



# Board of Executive Directors

## Simplified Procedure

On or after 29 June 2016

PR-4400  
14 June 2016  
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**Public**  
**Simultaneous Disclosure**

**To:** The Executive Directors

**From:** The Secretary

**Subject:** Peru. Proposal for a loan for the project "Improved Levels of Productive Innovation at the National Level"

  

**Basic Information:** Loan type ..... Specific Investment Operation (ESP)  
Borrower ..... Republic of Peru  
Amount ..... up to US\$40,000,000  
Source ..... Ordinary Capital

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**Remarks:** Management has determined that this loan proposal meets the requirements for presentation by Simplified Procedure, in accordance with Part III, Section 2 (paragraph 3.29(b)) of the Regulations of the Board of Executive Directors and document GN-1838-1, paragraph 2.

**Reference:** GN-1838-1(7/94), DR-398-17(1/15), GN-2849(3/16), PR-2965(9/05), DE-91/05, PR-3837(12/11), DE-1/12



DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**PERU**

**IMPROVED LEVELS OF PRODUCTIVE INNOVATION AT THE NATIONAL LEVEL**

**(PE-L1162)**

**LOAN PROPOSAL**

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This document is being released to the public and distributed to the Bank's Board of Executive Directors simultaneously. This document has not been approved by the Board. Should the Board approve the document with amendments, a revised version will be made available to the public, thus superseding and replacing the original version.

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## ABBREVIATIONS

BCRP	Banco Central de Reserva del Perú [Central Reserve Bank of Peru]
CGR	Office of the Comptroller General of the Republic
CITE	Centros de Innovación Productiva y Transferencia Tecnológica de Innovación [Centers for Productive Innovation and Technology Transfer of Innovation]
CRF	Corporate Results Framework
ENIM	Encuesta Nacional de Innovación en Manufactura [National Survey on Innovation in Manufacturing]
FINCYT	Fondo para la Innovación Ciencia y Tecnología [Fund for Innovation, Science, and Technology]
GDP	Gross domestic product
ITP	Instituto Tecnológico de la Producción [Technology Institute for Production]
MEF	Ministry of Economy and Finance
MSEs	Microenterprises and small businesses
MSMEs	Micro, small, and medium-sized enterprises
OECD	Organization of Economic Cooperation and Development
PNICP	Programa Nacional de Innovación para la Competitividad y Productividad [National Innovation Program for Competitiveness and Productivity]
PRODUCE	Ministry of Production
R&D	Research and development
RD&I	Research, development, and innovation
RICyT	Ibero-American and Inter-American Network for Science and Technology Indicators
SEPA	Sistema de Ejecución de Planes de Adquisiciones [Procurement Plan Execution System]
SIAF	Sistema Integrado de Administración Financiera [Integrated Financial Administration System]
SMEs	Small and medium-sized enterprises
STI	Science, technology, and innovation
TFP	Total factor productivity

## PROJECT SUMMARY

### PERU IMPROVED LEVELS OF PRODUCTIVE INNOVATION AT THE NATIONAL LEVEL (PE-L1162)

Financial Terms and Conditions						
<b>Borrower:</b> Republic of Peru			Flexible Financing Facility <sup>(a)</sup>			
			<b>Amortization period:</b>		Bullet by 15 October 2027	
			<b>Original WAL:</b>		Maximum of 11.29 years <sup>(b)</sup>	
			<b>Disbursement period:</b>		7 years	
			<b>Grace period:</b>		Bullet by 15 October 2027 <sup>(b)</sup>	
<b>Executing agency:</b> Ministry of Production (PRODUCE), acting through the National Innovation Program for Competitiveness and Productivity (PNICP) as the execution unit			<b>Inspection and supervision fee:</b>		(c)	
			<b>Interest rate:</b>		LIBOR-based	
			<b>Credit fee:</b>		(c)	
			<b>Approval currency:</b>		U.S. dollars from the Ordinary Capital	
Source	Amount (US\$)	%	Project at a Glance			
IDB (OC)	40,000,000	40	<b>Project objective/description:</b>  The general objective is to contribute to the growth of business productivity by increasing innovation levels. The specific objectives are: (i) enhanced business capacity for innovation; and (ii) improved environment for innovation.			
Local	60,000,000	60				
Total	100,000,000	100				
<b>Special contractual conditions precedent to the first disbursement of the loan:</b>  As special contractual conditions precedent to the first disbursement, the executing agency will present, to the Bank's satisfaction, evidence that: (i) the assistant project coordinator has been appointed, with the Bank's prior no objection; (ii) the project steering committee has been formed; and (iii) the Operating Regulations previously agreed upon with the Bank have entered into effect (paragraph 3.8).						
<b>Special contractual conditions for execution:</b>  The following will be special execution conditions: (i) all terms and conditions for the competitions for the subprojects envisaged as part of the project will have the Bank's prior no objection; and (ii) prior to the signature of agreements between the execution unit and the Technology Institute for Production (ITP) for the financing of subprojects for the public Centers for Productive Innovation and Technology Transfer of Innovation (CITEs), the execution unit will present evidence, to the Bank's satisfaction, that: (a) the ITP has an updated manual of organization and functions; (b) the PNICP has contracted two fiduciary specialists with expertise in procurements and financial management, respectively for the ITP Office of the Secretary General; and (c) the PNICP has approved the operating manual for the execution of projects with public CITEs (paragraph 3.8).						
<b>Exceptions to Bank policies:</b> None						
Strategic alignment						
<b>Challenges:</b> <sup>(d)</sup>	SI	<input checked="" type="checkbox"/>	PI	<input checked="" type="checkbox"/>	EI	<input type="checkbox"/>
<b>Crosscutting issues:</b> <sup>(e)</sup>	GD	<input type="checkbox"/>	CC	<input type="checkbox"/>	IC	<input checked="" type="checkbox"/>

<sup>(a)</sup> Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

<sup>(b)</sup> The original weighted average life (WAL) and the grace period of the loan may be shorter, depending on the effective signature date of the loan contract.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with applicable policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, rationale

- 1.1 Peru has sustained one of the highest economic growth rates in the region over the past decade (6.15% per annum in the period 2005-2014), driven by an increase in total factor productivity (TFP) that accounted for one third of that growth.<sup>1</sup> However, viewed over the long term, Peru still trails the leading countries:<sup>2</sup> Peru's TFP is 49% of the United States level and 76% of the Chilean level.<sup>3</sup>
- 1.2 The factors underlying this productivity gap are related to an economy that is heavily structured around low-tech products and largely populated by very small businesses with high levels of informality and productive heterogeneity. Seventy percent of Peruvian exports are traditional products (Central Reserve Bank of Peru, 2015), and the economic complexity index for the period 2008-2014 was -0.78, compared with an average of -0.29 for Latin America and an average of 1.16 for the member countries of the Organization of Economic Cooperation and Development (OECD). Informality in the labor market is estimated at 78.9% (Social Security and Labor Market Information System, 2013), and small businesses with limited growth potential predominate: there are 1.5 million formal businesses, 92.4% of which are microenterprises, 6.5% are small, 0.3% are medium-sized, and 0.9% are large businesses.<sup>4</sup> Formal businesses are created at an annual rate of two per 1,000 working-age people, compared with nearly five among the OECD countries (IDB, 2014), and growth potential among these startups is limited.<sup>5</sup> There are also productivity gaps by size: microenterprises and small businesses have productivity levels equivalent to 3% and 49.1% of the productivity of large businesses.<sup>6</sup>
- 1.3 Investment in innovation has been a key factor behind firm-level efficiency gains in recent years.<sup>7</sup> Peruvian businesses that innovate in products and processes are 88% more productive than those that do not.<sup>8</sup> Along these lines, the Peruvian government, with Bank support, has made real progress over the past decade in laying the foundation for the national innovation system by building institutional

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<sup>1</sup> From 2001 to 2013, TFP grew at an average rate of 3% but slowed steadily over the period, from 3.6% in 2001-2007 to 2.4% in 2008-2012 and 1.2% in 2013. BCRP, 2014.

<sup>2</sup> Fernández-Arias, E. Productivity and Factor Accumulation in Latin America and the Caribbean: A Database. IDB, 2014.

<sup>3</sup> Sector productivity gaps can be attributed mainly to the services sector and to a lesser extent to the manufacturing sector, IDB, 2016.

<sup>4</sup> Microenterprises are defined as businesses having sales of up to 150 tax units, small businesses as having sales between 150 and 1,700 tax units, medium-sized businesses as having sales between 1,700 and 2,300 tax units, and large businesses as having sales of more than 2,300 tax units.

<sup>5</sup> According to data from the National Superintendency of Customs and Tax Administration, the majority of businesses created since 2009 are microenterprises (96.8%), and in the case of both microenterprises and small businesses, by year five, very few have seen growth in sales and the failure rate is high.

<sup>6</sup> See "Productividad sectorial en el Perú: un análisis a nivel de firmas." N. Céspedes, M. Aquije, A. Sanchez, R. Vera-Tudela, BCRP, 2014.

