design, promote and advance activities and strategies that focus on reducing barriers to access, as well as improving the retention and graduation of ethnic groups in higher education in Colombia.

113. The formulation of the IPP was carried out with the participation of the potential beneficiaries belonging to indigenous and Afro-Colombian populations through free and prior consultation on their views. ICETEX



carried out the social evaluation of the project by visiting TEIs, and through focus groups, surveys and a sample of affirmative action plans from universities. Suggested improvements included higher debt forgiveness and expedited processes for handling subsidies. Discussions also addressed the Project's new initiatives (postgraduate *creditos condonables*), which were widely supported. Suggestions noted the special importance of robust support mechanisms for the challenge of study abroad. ICETEX incorporated this feedback in the project design, creating a *Colombia Científica* office in ICETEX, which will accompany candidates interested in studying abroad throughout the process. To generate better opportunities for indigenous and afro-Colombians, additional points will be awarded to these populations in the selection process.

114. ICETEX has established a system to facilitate the submission and resolution of grievances through four channels: virtual, in-person, written and phone. Virtual attention is exclusive for people with loans. In-person attention is offered in ICETEX's offices and 'mobile offices', vehicles that allow ICETEX to provide this service in all regions. Written complaints can be in paper or by email, and a toll-free hotline handles phone inquiries.

115. The IPP includes activities supporting retention and graduation of indigenous and Afro-Colombian beneficiaries, such as maintenance subsidies that support the cost of transportation, food, housing and educational materials, as well as the creation of a virtual support network to share successful affirmative action experiences among TEI, with a focus on reducing dropout. Supporting these students after graduation remains one of the biggest challenges for ICETEX and TEI. To this end, and as part of the IPP, ICETEX will promote the insertion of these populations as technicians, technologists or professionals in the labor market as well as the creation of special information and dissemination channels for job-seeking graduates belonging to these populations. ICETEX will promote an increase in the proportion of beneficiaries under 'constitutional protections' (mainly indigenous people) through prioritization mechanisms in the loan allocation process. The final IPP, satisfactory to the Bank, was disclosed on ICETEX's website and the Bank's website on November 17, 2016.

116. ICETEX has extensive experience and management capacity supporting education initiatives for indigenous peoples. It has implemented the *Álvaro Ulcué Chocué Fund* (since 1990), the 'Special Fund for Educational Credits of Black Communities' (since 1996) and ACCES loans (since 2010), which have strengthened the technical capacity of ICETEX. Moreover, the Project will support technical assistance for safeguards management in ICETEX and for the personnel of COLCIENCIAS involved in Passport to Science.

117. Finally, Colombia presents conspicuous gender biases in its labor market, best illustrated by a male-female wage gap above 20 percent. As in previous operations, the Project seeks to address these gaps by monitoring and securing that women's access to tertiary education loans remains high. Moreover, the project will include a diagnostic study of gender biases and differentials across education and loan access as part of Component 3.

## F. Environment (including Safeguards)

118. The Project is classified as category C. It does not include construction or rehabilitation of infrastructure, therefore the OP/BP 4.01 on Environmental Assessment is not triggered.



## **G. Other Safeguard Policies**

No other safeguard policies are triggered by the project.

## **H. World Bank Grievance Redress**

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).



## VII. RESULTS FRAMEWORK AND MONITORING

### Results Framework

COUNTRY : Colombia

Access and Quality in Higher Education Project - PACES

#### Project Development Objectives

The objective of the project is to improve the quality of tertiary education in participating institutions and to increase the enrollment of students from disadvantaged socioeconomic backgrounds in quality programs.

#### Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Number of students from disadvantaged backgrounds enrolled in tertiary education.		Number	961348.00	1222876.00	Annual	Project Progress Reports/SNIES	ICETEX PCT/ MEN-SDS/DNP
<p><b>Description:</b> Enrollment is defined as the population enrolled in any given year in undergraduate university degree programs, as well as professional technical and technological degree programs. 'Disadvantaged socioeconomic backgrounds' must fulfill one of the following requirements: i) Score below the SISBEN cutoff points agreed on by ICETEX and DNP for the assignment of loans as outlined in the Operation Manual; ii) Be registered in a community with special constitutional protection (e.g., an indigenous person, Afro-Colombian, victim of conflict). Baseline is 2015.</p>							
<b>Name:</b> Percentage of students from disadvantaged backgrounds enrolled in tertiary education who are		Percentage	23.00	33.80	Annual	Project Progress Reports/SNIES	ICETEX PCT/ MEN-SDS