<sup>7</sup> Innovation is the transformation of new ideas into economic and social solutions. It can be a new or significantly improved product or process, a new marketing practice, or a new organizational method. (OECD, Eurostat, 2005)

<sup>8</sup> Application of the model by Crepón, Duguet, and Mairesse (1998) and Crespi and Zúñiga (2010) for Peru.



capacity in the public sector to support the advancement of science, technology, and innovation (STI) and a gradual rollout of incentives to boost investment in innovation (see paragraph 1.9). However, it takes time for these processes to take root and produce results, and aggregate investment levels in innovation remain low in Peru. The country invests 0.15% of GDP in research and development activities, compared with 0.78% in Latin America and 2.4% among OECD countries.<sup>9</sup> Peruvian firms invest 0.1% of sales in research and development, far less than businesses in Argentina (0.3%), Chile (1.2%), and the OECD (2%).<sup>10</sup>

- 1.4 According to the National Survey on Innovation in Manufacturing (ENIM) of 2012, the chief obstacles<sup>11</sup> affecting the propensity of firms to innovate are related to lack of access to financing, followed by factors such as scarcity of qualified personnel, limited information on technology and markets, and difficulties in finding innovation partners.<sup>12</sup> These challenges are even more pronounced for small and less productive businesses, which complicates their ability to adopt technology and obtain positive returns on innovation.<sup>13</sup> Given high levels of productive heterogeneity, in order to achieve a critical mass of businesses engaged in innovation, the challenges facing small businesses must be addressed as a matter of priority.
- 1.5 There are strong weaknesses in the supply of technology, innovation, information, and business support services, as a result of which fewer than 0.2% of microenterprises and small businesses (MSEs) have access to some type of technological advisory services for quality management and only 0.5% to some type of technical assistance (SME Survey, 2012). For example, the country has just 65 accredited test laboratories (one third of the number in Chile), and the network of Centers for Productive Innovation and Technology Transfer of Innovation (CITE), which provide technology, extension, and research, development, and innovation (RD&I) services, is having problems expanding due to institutional problems and challenges related to access to financing and qualified human resources, and quality, scope, and focus of services.<sup>14</sup> The institutional platform for providing support to entrepreneurs, despite advances in recent years, is still new and heavily concentrated in Lima,<sup>15</sup> with a notable absence of suitable

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<sup>9</sup> According to data by the National Council on Science, Technology, and Technological Innovation, public investment in research and development as a percentage of GDP increased slightly in the period 2013-2015.

<sup>10</sup> National Survey on Innovation in Manufacturing (ENIM) 2012 and similar surveys in Chile and OECD countries. This includes only formal businesses.

<sup>11</sup> One third of firms involved in innovation activities find financing to be the biggest obstacle to innovation, followed by lack of qualified personnel, which 22% of these firms identify as a major obstacle.

<sup>12</sup> Size and export orientation are also determinants of business innovation in Peru.

<sup>13</sup> Fourteen percent of small businesses have a certification of quality, compared with 32% of medium-sized businesses and 62% of large businesses. Forty-four percent of small businesses have Internet access, compared with 72% of large businesses (ENIM, 2012).

<sup>14</sup> Currently, there are 25 public and 7 private CITEs, all in the process of creation or expansion. For more detailed information, see [CITEs evaluation, 2012; Assessment of the CITE network in Peru \(2016\)](#).

<sup>15</sup> There is a denser network of business support entities in Lima, and they are better than their counterparts outside the capital region at coordinating with each other and with national programs: 61% of entities partner in Lima compared with 18% outside Lima, and 57% do so with national programs, compared with 19% outside Lima. See [Study on conditions for dynamic and innovative entrepreneurship in Peru](#).

- private financing for early stages,<sup>16</sup> all of which makes it hard to build a critical mass of dynamic enterprises (see paragraph 1.2).
- 1.6 In addition, weak coordination between agents in the innovation system limits opportunities for the dissemination and transfer of knowledge. Some 57% of businesses have linkages with other businesses but just 7% for the purpose of research and development. Moreover, 30% of large businesses and 18% of small businesses have some linkage with a university or technology institute<sup>17</sup> but just 3% for the purpose of research and development. This lack of interaction adversely affects the relevance of the applied research carried out by technology institutes and universities to meet the needs of the productive sector.
  - 1.7 Another key driver of innovation processes is a critical mass of skilled human capital. In Peru, the proportion of researchers in the workforce is a fraction of the regional and OECD averages (0.4%, compared with 1.11% and 7.18%, respectively), and Peruvian businesses seem to have a hard time recruiting talent: high-productivity firms in Peru hire fewer university-educated employees than do their Chilean counterparts (40.6% of the total compared with 46.8% in Chile). And according to a recent study, the skills gap affects a larger cross-section of the talent pool for the innovation system, consisting of officers in technology coordination and transfer offices at universities and technology institutes, technology innovation managers or public sector officials working on policies on STI, intellectual property, or technology marketing.<sup>18</sup>
  - 1.8 In addition, several recent analyses<sup>19</sup> point to a problem in Peru related to understanding about, and the social value placed on, scientific research and innovation, which limits the expansion of innovation activities. As many as 70% of surveyed experts said that although business sector interest in investing in innovation has increased in recent years, scientific research is not valued in the country. Moreover, the business sector continues to have a limited view of innovation. It has little awareness of the public supports that are available and places little value on them.
  - 1.9 **Institutional framework and innovation policies.** In recent years, the institutional and policy framework for innovation in Peru has become much more robust, which has occurred alongside an increase in public financing.<sup>20</sup> The innovation policy<sup>21</sup> advanced by the Ministry of Production (PRODUCE) is currently implemented through the National Innovation Program for Competitiveness and

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<sup>16</sup> Ibid. It is estimated that private capital funds in Peru have over US\$1 billion at their disposal but very few provide early-stage capital. In recent surveys, entrepreneurs cite financing as a major obstacle to starting and growing a business.

<sup>17</sup> In the 2015-2016 Global Competitiveness Report prepared by the World Economic Forum, Peru scores 3.1 and 2.9 of a maximum of 7 points in university-industry collaboration in R&D and quality of scientific research institutions, respectively.

<sup>18</sup> Pachón, Bazán. [“Capital Humano para un sistema de innovación prospero. Caso Perú”, 2015.](#)

<sup>19</sup> Vox Populi, “Percepción de los emprendedores sobre la innovación productiva y el rol del estado,” 2015; “Encuesta sobre la percepción social de la ciencia y la innovación,” National Academy of Sciences, 2014.

<sup>20</sup> In 2010-2014, public investment in STI increased by 60%, and the funds administered through the PNICP quadrupled since 2009.

<sup>21</sup> In addition, a tax incentive of up to 75% was approved for investment in RD&I.

Productivity (PNICP),<sup>22</sup> which provides nonreimbursable financing to businesses and other agents in the innovation system, and through the Technology Institute for Production (ITP)<sup>23</sup> and the public-private CITE network.

- 1.10 This new institutional and policy environment, along with a maturing national innovation system, poses challenges for the PNICP, related to: (i) the need to better target programmatic instruments to improve the results of interventions both from a sector viewpoint<sup>24</sup> and by type of enterprise (by size and innovation capacity); (ii) the need to continue to find new clients to expand business coverage;<sup>25</sup> (iii) the need to continuously adapt its monitoring systems and process to new operating volumes; and (iv) the need to constantly adapt existing instruments and develop new ones to meet needs both at the business level and the system level (see paragraph 1.14 for more details on instrument design). Meanwhile, the ITP, which is in the midst of a full transformation, faces challenges related to its strategic and management capacity to promote the development of the network of CITEs and provide them with the services they need to get off the ground and grow.<sup>26</sup>
- 1.11 **Previous Bank interventions.** Since 2006, the Bank<sup>27</sup> has financed two consecutive investment loans in support of STI in Peru. Under the Science and Technology Program (1663/OC-PE), as a pilot intervention, the Fund for Innovation, Science, and Technology (FINCYT) was created in 2006 as the coordination office for the loan, channeling substantial resources for the first time ever in the form of competitive matching grants to business innovation projects and university research projects. In 2012, building on the achievements of the first operation, the Innovation Project for Competitiveness (2693/OC-PE) was approved. That operation, currently in execution, is aimed at increasing the volume of matching grants and continuing to strengthen capacity at FINCYT.<sup>28</sup> In 2014, the Peruvian government approved the conversion of FINCYT into the execution unit for the PNICP at the Ministry of Production.

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<sup>22</sup> The PNICP is also known as Innóvate Perú.

<sup>23</sup> The ITP provides research, development, innovation, extension, and technology transfer services through the public CITEs for which it is responsible, and coordinates and finances the network of private CITEs.

<sup>24</sup> Based on the analysis of productivity gaps at the sector level and the existence of new funds for innovation in natural resource sectors, it was agreed that the project would be targeted to industry and services.

<sup>25</sup> The percentage of businesses served by the PNICP with respect to the target population (percentage of SMEs and large companies served in the industrial and services sector) is 6.7%, with a rising number of businesses receiving repeat service (20% in 2013-2014)

<sup>26</sup> See [ITP: RD&I model](#).

<sup>27</sup> Complementarily, at the level of reforms to the policy and institutional framework, between 2010 and 2014, the Bank approved a programmatic series of policy-based loans with the objective of contributing to improvements in the business environment and the implementation of institutional and policy reforms to support productive development and innovation (2325/OC-PE, 2849/OC-PE, 3299/OC-PE, 2303/OC-PE).

<sup>28</sup> In addition, in 2015, the Multilateral Investment Fund approved the project Building the Entrepreneurial and Innovation Ecosystem in Peru (PE-M1108) with Alta-El Dorado Emprendimiento and Corporación Financiera de Desarrollo, an operation that seeks to make the ecosystems in Lima and Arequipa more dynamic. Execution has been proceeding satisfactorily, in coordination with the Ministry of Production and the PNICP.

- 1.12 The competitive funding interventions under operation 1663/OC-PE produced positive results in terms of increases in private investment in innovation and personnel involved in innovation activities at participating businesses, with a limited deployment of private financing. In addition, the economic return on the program shows that subsidies provided to a group of projects increased their value by a factor of seven just in taxes collected on sales generated as a result of the innovations that were supported, compared with factors of between three and five in other countries in the region in similar analyses. Although at the international level, positive impacts have been seen on the productivity of businesses receiving support and on the generation of positive externalities for businesses not receiving direct support, in the case of operation 1663/OC-PE, given the amount of time needed to measure these effects, a quasi-experimental impact evaluation has only recently been started.
- 1.13 **Lessons learned.** First among the lessons learned from implementing previous programs in Peru, and in line with the Innovation, Science, and Technology Sector Framework Document (document GN-2791-3), is the empirical demonstration that as innovation systems mature, firm-level support must be complemented by system-wide interventions both to strengthen supply and to coordinate actors. It has also been demonstrated that institutional capacity for the design and implementation of innovation policies is generated gradually, with executing agencies learning on an ongoing basis as they expand their supply of increasingly sophisticated instruments.
- 1.14 The design of this project reflects these lessons and generates additionality with respect to previous programs through the following activities. Component 1: (i) the inclusion of supports to improve the capacity of less productive businesses that do not yet engage in innovation activities; (ii) the expansion of innovation subprojects in terms of amounts, times, and categories for financing to facilitate efforts to bring the innovation to market following the initial prototype phase; (iii) the inclusion of innovation subprojects coordinated in networks, as a lesson learned from the earlier sector agenda instrument that helped correct initial failures in coordination but not collective investment; and (iv) business support interventions that complement lines of support for local incubators and entrepreneurs financed previously (and now financed by the Ministry of Production) with a focus on attracting entrepreneurs from outside Peru to help create a critical mass of talent,<sup>29</sup> on providing financing for financial intermediary agents, and on supporting the development of ecosystems outside Lima. Component 2: (i) the development of the human capital profiles needed to coordinate and promote the innovation system, complementary to the training of researchers and doctors under previous operations (and now financed by the National Council on Science, Technology,

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<sup>29</sup> Efforts to achieve a critical mass of dynamic entrepreneurs will involve attracting entrepreneurs from outside the country to establish operations locally, thereby generating positive externalities for the local ecosystem. Similar experiences with recruiting nonresident entrepreneurs, as in Startup Chile (over 2,000 applicants per competition) and Softlandings Uruguay (70 applicants in the first competition), confirm the demand for these types of instrument. In addition, efforts will be made to improve the proportion of women entrepreneurs receiving support via the new entrepreneurship competitions. In the case of the Startup Peru program, implemented as part of the PNICP since 2014, the percentage has not topped 20%.

and Technological Innovation);<sup>30</sup> (ii) capacity-building activities at new agencies such as the PNICP or the ITP that did not receive support under previous operations; and (iii) the continuation of activities to create an innovation culture.

- 1.15 **Project rationale and strategy.** Given certain aspects of investment in innovation, the State must be involved in promoting it. For one thing, because knowledge is a public asset, those who invest in innovation have limited ownership of the results, which leads, on the whole, to suboptimal investment levels. For another, the uncertainty and intangibility inherent to innovation processes make it hard to obtain credit for financing. The implicit knowledge components necessitate interaction between various agents to achieve results (e.g., universities and industry) but the transactional costs can be prohibitive.
- 1.16 This project seeks to mitigate these market failures and build on recent Bank interventions in support of STI in Peru, helping to consolidate recent advances in the institutional and policy framework and to design interventions that respond to the new challenges facing the innovation system. The project strategy calls for a systemic approach, simultaneously addressing the challenges for businesses in increasing investment in innovation activities with stronger targeting by type of business (with differentiated instruments based on the innovation capacity of the businesses) and sector (industry and services), the strengthening activities needed to support the rollout of technological and innovation services in the country (with an emphasis on building capacity outside Lima), and aspects related to environment, such as an improved pool of available talent for innovation, an increase in the value placed by society on innovation, and institutional strengthening of key agencies.<sup>31</sup>
- 1.17 The design of the interventions is based on an analysis of demand and the target population, which justifies the focus and scale of the activities included in the project.<sup>32</sup> For this analysis, a model was constructed based on the demand seen in previous competitions and a classification of the target population to estimate the business absorption capacity of the interventions related to innovation, technology extension services, and entrepreneurship. The results suggest that demand exceeds the number of subprojects that would be supported by the project by a factor of 10.
- 1.18 **Strategic alignment.** This project is aligned with the Bank's country strategy with Peru for 2012-2016 (document GN-2668) inasmuch as it will support productivity gains based on inclusive, sustainable economic growth by strengthening policies for innovation. The project is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and aligns with the development challenges of: (i) social inclusion and equality, by strengthening instruments that improve the productivity of MSMEs; and (ii) productivity and innovation, through the following regional context indicators in the Corporate Results Framework 2016-2019

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<sup>30</sup> For more detailed information on lessons learned, see [midterm evaluation for 2693/OC-PE](#).

<sup>31</sup> See the Innovation, Science, and Technology Sector Framework Document, IDB, 2015, and the literature review in the [monitoring and evaluation plan](#) for more information on evaluations and other international experiences.

<sup>32</sup> For more detailed information on the target population and the demand analysis, see [target population and demand](#).

(document GN-2727-4): (i) the Global Innovation Index; and (ii) research and development expenditure as a percentage of GDP. The project is also aligned with the crosscutting issue of institutional capacity and rule of law through the following CRF country development results indicators: (i) number of government agencies benefitted by projects that strengthen technological and managerial tools to improve public service delivery; and (ii) number of MSMEs provided with nonfinancial support. The project is included in the 2016 Operational Program Report (document GN-2849), aligned with the Sector Strategy on Institutions for Growth and Social Welfare (document GN-2587-2) and is consistent with the Innovation, Science, and Technology Sector Framework Document (document GN-2791-3), particularly with respect to investment in research and development and financing of business innovation. At the national level, the project is aligned with the [Competitiveness Agenda 2014-2018](#); [the National Plan for Productive Diversification](#), and [National Policy for the Development of Science, Technology, and Technological Innovation](#).

## **B. Objectives, components, and cost**

- 1.19 The general objective is to contribute to the growth of business productivity by increasing innovation levels. The specific objectives are: (i) enhanced business capacity for innovation; and (ii) improved environment for innovation.<sup>33</sup> The project consists of the following components:
- 1.20 **Component 1: Enhanced capacity for innovation in industry and services (US\$82,200,000).** This component will enhance business innovation capacity in the industrial and services sectors along three thematic lines, which are summarized below and described in detail in the Operating Regulations for the project.<sup>34</sup>
- 1.21 **Technology transfer and extension.** With the objective of developing the innovation and technological services market and making it more accessible to MSMEs so they can step up their innovation activities, a two-pronged supply and demand approach will be taken. On the demand side, cofinancing will be provided in the form of nonreimbursable contributions for: (i) technology internships and missions (trips) to give businesses access to and use of information, knowledge, know-how, and technologies available in the market; and (ii) diagnostic assessments of businesses to help identify the main management, productive, or organizational bottlenecks in client businesses, and technical assistance and technological services to overcome the challenges identified. In the case of missions and internships, amounts of up to US\$30,000 and US\$15,000, respectively, will be reimbursed. In the case of diagnostic assessments and technical assistance, up to US\$20,000 per business will be reimbursed. Financing

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<sup>33</sup> In the context of these specific objectives: (i) enhanced capacity is understood in terms of the development of skills to make improvements to existing processes and products, introduce new processes and products, and/or start up new businesses; and (ii) an improved environment for innovation is understood in terms of the design and implementation of a new organizational and institutional model for the promotion and coordination of the national innovation system in the industry and services sector.

<sup>34</sup> Eligibility conditions, application phases, evaluation procedures, financing limits, beneficiary contribution requirements, and execution periods for each instrument in components 1 and 2 will be described in detail in the Operating Regulations.

will also be provided for development of the diagnostic methodology, training for service providers, and the design and implementation of the directory of providers, among other items.