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
enrolled in accredited programs or institutions.							
<p><b>Description:</b> The indicator measures the number of disadvantaged students enrolled in accredited programs or institutions divided by the total number of disadvantaged students enrolled in tertiary education. Disadvantaged students are defined in the same way as in PDO indicator 1. Accredited higher education programs and institutions are defined as the HEIs or programs are those that have been recognized by the Consejo Nacional de Acreditación (CNA, National Accreditation Council) as accredited institutions or programs. Baseline is 2015.</p>							
<b>Name:</b> Percentage of tertiary education institutions participating in the Research Ecosystem projects that increase their score in a composite index of quality of research, teaching, and internationalization		Percentage	0.00	80.00	Annual	MEN	MEN
<p><b>Description:</b> The indicator is calculated as the proportion of all institutions (accredited and non-accredited) participating in the Research Ecosystems that increase their score in the Quality Index with respect to the previous year (not the baseline), over the total number of institutions participating in the Research Ecosystems. The expectation is that the majority of institutions increase their scores every year with respect to the previous one; the target indicates the proportion of institutions that (at least) should achieve progress. The Quality Index for research, teaching and internationalization is defined as a new weighted index, based on the existing index compiled by MEN, across the dimensions of i) teaching, ii) research, and iii) internationalization; MEN will compile a new index for each competitive research grant to capture the dimensions of quality that will be affected by the competitive research grant. This baseline Quality Index will be compiled when the Competitive Research Grant is allocated based on the latest available results. The types of institutions are a) anchor institution, b) non-accredited institution, c) non-anchor accredited institution. The underlying number of institutions is cumulative, meaning that an institutions is considered part of the Research Ecosystem when the Competitive Research Grant is allocated, and it continues to be considered part of the Research Ecosystem after the grant funds are exhausted.</p>							
<b>Name:</b> Number of tertiary education institutions		Number	0.00	8.00	Annual	Project Progress Reports/MEN/CNA	ICETEX PCT/ MEN



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
receiving competitive research grants that formally initiate the institutional accreditation process and that remain active in the Project							
<p><i>Description:</i> Competitive Research Grants, refer only to the research grants outlined in component 2 of this Project. Every Research Ecosystem must have at least one non-accredited institution. The initiation of the institutional accreditation process includes those institutions that are in a stage of accreditation (appraisal of initial conditions, self-evaluation or external evaluation) or have obtained the accreditation recognition by CNA, but did not have such status before obtaining the competitive research grant. Remaining "active" means that the institution continues to contribute to the achievement of the Research Ecosystem's objectives through observable research products. The baseline is calculated with the latest information before each institution joins the Research Ecosystem.</p>							

**Intermediate Results Indicators**

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Number of students from low socioeconomic strata who obtain a loan with ICETEX		Number	40786.00	46080.00	Annual	Project Progress Reports/ ICETEX	ICETEX PCT and VCC
<p><i>Description:</i> The number of loans will be calculated based on all of ICETEX's credit lines. 'Low Socioeconomic Strata' is defined as Colombian strata (estratos) 1 and 2.</p>							
<b>Name:</b> Number of new students from disadvantaged		Number	22696.00	26000.00	Annual	Project Progress Reports/ ICETEX	ICETEX PCT and VCC