- 1.22 On the supply side, cofinancing will be provided for subprojects presented by public or private CITEs and other technological entities or technological services providers for the purpose of expanding and improving the supply of advisory and support services for the development of technology and innovation. The instrument will be structured around two phases. In the first phase, proposals will be presented through an open window, and cofinancing will be provided in the form of nonreimbursable contributions for the preparation of an analysis of technology gaps and a strategic plan. In the second phase, an open competition will be held, and cofinancing will be provided in the form of nonreimbursable contributions for the implementation of strategic plans. Up to US\$1,500,000 will be covered for each subproject. Financing will also be provided for expenditures to promote the line and evaluate applicants. The nonreimbursable contributions will be disbursed against the fulfillment of technical and financial milestones, which will be verified in midterm evaluations for each subproject.
- 1.23 **Incentives for business innovation.** The objective is to boost investment in research and development and innovation activities at businesses. Cofinancing will be provided for two types of subprojects. The first type will be innovation subprojects for individual businesses, with preference given to SME beneficiaries seeking to develop product, service, process, organizational, or marketing innovations, preferably at the national scale. These subprojects will have two phases: the first will be to validate the technical feasibility of emerging ideas for their transformation into prototypes, with a nonreimbursable contribution of up to US\$100,000. Businesses that successfully complete this phase may move on to a second phase for development of the innovation, supported by a nonreimbursable contribution of up to US\$150,000. The second type of subproject will provide incentives to support the creation and consolidation of business networks, for the purpose of developing innovative technological solutions that promote group work on innovation activities. Cofinancing will be provided for subprojects that bring together at least three businesses or two and a research center, with a nonreimbursable contribution of up to US\$500,000. Both types of subprojects will be evaluated by independent experts, and project financing will be provided in both cases for the costs of promoting the line and evaluating applicants.
- 1.24 **Dynamic business ventures.** In order to achieve a critical mass of dynamic business ventures with a strong impact on the economy, cofinancing is proposed for: (i) subprojects to constitute and strengthen financial intermediary agents in the ecosystem,<sup>35</sup> with a nonreimbursable contribution of up to US\$450,000; (ii) subprojects to create innovative businesses with rapid growth potential to be located in the country, proposed by residents abroad, with nonreimbursable

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<sup>35</sup> Financial intermediary agents are organizations that promote and facilitate private investment in dynamic business ventures (venture capital funds, angel investor networks, etc.).



contributions to entrepreneurs of up to US\$40,000 per subproject;<sup>36</sup> and (iii) subprojects to strengthen regional entrepreneurship ecosystems with a nonreimbursable contribution of up to US\$550,000. Organizations with experience delivering business support and proven leadership in the region may present subprojects in partnership with local or regional governments. Financing under each line will be decided on the basis of an evaluation of the technical quality and value-added of the proposals, as well as the capacity of the subproject teams. Financing will be provided under the project for costs related to promotion of the line and the evaluation of applicants.

- 1.25 **Component 2: Environment for productive innovation (US\$13,600,000).** In order to improve the environment for innovation, this component will provide financing for activities structured around three lines.
- 1.26 **Strengthening of public institutional actors in the ecosystem.** In order to strengthen the technical and institutional capacity of the PNICP, financing will be provided for: (i) the design and implementation of a PNICP strategy to improve targeting and coverage of PNICP interventions at the subnational and sector level, including the development of a new platform and tools for client services; and (ii) the design and implementation of an ongoing training plan to strengthen internal PNICP capacity in management and technical areas. In addition, in order to develop the technical and institutional capacity that would allow the ITP to more effectively carry out its coordination, promotion, supervision, and support responsibilities in accordance with the rules and regulations governing the CITEs, financing will be provided for the following and other activities: (i) design and implementation of a strategy to strengthen the ITP; (ii) design and implementation of an administrative and fiduciary management system and a monitoring and evaluation system for the CITE network; and (iii) design and implementation of ITP support services for the CITE network in areas such as training, benchmarking, pricing policies, technological, commercial, and competitive monitoring, network management tools, support for RD&I and technology transfer capacities at the CITEs, and recruitment of highly skilled human capital from abroad; and (iv) strategic studies on governance of productive innovation.
- 1.27 **Human capital.** With the objective of expanding the human capital base in key activities for the development of the innovation system, financing will be provided for short courses, diploma programs, and master's degrees to build capacity among entrepreneurs, innovation and technology managers at businesses, public sector managers involved in the formulation, implementation, and evaluation of public policies on innovation, professionals responsible for marketing technology and managing intellectual property, public relations professionals specializing in innovation and entrepreneurship, and others. Each initiative may receive a nonreimbursable contribution of up to US\$30,000 for short courses and diploma programs, and US\$300,000 for master's programs.
- 1.28 **Culture of innovation.** In order to improve public perception of the importance of innovation in the country, financing will be provided for: (i) publicity subprojects to

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<sup>36</sup> Competitions that have been specifically designed to improve the participation of women in entrepreneurial activity will be held. These may take the form of competitions open to women only or of incentives in regular competitions to award additional points and/or provide special support for project preparation to teams led by women or made up of a majority of women.



improve public understanding and perceptions of the importance of innovation and entrepreneurship, with financing provided for activities such as promotional events, production and procurement of audiovisual and multimedia materials, and social marketing campaigns for innovation; (ii) subprojects to improve the coordination of actors in the innovation and entrepreneurship system, with financing provided to cover, among other items, the logistics costs of events and the costs and fees of speakers, facilitators, and trainers; and (iii) studies commissioned by the PNICP to evaluate the perceptions in Peruvian society about innovation and entrepreneurship in various target populations and the impact of the dissemination initiatives supported by the project. The first two types of subprojects may be presented by any agent in the innovation ecosystem.

- 1.29 **Project administration (US\$4,200,000).** Project financing will be for: audits, baseline surveys, and midterm and final evaluations of the project, as well as specific studies related to the analysis of outputs, outcomes, and the impact evaluation of the project components. Financing will also be provided for key PNICP personnel working with the new instruments, two fiduciary and financial support specialists for execution of the CITE subprojects, the procurement of equipment, and contingencies.

**C. Key results indicators**

- 1.30 **Expected outputs, outcomes, and impacts.** The project is expected to generate positive impacts in terms of business productivity, as well as outcomes related to: (i) an increase in the intensity of investment in research and development and innovation activities among beneficiary businesses with respect to a control group; (ii) an increase in sales of local entrepreneurs interacting with international entrepreneurs with respect to a control group; and (iii) graduates of new courses offering training in innovation (see Annex II). The expected outputs include: support for businesses and entrepreneurs to boost their innovation levels and support for technology centers to expand and improve their services. The project is expected to contribute to gender equality through competitions specially designed to improve the participation of women in the creation of new dynamic business ventures (component 1).
- 1.31 **Economic evaluation.** The project is expected to yield strong social returns thanks to the productivity gains for the businesses receiving support. The estimated net present value of the project in aggregate is US\$42 million, and the internal rate of return is estimated at 29% for component 1 and 19% for component 2. The evaluation horizon was 10 years, and the discount rate was set at 12%. The benefits were estimated assuming a conservative scenario. According to the sensitivity analysis, the parameters that produce the greatest variability in the social net present value of component 1 (which accounts for 82% of project resources) are the success rate of the projects, the average productivity of businesses receiving program support and their growth, the invoice volume of the CITEs, and the social discount rate (see [economic analysis of the project](#)).

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 The project has a total estimated cost of US\$100 million, to be financed with an investment loan for US\$40 million from the Bank's Ordinary Capital and a counterpart contribution of US\$60 million. The disbursement period will be seven years, allowing for disbursement of the resources needed to finance the multiyear subprojects that will be awarded up to the fourth year of execution. The budget, with a breakdown by component and source, is presented in Table 1 and in the [itemized budget](#). The Bank's loan will be disbursed in accordance with the schedule presented in Table 2.

**Table 1. Project cost (US\$ millions)**

Components	IDB	Local	Total	%
<b>Component 1. Enhanced capacity for innovation in industry and services</b>	<b>32.05</b>	<b>50.15</b>	<b>82.20</b>	<b>82.20</b>
Technology transfer and extension	13.05	29.35	42.40	42.4
Incentives for business innovation	12.25	18.25	30.50	30.5
Dynamic business ventures	6.75	2.55	9.30	9.30
<b>Component 2. Environment for productive innovation</b>	<b>5.25</b>	<b>8.35</b>	<b>13.60</b>	<b>13.60</b>
Strengthening of public institutional actors in the ecosystem	2.75	3.55	6.30	6.30
Human capital	1.50	2.80	4.30	4.30
Culture of innovation	1.00	2.00	3.00	3.00
<b>Administration</b>	<b>2.70</b>	<b>1.50</b>	<b>4.20</b>	<b>4.20</b>
<b>Total</b>	<b>40.0</b>	<b>60.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 2. Disbursement schedule (US\$ millions)**

Source	2017	2018	2019	2020	2021	2022	2023	Total
<b>IDB</b>	4.38	10.22	12.51	11.58	0.21	0.21	0.89	40.00
<b>Counterpart</b>	5.18	16.15	19.55	18.71	0.15	0.15	0.10	60.00
<b>Total</b>	<b>9.57</b>	<b>26.37</b>	<b>32.06</b>	<b>30.30</b>	<b>0.36</b>	<b>0.36</b>	<b>0.99</b>	<b>100.00</b>

### B. Environmental and social safeguard risks

- 2.2 No negative environmental or social effects are anticipated in association with the project. In accordance with the Bank's Environment and Safeguards Compliance Policy (OP-703), the project has been classified as a category "[C](#)" operation.

### C. Technical and fiduciary risks

- 2.3 During preparation of the operation, a risk management workshop was held with the participation of the Ministry of Production, the PNICP, the ITP, and the Bank. The workshop concluded that the project has a medium level of risk.
- 2.4 **Technical risks.** The medium-level risks that have been identified and the corresponding mitigation measures include the following: (i) lack of dynamic continuity derived from the upcoming change in administration that could result in a shift in policy priorities, which will be mitigated by obtaining a declaration of project viability from the National Public Investment System prior to the runoff vote in the

presidential election and by scheduling meetings with the new administration's technical team; (ii) insufficient demand for new instruments, which will be mitigated by holding workshops to raise awareness and prepare projects, offering online tutorials, and developing a new client service platform as part of a new marketing strategy that will be financed by the project; (iii) lack of recurrent financing for PNICP personnel, which will be mitigated by including the financing requirements in the 2017 Budget Act and by holding meetings to raise awareness among officials at the Ministry of Economy and Finance, among other activities; and (iv) lack of coordination between the institutional actors working on STI issues in the country, which will be mitigated by forming a cross-sector, public-private project steering committee and holding periodic meetings with key counterparts and actors in the innovation system.

- 2.5 **Fiduciary risks.** With respect to the PNICP, the only medium-level risk is related to possible delays in execution due to national requirements for processing budget transfers to public and private entities, which will be mitigated by coordinating directly with the General Planning and Budget Office of the Ministry of Production and the Ministry of Economy and Finance. With respect to the ITP in its role as beneficiary, there is a medium-level risk related to its limited institutional capacity for carrying out procurements and financial management in line with Bank policies, which could result in delays in project execution. This will be mitigated by hiring two specialists in the Bank's fiduciary policies and assigning them to the ITP, preparing a manual that defines procurement and financial management processes for projects to strengthen the CITEs; and providing training.
- 2.6 **Sustainability.** Project interventions, especially those associated with new instruments like networks, technology centers, advisory services, entrepreneurship, and human capital, are expected to be sustainable over time as a result of the institutional capacity that will be generated at the PNICP and among users and the demonstration effect. Impact evaluations will be carried out using quantitative and qualitative techniques to demonstrate the validity of the interventions so that the instruments that are shown to be effective can be scaled up or sustained with national resources (as in previous cases). At the business level, the expectation is that the increase seen in previous operations in the volume of private resources leveraged for research and development and the productivity gains achieved by other international programs will be sustained such that public and private investment in research and development continues its upward trend.

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 The borrower will be the Republic of Peru, and the executing agency will be the Ministry of Production, acting through the PNICP in its capacity as the execution unit, which is currently implementing operation 2693/OC-PE with satisfactory progress and disbursement and commitment levels at 60% and 81%, respectively. In this [execution structure](#), the general management of the project is in the hands of the project steering committee, consisting of representatives from the academic

community, government, and the private sector.<sup>37</sup> The execution unit will have an executive project coordinator who will be responsible for the fiduciary, technical, and budget aspects of the project to ensure achievement of its objectives. The duties and responsibilities of the executive project coordinator will fall to the PNICP executive coordinator, who will have the support of an assistant project coordinator.<sup>38</sup> The assistant project coordinator will be appointed by the executing agency with the Bank's no objection. The nature of the responsibilities of the assistant project coordinator and degree of coordination with the executive project coordinator will be described in detail in the Operating Regulations.

- 3.2 The Project Steering Committee will have, among others, the following duties and responsibilities: (i) strategic management of project execution, establishing policies and general management guidelines, including approval or modification of the Operating Regulations and the conditions of the competitions; (ii) approval of the project execution plan, procurement plan, annual work plans, and financial plan; (iii) definition of procedures for the competition, selection, and appointment processes for the assistant project coordinator and key personnel in the execution unit; (iv) receipt of periodic reports on the technical and financial status of the project; (v) ratification of the approval of the selected projects, except in the case of projects involving missions, internships, and advisory and technological services financed under component 1, which will be ratified at the level of the executive project coordinator; and (vi) evaluation of the project and joint review with the Bank of any adjustments made to it. The Technical Secretariat of the Project Steering Committee will be the responsibility of the executive project coordinator. Project execution will be governed by Operating Regulations, and any change to the Operating Regulations will require the Bank's prior no objection.
- 3.3 The execution unit will perform the following activities, which will be described in detail in the Operating Regulations: (i) manage the project budget and develop the corresponding tools, including the project execution plan, procurement plan, annual work plans, and financial plan; (ii) manage the bank accounts for project resources; (iii) coordinate and sign contracts for the procurement of goods and equipment and consulting services for the project; (iv) request disbursements in accordance with the project management tools and provide substantiating documentation for the advances disbursed by the Bank; (v) prepare and present periodic reports to the Bank; (vi) administer the loan proceeds and verify the sources and uses of the local counterpart resources; (vii) handle the selection process to engage the firm that will audit the project financial statements; (viii) supervise and monitor the status of the project in accordance with the system and indicators agreed upon with the Bank; and (ix) maintain an information system

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<sup>37</sup> The Project Steering Committee consists of a representative from the Ministry of Production, who chairs the committee, as well as a representative from the Ministry of Trade and Tourism, a representative from the Ministry of Agriculture and Irrigation, a representative from the National Council on Science, Technology, and Technological Innovation, a representative from the regional governments, a representative from the academy proposed by the Peruvian Engineering Academy, and four private sector representatives proposed by the National Confederation of Private Business Institutions, the National Society of Industries, the Exporters Association, the Lima Chamber of Commerce. With the exception of the committee chair, alternates should be appointed alongside each representative.

<sup>38</sup> The assistant project coordinator will have minimum experience of five years managing public programs or policies in support of innovation, entrepreneurship, and/or productive development.

for keeping financial and accounting records, managing the budget, and issuing reports.

- 3.4 For component 1, given that the public CITEs are deconcentrated entities of the ITP without their own legal status, it will be the ITP that enters into agreements with the execution unit for projects to strengthen the public CITEs that are selected for support. To ensure efficient programming and execution of resources, the execution unit will hire two experts in financial management and procurement, with the Bank's no objection, who will be assigned to the Office of the Secretary General of the ITP. In the event that the ITP signs more than two agreements for public CITEs, it will also hire a technical coordinator, with the Bank's no objection, to supervise and monitor the subprojects. Each public CITE should have one installation point with the Integrated Financial Administration System and one with the Integrated Administrative Management System, or a mechanism that fulfills the same functions as a condition precedent to the receiving project resources.
- 3.5 For component 2 activities aimed at strengthening the ITP, the PNICP will incorporate the procurements scheduled with the ITP into the procurement plan. In turn, the ITP will be responsible for preparing terms of reference for the planned contracts, which must have the Bank's no objection. Also for these activities, the ITP will join the PNICP on the committee responsible for selecting firms, service providers, and consultants. In addition, the ITP will be responsible for verifying the technical compliance of all deliverables.
- 3.6 **Fiduciary agreements and requirements.** The loan proceeds may be disbursed as advances, expense reimbursements, or direct payments to providers. For advances of funds, disbursements will be based on a financial plan for up to 180 days. The minimum percentage that will be required to replenish the advance of funds will be 80%. The execution unit will present annual and final audited financial statements for the project, pursuant to the terms and conditions required by the Bank in its policies. To that end, the execution unit will select and contract a firm of independent auditors acceptable to the Bank for the duration of the project.
- 3.7 The procurement plan will be administered using the online electronic system known as the Procurement Plan Execution System. Works, goods, and consulting services will be procured in accordance with the Policies for the Procurement of Goods and Works Financed by the IDB (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-9), both of March 2011, or as updated. Procurements made by public entities in the framework of subprojects financed under this project will be executed in accordance with the aforementioned policies. Procurements made in the framework of subprojects with project resources, provided that the beneficiary entity is in the private sector, may be executed in accordance with Appendix 4 of the aforementioned policies.
- 3.8 **As special contractual conditions precedent to the first disbursement of the loan, the executing agency will present, to the Bank's satisfaction, evidence that: (i) the assistant project coordinator has been appointed, with the Bank's prior no objection; (ii) the project steering committee has been formed; and (iii) the Operating Regulations previously agreed upon with the Bank have entered into effect.** The following will be special contractual conditions for execution: (i) all terms and conditions for the competitions for the

subprojects envisaged as part of the project will have the Bank's prior no objection; and (ii) prior to the signature of agreements between the execution unit and the ITP for the financing of subprojects for the public CITEs, the execution unit will present evidence, to the Bank's satisfaction, that: (a) the ITP has an updated manual of organization and functions; (b) the PNICP has contracted two fiduciary specialists with expertise in procurements and financial management, respectively for the ITP Office of the Secretary General; and (c) the PNICP has approved the operating manual for the execution of projects with public CITEs.

**B. Summary of arrangements for monitoring results**

- 3.9 Project monitoring will be handled by the PNICP, which will also be responsible for technical and administrative coordination and supervision of the project and preparation of semiannual execution reports, as well as any additional reports or documentation required by the Bank (progress monitoring reports, annual work plans, and procurement plans).
- 3.10 Project evaluation reports will be prepared on a three-year cycle (midterm report and final report) by the PNICP Performance Evaluation and Planning Unit. For the ex post evaluation of project effectiveness, the results matrix indicators focus on quantifiable indicators at project completion. The results of the technology transfer and extension, business innovation, and dynamic business ventures lines will be evaluated. The [monitoring and evaluation plan](#) proposes the statistical matching method based on propensity scoring for observables, with unobservables controlled for time variance. The project allocates US\$0.8 million to finance inputs and studies for this purpose. The evaluations will be coordinated by the Bank, the PNICP, and the Ministry of Production's Economic Studies and Regional Competitiveness Division.
- 3.11 For purposes of tracking, monitoring, and evaluating the loan proceeds in the framework of the National Public Investment System, complementary to the results matrix and the [monitoring and evaluation plan](#), the Operating Regulations will include the correspondence between the loan proceeds and the expected results of the project, in terms of: (i) improvement of products and processes oriented towards local markets and/or the foreign market; (ii) introduction of new products and processes in external markets; and (iii) promotion of dynamic business ventures.