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
socioeconomic backgrounds obtaining an ICETEX student loan							
Female Beneficiaries		Percentage	56.00	56.00			
<p><b>Description:</b> Disadvantaged students are defined in the same way as in PDO indicator 1. New students are those who obtain a loan through any ICETEX credit line but did not previously have one; that is, it excludes students who already had an ICETEX loan and renewed it. Obtaining a loan requires both ICETEX approval and legalización (final legal review and approval of application material). Baseline is 2015.</p>							
<b>Name:</b> Number of new student loans given to students enrolled in accredited higher education institutions or programs		Number	44.00	100.00	Biannual	Project Progress Reports / C&CTEX/ SNIES/CNA	ICETEX PCT and VCC/ MEN-VES
<p><b>Description:</b> Baseline is 2016.</p>							
<b>Name:</b> Number of new students from disadvantaged socioeconomic backgrounds obtaining an ICETEX student loan through a partnership or administrative fund		Number	0.00	15000.00	Annual	Project Progress Reports/SNIES	ICETEX PCT/ MEN-VES/DNP
<p><b>Description:</b> Disadvantaged students are defined in the same way as in PDO indicator 1. Partnerships are defined as co-financing arrangements between ICETEX and regional governments (state, departmental, municipal) whereby the regional authority shares the cost of financing a student during the first stage of the student's period of study, as outlined in component 1.1. Administrative funds are similar arrangements but funded entirely by the partner, with ICETEX being in charge of the</p>							





Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
administration of the funds. Baseline is 2015.							
<b>Name:</b> Percentage of students with an ICETEX loan who graduate		Percentage	0.00	0.00			
<p><b>Description:</b> This indicator measures the number of students who enter repayment period having graduated divided by the total number of students who enter repayment period. Graduation data will be provided by SINES in MEN, and will be taken a year previous to the year of entering the repayment period because of the grace period students receive. Only ACCES and PACES loans will be counted. Baseline and Targets will be revised once the indicator is compiled, no later than six months after the Project's effectiveness.</p>							
<b>Name:</b> Number of new student loans given to students who obtain a central government subsidy		Number	22000.00	20000.00	Biannual	Project Progress Reports / C&CTEX	ICETEX PCT and VCC
<p><b>Description:</b> This indicator encompasses students whose student loan is disbursed with an interest rate and/or maintenance subsidy. The number/amount of subsidies is annually determined by MEN.</p>							
<b>Name:</b> Percentage of ICETEX student loan renewals		Percentage	66.00	71.00	Annual	Project Progress Reports / ICETEX	ICETEX PCT and VCC
<p><b>Description:</b> The indicator is defined as the number of renewed loans as a proportion of the loans susceptible to renewal. Loans can be renewed during both the first semester and second semester of the academic year. Baseline is 2015.</p>							



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Percentage of new student loans given to indigenous, afro-Colombians, and Roma people		Percentage	5.40	7.50	Biannual	Project Progress Reports/ C&CTEX	ICETEX PCT and VCC
Description: Student loans given to students registered as belonging to populations with special constitutional protection with the exception of victims of violence.							
<b>Name:</b> Percentage of new student loans given to victims of violence		Percentage	4.30	6.20	Biannual	Project Progress Reports / C&CTEX	ICETEX PCT and VCC
Description: Victims are defined as i) people displaced due to violence and ii) any others defined by Law 1448 of 2011 and its derived regulations. Baseline is 2016.							
<b>Name:</b> Geographic distribution of financed loans to new students in 'remote areas'		Percentage	4.90	7.00	Biannual	Project Progress Reports / C&CTEX	ICETEX PCT and VCC
Description: Nine departments are considered 'remote areas' (zonas apartadas) due to their low-income levels and geographic inaccessibility. They are granted special status for loan allocation purposes. The following departments are 'remote': Amazonas, Arauca, Caquetá, Guainía, Guaviare, Putumayo, San Andrés y Providencia, Vaupés, Vichada, and Chocó. Baseline is 2016.							
<b>Name:</b> Number of Beneficiaries from Passport to Science		Number	0.00	95.00	Annual	MEN	ICETEX PCT



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<p><b>Description:</b> Number of students who receive a grant to complete a master's or doctorate degree in universities in the top 500 of the Shanghai Ranking. The number is cumulative, meaning that a student is considered as a beneficiary of the Passport to Science program even after the grant has been used.</p>							
<b>Name:</b> Number of Beneficiaries from Passport to Science who successfully complete their programs		Number	0.00	75.00	Annual	MEN	ICETEX PCT
<p><b>Description:</b> Successful completion is defined as graduation from the relevant program.</p>							
<b>Name:</b> Number of researchers participating in projects supported by Competitive Research Grants in Research Ecosystems		Number	0.00	160.00	Annual	Project Progress Reports/Institutions/Colciencias	ICETEX PCT and MEN
<p><b>Description:</b> The number of researchers will be calculated from those belonging to the institutions receiving the competitive research grants who are actively participating in the accomplishment of the grants' objectives or those researchers who are hired with the funds of the grants from other institutions in Colombia and internationally. Active participation is defined as providing substantive intellectual contributions to the accomplishment of the Ecosystem's objectives and the development of research products. To be counted as a researcher, the individual must also possess an updated CV in the CvLAC platform of Colciencias.</p>							
<b>Name:</b> Number of researchers from non-accredited universities participating in projects supported by Competitive Research Grants in Eco-		Number	0.00	40.00	Annual	CNA	ICETEX PCT and MEN