Development Effectiveness Matrix				
Summary				
I. Strategic Alignment				
1. IDB Strategic Development Objectives		Aligned		
Development Challenges & Cross-cutting Themes		-Social Inclusion and Equality -Productivity and Innovation -Institutional Capacity and the Rule of Law		
Regional Context Indicators		-Global Innovation Index (LAC average) -Research and development expenditure as a percentage of GDP (%)		
Country Development Results Indicators		-Micro / small / medium enterprises provided with non-financial support (#) -Government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery (#)		
2. Country Strategy Development Objectives		Aligned		
Country Strategy Results Matrix		GN-2668	Develop a comprehensive innovation and development toolkit: support for scientific research and private investment in research and development (R&D).	
Country Program Results Matrix		GN-2849	The intervention is included in the 2016 Operational Program.	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)				
II. Development Outcomes - Evaluability		Highly Evaluable	Weight	Maximum Score
		9.8		10
3. Evidence-based Assessment & Solution		9.3	33.33%	10
3.1 Program Diagnosis		3.0		
3.2 Proposed Interventions or Solutions		3.6		
3.3 Results Matrix Quality		2.7		
4. Ex ante Economic Analysis		10.0	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis		4.0		
4.2 Identified and Quantified Benefits		1.5		
4.3 Identified and Quantified Costs		1.5		
4.4 Reasonable Assumptions		1.5		
4.5 Sensitivity Analysis		1.5		
5. Monitoring and Evaluation		10.0	33.33%	10
5.1 Monitoring Mechanisms		2.5		
5.2 Evaluation Plan		7.5		
III. Risks & Mitigation Monitoring Matrix				
Overall risks rate = magnitude of risks*likelihood		Medium		
Identified risks have been rated for magnitude and likelihood		Yes		
Mitigation measures have been identified for major risks		Yes		
Mitigation measures have indicators for tracking their implementation		Yes		
Environmental & social risk classification		C		
IV. IDB's Role - Additionality				
The project relies on the use of country systems				
Fiduciary (VPC/FMP Criteria)		Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External control.  Procurement: Information System, Shopping Method.	
Non-Fiduciary				
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:				
Gender Equality		Yes	In order to have greater number of women applicants for entrepreneurship lines, special training and differentiated scores for the teams led by women entrepreneurs will be enabled. Also a single annual call for women entrepreneurs is planned to be carried out.	
Labor				
Environment				
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project				
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan		Yes	The results of three major lines of activities and products of this project will be evaluated: (i) extension and technology transfer; (ii) innovation in enterprises; and (iii) development of entrepreneurship opportunity. The Plan proposes to apply the methodology of statistical matching based on propensity score by observable with unobservable controlled by temporary difference. The program assigns US\$0.8MM to finance inputs and studies for this purpose.	

Note: (\*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The program has the general objective to contribute to the increase of firms' productivity through growth in innovation levels. The specific objectives are: (i) improving business capacities for innovation; and (ii) improving the environment for innovation.

The diagnosis describes that the main problem is the low level of productivity of firms, especially in MSMEs. It argues that the country experiences a lag in investment in innovation, insufficient coordination of the agents of the innovation system, a lack of supply of technology services and low levels of human capital. The vertical logic of the program is clearly stated, it identifies the market failures that justify the intervention, and the activities and products are articulated with the proposed solution reflected in the specific components of the program.

The economic analysis suggests positive net benefits obtained mainly through improvements in the productivity of firms, increase in sales of the technology centers, increases in consumer surplus, among others. The sensitivity analysis shows a high probability of maintaining positive social returns. The project has adequate monitoring mechanisms and plans to evaluate the impact on key performance indicators using quasi-experimental methodologies such as differences in differences with matching. The risk profile of the project is medium.

## RESULTS MATRIX

<b>Project objective:</b>	The general objective is to contribute to the growth of business productivity by increasing innovation levels. The specific objectives are: (i) enhanced business capacity for innovation; and (ii) improved environment for innovation.
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### IMPACT INDICATORS<sup>1</sup>

Impacts	Unit of measure	Base 2016	Target 2024	Means of verification / Comments
<b>Aggregates (in support of strategic alignment)</b>				
Increase in national investment in research and development (R&D)	% of GDP	0.15	0.18	Impact indicator aligned with the general objective of the program and with the Corporate Results Framework 2016-2019 (CRF) (document GN-2727-4). The indicator refers to the gross expenditure on research and development financed and executed by the public and private sectors and nongovernment organizations as a percentage of GDP. The baseline for Peru is 0.15% (2004 level based on the most recent update by the Ibero-American and Inter-American Network for Science and Technology Indicators). Source: Ibero-American and Inter-American Network for Science and Technology Indicators (RICyT).
Increase in innovation capacity	Global Innovation Index	34.87	36	Impact indicator aligned with the general objective of the program and with the CRF. The Global Innovation Index is an index that evaluates the innovation capacity of countries based on elements of their economies. The baseline score for Peru is 34.87 (2015). The 2024 target score corresponds to the current scores for Panama (36.8) and Colombia (36.41). Source: <a href="#">INSEAD Business School</a> , <a href="#">World Intellectual Property Organization</a> , and <a href="#">Cornell University</a> .
Total factor productivity (TFP) of Peru relative to the United States	Ratio	0.56	0.6	Impact indicator aligned with the general objective of the program. The indicator is calculated as the ratio of TFP of Peru relative to the United States. The baseline is 0.57 (2011). Source: <i>Penn World Table 8.1</i> .

<sup>1</sup> The monitoring and evaluation plan includes a series of additional impact indicators to be evaluated as part of the supplemental program evaluation.



Impacts	Unit of measure	Base 2016	Target 2024	Means of verification / Comments
<b>Aggregates (in support of strategic alignment)</b>				
Average product of labor among businesses receiving project financing for innovation investments vs. control group	Dollars	35,000	44,000	<p>Measured as the total output of firms divided by total number of workers at the firms. The baseline corresponds to the ratio for small and medium-sized enterprises in 2014. The target is consistent with the expected increase in this indicator, calculated assuming an annual growth rate of 12% applied from year 4 with a 50% probability of success as justified in the economic evaluation of the project.</p> <p>Source: National Business Survey 2015, Annual Economic Survey – National Statistics and Informatics Institute.</p>

#### OUTCOME INDICATORS

Outcomes	Unit of measure	Base 2016	Target 2024	Means of verification / Comments
<b>Component 1: Enhanced capacity for innovation in industry and services<sup>2</sup></b>				
<b>Technology transfer and extension</b>				
Percentage of program beneficiary businesses that engage in innovation activities vs. control group	Percentage	84	89	<p>Innovation survey at time of application to competitions by Centers for Productive Innovation and Technology Transfer of Innovation (CITEs) and at the midpoint and completion point of financed projects, and specific survey of nonbeneficiary businesses during the third and sixth years of the program.</p> <p>Baseline constructed using the average of the indicator for innovation projects of individual businesses (PITEI), taken between 2014 and 2016.</p>

<sup>2</sup> The formula for all indicators in component 1 is the average difference-in-differences (before vs. after level of the variable for the treatment group vs. before vs. after level of the variable for the control group).

Outcomes	Unit of measure	Base 2016	Target 2024	Means of verification / Comments
Incentives for business innovation				
Ratio of investment in research, development, and innovation (RD&I) to sales at beneficiary businesses vs. control group	Ratio	9.6	13.6	Innovation survey at time of presentation of projects, and specific survey of nonbeneficiary businesses in the third and sixth years of the program.  Baselines constructed using the average of each indicator for the nonbeneficiary PITEI projects during 2014, 2015, and 2016.
Intensity of research and development (R&D) (percentage of spending on R&D with respect to investment in RD&I) among beneficiary businesses vs. control group	Percentage	36	41	
Percentage of program beneficiary businesses that succeed in creating a new product or process vs. control group	Percentage	39	46	
Dynamic business ventures				
Percentage of businesses run by residents abroad that initiate activities vs. percentage of businesses that initiate activities among local beneficiaries financed by the Startup Peru program.	Percentage	9	16	For treatment group: Business survey at time of application to program competitions and at midterm and completion points of projects receiving financing, and specific survey of nonbeneficiary businesses, administered in the third and sixth years of the program.
Average annual sales growth posted by local entrepreneurs interacting with foreign entrepreneurs, compared with the figure for local entrepreneurs without such interaction	Percentage	n/a	n/a	For control groups: Startup Peru database. Baseline: For the first indicator, average with Startup database during 2014 and 2015.

Outcomes	Unit of measure	Base 2016	Target 2024	Means of verification / Comments
<b>Component 2: Environment for productive innovation</b>				
<b>Human capital</b>				
Average number of graduates (students who pass the exit exam) of courses of up to 40 hours	Students	0	180	Information will be gathered and a record kept of all those registered, for the baseline. The follow-up reading will be taken only at graduation (i.e., time between base and follow-up depends on the length of each course). Source: PNICP administrative records on registration and follow-up of program participants. Given that the evaluation for this component will be a before-and-after comparison, there are no sources of information for the control units. The baseline is zero.
Average number of graduates (students who pass the exit exam) of courses from 120-180 hours	Students	0	20	
Average number of graduates (students who pass the exit exam) of courses of more than 180 hours	Students	0	200	

### OUTPUT INDICATORS<sup>3</sup>

Outputs	Cost (US\$)	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total	Unit of measure	Means of verification / Comments
<b>Component 1: Enhanced capacity for innovation in industry and services</b>												
<b>Technology transfer and extension</b>												
Strategy documents for technology centers	3,000,000	0	20	25	0	0	0	0	0	45	# documents prepared	PNICP information system
Strengthening projects for technology centers	27,000,000	0	0	5	6	7	0	0	0	18	# projects financed	PNICP information system

<sup>3</sup> The PNICP will provide the Bank with a breakdown by gender of all its competitive lines, with special attention on the line for recruiting resident entrepreneurs abroad. See footnote 8.

Outputs	Cost (US\$)	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total	Unit of measure	Means of verification / Comments
Technology internships and missions for micro, small, and medium-sized enterprises (MSMEs) <sup>4</sup>	6,000,000	60	30	70	70	70	0	0	0	240	# missions and internships financed	PNICP information system The beneficiaries of this line will be individual MSMEs, such that this indicator will be aligned with the CRF development results indicator: number of MSMEs provided with nonfinancial support. The baseline includes the missions and internships previously financed by the PNICP.
Technology-related advisory and other services for MSMEs	6,000,000	0	0	50	100	150	0	0	0	300	# advisory contracts financed	PNICP information system The beneficiaries of this line will be individual MSMEs, such that this indicator will be aligned with the CRF development results indicator: number of MSMEs provided with nonfinancial support.
Business diagnostic assessment methodology <sup>5</sup>	300,000	0	0	1	0	0	0	0	0	1	# methodology prepared	PNICP information system

<sup>4</sup> The specific content of the technology internships and missions will be determined during execution based on the proposals presented by the MSMEs.

<sup>5</sup> Consulting services will be engaged to develop the methodology for the diagnostic assessments of businesses that will be conducted prior to the delivery of technology-related advisory and other services, as well as to design and implement a directory of providers in which accredited providers of such advisory and other services should register.

Outputs	Cost (US\$)	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total	Unit of measure	Means of verification / Comments
Directory of providers <sup>6</sup>	100,000	0	0	1	0	0	0	0	0	1	# directories prepared	PNICP information system
<b>Incentives for business innovation</b>												
Business technology innovation projects <sup>7</sup>	22,500,000	651	10	20	30	28	0	0	0	88	# projects financed	PNICP information system. The baseline includes innovation projects previously financed by the PNICP.
Business network projects	8,000,000	0	2	4	5	5	0	0	0	16	# projects financed	PNICP information system
<b>Dynamic business ventures</b>												
Projects to strengthen financial intermediary agents	2,700,000	0	2	4	0	0	0	0	0	6	# projects financed	PNICP information system
Projects for resident entrepreneurs abroad	4,300,000	0		10	30	60	0	0	0	100	# projects financed	PNICP information system At least one competition will be exclusively for women entrepreneurs. <sup>8</sup>

<sup>6</sup> Ibid.

<sup>7</sup> The projects are preferentially targeted to SMEs.

<sup>8</sup> In the case of the Startup Peru program, implemented as part of the PNICP since 2013, the ratio of women entrepreneurs receiving support to all entrepreneurs is less than 20%. Competitions that have been specifically designed to improve the participation of women in entrepreneurial activity will be held. These may take the form of competitions open to women only or of incentives in regular competitions to award additional points and/or provide special support for project preparation to teams led by women or made up of a majority of women.

Outputs	Cost (US\$)	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total	Unit of measure	Means of verification / Comments
Projects to strengthen ecosystems <sup>9</sup> for innovation and local entrepreneurship	2,300,000	0	2	2	0	0	0	0	0	4	# projects financed	PNICP information system
<b>Component 2: Environment for productive innovation</b>												
<b>Strengthening of public institutional actors in the ecosystem<sup>10</sup></b>												
PNICP coverage and targeting strategy	500,000	0	0	0	0	1	0	0	0	1	# strategies designed	PNICP information system
PNICP institutional capacity plan	300,000	0	0	0	0	1	0	0	0	1	# plans designed	PNICP information system
Strategy to strengthen the Technology Institute for Production (ITP)	400,000	0	1	0	0	0	0	0	0	1	# strategies designed	PNICP information system
ITP monitoring, evaluation, and management system	800,000	0	0	1	0	0	0	0	0	1	# systems implemented	PNICP information system
Support system for the CITE network of the ITP	3,300,000	0	0	0	1	0	0	0	0	1	# systems implemented	PNICP information system
Strategic studies for governance of the National Innovation System (ITP)	1,000,000	0	0	0	1	0	0	0	0	1	# studies prepared	PNICP information system

<sup>9</sup> An innovation and entrepreneurship ecosystem is defined as the set of productive, financial, scientific, and technological actors and institutions that interact in a region, contributing to an increase in RD&I and dynamic business ventures.

<sup>10</sup> The six output indicators included in this line for strengthening the PNICP and the ITP are aligned with the CRF development results indicator: number of government agencies benefitted by projects that strengthen technological and managerial tools to improve public service delivery.

Outputs	Cost (US\$)	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total	Unit of measure	Means of verification / Comments
<b>Human capital<sup>11</sup></b>												
Courses in innovation training of up to 40 hours	900,000	0	8	11	11	0	0	0	0	30	# courses offered	PNICP information system
Courses in innovation training of between 120 and 180 hours	1,600,000	0	0	10	20	20	0	0	0	50	# courses offered	PNICP information system
Specialized innovation courses of more than 180 hours	600,000	0	0	1	1	0	0	0	0	2	# courses offered	PNICP information system
Innovation scholarships	1,200,000	0	15	20	25	20	0	0	0	80	# scholarships awarded	PNICP information system
<b>Culture of innovation</b>												
Strategic study on public perceptions of innovation	400,000	0	0	0	0	1	0	0	0	1	# studies prepared	PNICP information system
Initiatives to promote a culture of innovation	2,000,000	0	5	10	15	0	0	0	0	30	# initiatives financed	PNICP information system
Initiatives linking actors in the innovation and entrepreneurship ecosystem	600,000	0	5	10	15	0	0	0	0	30	# initiatives financed	PNICP information system

<sup>11</sup> For all innovation training courses and related scholarships, the content of the courses and the target population will be determined throughout execution and may include training for entrepreneurs, innovation and technology managers at businesses, public sector managers working on innovation policies, professionals responsible for marketing technology and managing intellectual property, among others.

## **FIDUCIARY AGREEMENTS AND REQUIREMENTS**

**Country:** Republic of Peru  
**Project number:** PE-L1162  
**Name:** Improved Levels of Productive Innovation at the National Level  
**Executing agency:** Ministry of Production  
**Prepared by:** Allizon Milicich Nieto-Polo and Ariel Rodríguez (FMP/CPE)

### **I. EXECUTIVE SUMMARY**

- 1.1 The fiduciary situation of the National Innovation Program for Competitiveness and Productivity (PNICP), as the execution unit for the operation, and also of the Technology Institute for Production (ITP) as a potential beneficiary of a significant part of the project, were evaluated on the basis of a risk analysis exercise in which the Ministry of Production, the PNICP, the ITP, and the Bank participated, a review of the fiduciary and institutional capacity assessment of the execution unit and the ITP, meetings with key personnel at the entities, and meetings with the project team. For fiduciary management, the level of risk has been assessed as medium, given the low risk associated with the execution unit and the high risk with the ITP.

### **II. FIDUCIARY CONTEXT OF THE COUNTRY**

- 2.1 Peru's financial administration systems are adequate and reliable. As for the national procurement system, no country procurement modalities are being used in loans financed by international financial organizations at present. However, document GN-2538-11 approved the use of two subsystems of Peru's public procurement system—the reverse auction and electronic catalogues for framework agreements.

### **III. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY AND THE ADMINISTRATIVE EXECUTOR OF THE PROJECT BENEFICIARIES**

- 3.1 The executing agency will be the Ministry of Production, acting through the execution unit. The execution unit has economic, administrative, financial, and technical autonomy and is responsible for the management, execution, monitoring, and evaluation of project activities. The execution unit has steering committees, which are the highest authorities for ratifying projects and funds but nevertheless external to the execution unit.
- 3.2 The executive project coordinator will be appointed by ministerial resolution of the executing agency. The responsibilities of the executive project coordinator



- will fall to the executive coordinator of the PNICP, who will have the support of an assistant project coordinator. The assistant project coordinator will be appointed by the executing agency with the Bank's no objection. The nature of the responsibilities of the assistant project coordinator and degree of coordination with the executive project coordinator will be described in detail in the Operating Regulations for the project. The assistant project coordinator will have minimum experience of five years designing and/or managing public programs or policies in support of innovation, entrepreneurship, and/or productive development.
- 3.3 The execution unit, which has been implementing the Innovation Project for Competitiveness (PE-L1068), maintains an adequate level of fiduciary management.
- 3.4 The execution unit uses the National Electronic System for Procurements and Contracts to register the procurement plan and disseminate procurement processes, and the Procurement Plan Execution System (SEPA) to plan and monitor procurement processes. It maintains a webpage that provides information on procurement processes, in addition to publication in national newspapers, as applicable. The most recent ex post review of procurements conducted by the Bank for PE-L1068 indicates that the risk associated with procurements handled by the execution unit is low, with some specific comments and observations that will be followed up on.
- 3.5 The execution unit uses the Integrated Financial Administration System (SIAF) as an operating system for financial management and supplements it with budget and administrative management systems. The 2015 audited financial statements for PE-L1068 received an unqualified opinion. Regarding internal control, with the exception of a few situations that were determined to be insignificant, no issues were observed that would compromise the operation's internal control structure.
- 3.6 The ITP, which serves as the administrative and executive office for the public Centers for Productive Innovation and Technology Transfer of Innovation (CITEs) that become project beneficiaries, does not have experience in executing resources following Bank policies. Its limited execution capacity was identified as a risk, pointing up the need for the execution unit to assist the ITP with fiduciary processes involving the public CITEs.