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
sistema Cientifico							
<p>Description: Non-accredited institutions or programs are defined as those who were not accredited according to CNA before obtaining the Competitive Research Grant.</p>							
<b>Name:</b> Progress in the accomplishment of accreditation stages for non-accredited institutions in Research Ecosystems		Percentage	0.00	100.00	Annual	Colciencias / CNA	ICETEX PCT and MEN
<p>Description: Progress will be calculated as the average percentage of advancement among the non-accredited institutions participating in the Research Ecosystems. Advancement will be measured in terms of four accreditation stages, with each being equivalent to a certain percentage in the following fashion: (a) 25%: Produce a diagnosis of the state of the different programs, (b) 50%: Attain the "initial conditions" established by CNA, (c) 75%: Produce the first draft of a self-evaluation document, (d) 100%: submit the final self-evaluation document. Baseline is 2016.</p>							
<b>Name:</b> Percentage of Research Ecosystems that accomplish 80% of their progress and result indicators		Percentage	0.00	80.00	Biannual	MEN	ICETEX PCT and MEN
<p>Description: Each Competitive Research Grant is tied to the approval of an Objectives and Implementation Plan that summarizes the goals of the grant, the activities to be financed with the grant and the expected results. The expected results will be summarized in an Objectives Matrix with clear indicators measuring the accomplishment of such goals for each year of the lifetime of the grant. A result indicator will be considered accomplished when the Monitoring Unit certifies it.</p>							
<b>Name:</b> Increase in the number of Research Outputs of the Research Ecosystems		Amount(US D)	0.00	100.00	Annual	Research Ecosystem's supervisors / CTel	Colciencias



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
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Description: Outputs accounted for will be: TBC

<b>Name:</b> Impact evaluations (IEs) have been designed and completed		Text	ACCESS II Impact Evaluation Completed and Published	Final Report of PACES Impact Evaluation	Biannual	Project Progress Reports, SNIES, C&CTEX	ICETEX PCT
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Description: Design and implementation of relevant impact evaluations.

<b>Name:</b> Non-Performing Loans (NPL) Ratio		Percentage	15.15	12.50	Annual	Project Progress Reports, SCC	ICETEX VCC
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Description: This indicator is defined as the value of ICETEX's total portfolio outstanding principal balance of all loans in amortization period due for more than 90 days, divided by the value of the principal balance of the total portfolio in amortization period at the time of reporting. Baseline is 2016.

<b>Name:</b> Debt Recovery Ratio		Percentage	2.20	3.50	Annual	ICETEX, CPT and SCC	ICETEX VCC
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Description: This indicator is defined as the monthly annual (12 months) average value of portfolio collection of debt more than 90 days past due on the value of the principal balance of the total portfolio past due more than 90 days for the period of analysis. Baseline is 2016.



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
<b>Name:</b> Percentage of ICETEX earnings from alternative sources of funding		Percentage	10.00	20.00	Annual	Project Progress Reports/ COBOL	ICETEX PCT, VFA, and VFN

**Description:** Target based on ICETEX’s long-term financial projections. The alternative funding sources include administrative funds (including commissions received, portfolio interest, and fundraising), financial returns on investment (excluding those obtained from cuentas abandonadas), the sustainability fund, and possible new funding sources. Alternative sources do not include loan collection or national government subsidies. Baseline is 2016.

<b>Name:</b> Direct project beneficiaries	✓	Number	281000.00	322000.00	Annual	Project Progress Reports	ICETEX PCT
Female beneficiaries	✓	Percentage	56.00	56.00	Annual	Project Progress Reports	ICETEX PCT

**Description:** Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.



**Target Values**

**Project Development Objective Indicators**

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Number of students from disadvantaged backgrounds enrolled in tertiary education.	961348.00	1048737.00	1090198.00	1131897.00	1174555.00	1222876.00	1222876.00
Percentage of students from disadvantaged backgrounds enrolled in tertiary education who are enrolled in accredited programs or institutions.	23.00	26.90	28.10	30.10	31.00	33.80	33.80
Percentage of tertiary education institutions participating in the Research Ecosystem projects that increase their score in a composite index of quality of research, teaching, and internationalization	0.00	0.00	65.00	70.00	75.00	80.00	80.00
Number of tertiary education institutions receiving competitive research grants that formally initiate the institutional accreditation process and that remain active in the Project	0.00	0.00	0.00	2.00	4.00	8.00	8.00

**Intermediate Results Indicators**

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
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Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Number of students from low socioeconomic strata who obtain a loan with ICETEX	40786.00	43470.00	44160.00	44800.00	45440.00	46080.00	46080.00
Number of new students from disadvantaged socioeconomic backgrounds obtaining an ICETEX student loan	22696.00	22000.00	22400.00	22400.00	22400.00	22400.00	26000.00
Number of new student loans given to students enrolled in accredited higher education institutions or programs	44.00	60.00	80.00	90.00	100.00	100.00	100.00
Number of new students from disadvantaged socioeconomic backgrounds obtaining an ICETEX student loan through a partnership or administrative fund	0.00	10000.00	12000.00	14000.00	15000.00	15000.00	15000.00
Percentage of students with an ICETEX loan who graduate	0.00						0.00
Number of new student loans given to students who obtain a central government subsidy	22000.00	20000.00	20000.00	20000.00	20000.00	20000.00	20000.00
Percentage of ICETEX student loan renewals	66.00	67.00	68.00	69.00	70.00	71.00	71.00
Percentage of new student loans given to indigenous, afro-Colombians, and Roma	5.40	5.50	6.00	6.50	7.00	7.50	7.50





Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
people							
Percentage of new student loans given to victims of violence	4.30	4.50	5.00	5.50	5.80	6.20	6.20
Geographic distribution of financed loans to new students in 'remote areas'	4.90	5.00	5.50	6.00	6.50	7.00	7.00
Number of Beneficiaries from Passport to Science	0.00	0.00	95.00	95.00	95.00	95.00	95.00
Number of Beneficiaries from Passport to Science who successfully complete their programs	0.00	0.00	0.00	45.00	45.00	75.00	75.00
Number of researchers participating in projects supported by Competitive Research Grants in Research Ecosystems	0.00	0.00	80.00	160.00	160.00	160.00	160.00
Number of researchers from non-accredited universities participating in projects supported by Competitive Research Grants in Eco-sistema Cientifico	0.00	0.00	20.00	40.00	40.00	40.00	40.00
Progress in the accomplishment of accreditation stages for non-accredited institutions in Research Ecosystems	0.00	25.00	35.00	60.00	80.00	100.00	100.00
Percentage of Research Ecosystems that accomplish 80% of their progress and result indicators	0.00	80.00	80.00	80.00	80.00	80.00	80.00



Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Increase in the number of Research Outputs of the Research Ecosystems	0.00	0.00	20.00	40.00	60.00	100.00	100.00
Impact evaluations (IEs) have been designed and completed	ACCESS II Impact Evaluation Completed and Published	Design of 1st IE	Data Collection for 1st IE	Data Collection for 1st IE	Analysis of 1st IE Completed	1st IE Completed	Final Report of PACES Impact Evaluation
Non-Performing Loans (NPL) Ratio	15.15	15.00	14.50	14.00	13.50	12.50	12.50
Debt Recovery Ratio	2.20	2.20	2.60	3.00	3.40	3.50	3.50
Percentage of ICETEX earnings from alternative sources of funding	10.00	10.00	13.00	17.00	18.00	20.00	20.00
Direct project beneficiaries	281000.00	305000.00	311000.00	315000.00	319000.00	322000.00	322000.00
Female Beneficiaries	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Female beneficiaries	56.00	56.00	56.00	56.00	56.00	56.00	56.00