#### **IV. FIDUCIARY RISK EVALUATION AND MITIGATION MEASURES**

- 4.1 The risk assessment found that in fiduciary matters, the risk associated with the execution unit is low, but the risk associated with the ITP is high. Mitigation measures have been identified in the results matrix.
- 4.2 The executing agency/execution unit will be required to execute the project in accordance with project Operating Regulations satisfactory to the Bank, which will include the main internal control processes for ensuring that the controls are working properly. With this in mind, above all, the Operating Regulations will need to: (i) clearly identify the roles, functions, and responsibilities of the parties involved in order to facilitate coordination between them; and (ii) identify the fiduciary process flows in terms of financial management and procurement, as well as the interactions of the execution unit with the ITP and other parties involved.

- 4.3 There are also plans to organize a launch workshop with the ITP prior to tendering the CITE strengthening projects, as well as training sessions on Bank policies for the technical user areas of the CITEs and the administrative areas of the ITP. In terms of financial management, activities will be planned to strengthen financial planning and monitoring of execution for fulfillment of project objectives.

## **V. CONSIDERATIONS FOR THE SPECIAL CONDITIONS OF THE LOAN CONTRACT**

- 5.1 As special contractual conditions precedent to the first disbursement, the executing agency will present, to the Bank's satisfaction, evidence that: (i) the assistant project coordinator has been appointed, with the Bank's prior no objection; (ii) the project steering committee has been formed; and (iii) the Operating Regulations previously agreed upon with the Bank have entered into effect. The following will be special contractual conditions for execution: (i) all terms and conditions for the competitions for the subprojects envisaged as part of the project will have the Bank's prior no objection; and (ii) prior to the signature of agreements between the execution unit and the ITP for the financing of subprojects for the public CITEs, the execution unit will present evidence, to the Bank's satisfaction, that: (a) the ITP has an updated manual of organization and functions; (b) the PNICP has contracted two fiduciary specialists with expertise in procurements and financial management, respectively for the ITP Office of the Secretary General; and (c) the PNICP has approved the operating manual for the execution of projects with public CITEs.
- 5.2 The executing agency will deliver audited annual and final financial statements for the project, with specific terms of reference acceptable to the Bank, within 120 days following the end of each fiscal year of the executing agency during the original disbursement period and any extensions thereof. The final audit report will be presented within 120 days following the end of the original disbursement period or any extensions thereof.
- 5.3 The equivalence of the disbursement currency or approval currency of an eligible expense incurred in the borrower's local currency will be determined for accounting and expense justification purposes by using the exchange rate in effect on the date on which the approval currency or disbursement currency is converted to the borrower's local currency (Article 4.10(b)(i) of the General Provisions of the loan contract). The agreed-upon exchange rate to be used for determining the equivalence of expenses incurred in local currency and chargeable to the local contribution or of expense reimbursements chargeable to the loan proceeds will be the exchange rate in effect on the last business day of the month preceding the month in which the borrower, the executing agency, or any other legal entity or individual that has been delegated the authority to incur expenses makes the respective payments to the contractor, provider, or beneficiary.

## **VI. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION**

- 6.1 **Procurement execution.** Procurements required under the project will be carried out in accordance with the Policies for the Procurement of Works and Goods Financed by the IDB of March 2011 (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the IDB

(document GN-2350-9). Procurements made by public entities financed under this project will be executed in accordance with the aforementioned policies. Procurements made in the framework of projects with project resources, provided that the beneficiary entity is in the private sector, may be executed in accordance with Appendix 4 of the aforementioned policies.

- 6.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services<sup>1</sup> arising under the project and subject to international competitive bidding will be executed using the Bank's standard bidding documents. Tenders subject to national competitive bidding will be executed using country bidding documents agreed upon with the Bank (or satisfactory to the Bank if not yet agreed upon). The project team leader is responsible for reviewing the technical specifications.
- 6.3 **Selection and contracting of consultants.** Consulting service contracts arising under the project will be executed using the standard request for proposals issued by the Bank or agreed upon with the Bank, regardless of the amount of the contract (or satisfactory to the Bank if not yet agreed upon). The project team leader is responsible for reviewing the terms of reference.
- 6.4 **Selection of individual consultants.** Such selection will take into account the consultant's qualifications to perform the work, based on a comparison of at least three candidates. When the circumstances so warrant, notices may be published in the local or international press. The threshold amount determining the use of international competitive bidding will be posted for the information of the borrower, through the executing agency, at the webpage [www.iadb.org/procurement](http://www.iadb.org/procurement). Below this threshold, the selection method will be determined on the basis of the complexity and characteristics of the procurement, and this will be reflected in the procurement plan approved by the Bank.
- 6.5 **Prior review of procurements.** The Bank will review the selection and procurement processes as set forth in the procurement plan. At any time during project execution, the Bank may modify the review modality for these processes, by providing advance notice thereof to the borrower or the executing agency. Any changes approved by the Bank will be reflected in the procurement plan.
- 6.6 **National preference.** No national margins of preference will apply.
- 6.7 **Use of the national procurement system.** In view of Board approval of the use of the subsystems for reverse auctions and framework agreements in Peru, these subsystems will be used once the respective implementation agreement, including the conditions described therein, has been signed and the procurement plan has been amended accordingly.
- 6.8 **Initial procurement plan.** See the itemized [procurement plan](#) for the first 18 months. The executing agency will publish the procurement plan to the Procurement Plan Execution System (SEPA) and update it at least semiannually or as required by the Bank to reflect actual project execution needs and the progress made.
- 6.9 **Procurement supervision.** Ex post evaluations by the Bank will cover a sample of contracts based on technical and professional criteria and will be performed by

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<sup>1</sup> Under the Bank's procurement policies, nonconsulting services are treated as goods.

consultants or external auditors. Once use of the country procurement system has been implemented, these arrangements may be updated on the basis of the fiduciary risks.<sup>2</sup>

- 6.10 **Records and files.** Files are to be kept in the offices of the execution unit under conditions that ensure the integrity and security of the documents.

## **VII. AGREEMENTS AND REQUIREMENTS FOR FINANCIAL MANAGEMENT**

- 7.1 **Programming and budget.** Expenses related to activities planned under the project must have been assessed as viable in the framework of Peru's National Public Investment System. Preparation of the annual programming and budget will be based on the provisions of the Public Budget Division of the Ministry of Economy and Finance. The Investment Policy Division, in coordination with the General Office for Planning, Investments, and Budget, will draw up an annual budget based on the project's disbursement schedule and will set and agree on priorities for external financing under the project. The budget allocated to the project will be approved by the Ministry of Economy and Finance and Peru's Congress and reported annually to the Bank. The multiyear project execution plan will be prepared on the basis of the annual budget. The budget will be operated under the Integrated Financial Administration System (SIAF).
- 7.2 **Accounting and information systems.** The SIAF's project execution module for project accounting and reporting, as this module offers transparency and specific controls on budget execution. Using this module, financial reports can be generated, including disbursement requests, exchange rate controls, project financial statements, and other reports required by the Bank. Accounts will be prepared on a cash basis and will follow international accounting standards and the directives issued by the National Public Accounting Office. As part of the evaluation of the project, the need was identified to install a SIAF point deconcentrated from the ITP at the beneficiary public CITEs as a condition precedent to the start of execution for each project.
- 7.3 **Disbursements and cash flows.** The country's cash management system will be used, following the directives issued by the National Debt and Treasury Office. Expenditures are subject to the budget and financial execution process, and data on their formalization under the rules applicable to each of the stages (commitment, liquidation, authorization, and payment) will be reported in the SIAF's project execution module. The execution unit will keep a special bank account to handle the proceeds from the loan.
- 7.4 Disbursements will be based on the project's actual liquidity needs (financial planning). The execution unit will submit disbursement requests to the Bank, along with a financial plan that will reflect the disbursement schedule for the entire project for the next 180 days. At least 80% of disbursements will be justified in the next request, using the Bank's forms.

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<sup>2</sup> Once the reverse auction and framework agreement subsystems have been put to use as part of the strategy for the use of Peru's country system, executed procurements will be systematically monitored and supervised by tracking and verifying the stability of the country system.

- 7.5 The funds disbursed to the execution unit for purposes of cofinancing the nonreimbursable contributions will be delivered to the beneficiaries in tranches based on technical and financial milestones agreed upon by the execution unit and the beneficiary. The beneficiary will present reports with results of each milestone to trigger a new disbursement. In the case of the ITP/public CITEs, the first disbursement made by the execution unit will consist of funds from the local counterpart contribution. There is an identified need for training and support in the areas of financial planning and monitoring of the achievement of the agreed upon milestones.
- 7.6 The records and documents supporting activities and transactions will be subject to ex post review by the external auditors. All documents and records will be kept for a period of at least three years from the date of the last disbursement. Expenses that the Bank does not deem eligible will be repaid from the local contribution.
- 7.7 **Internal control and internal audit.** The control environment, control activities, communication and information, and monitoring of the activities of the executing agency/execution unit are governed by the country's regulations, which are based on the Law on the National Control System and the Office of the Comptroller General of the Republic.
- 7.8 The execution unit does not have an internal control area, but the internal control area of the executing agency is competent to perform control of the execution unit. The personnel of that area report to the Office of the Comptroller General of the Republic (CGR). The scope of work of the internal control area does not generally extend to projects, but the area will receive copies of the external auditor's reports through the government audit system (designed by the CGR), which it can use for inspection activities.
- 7.9 **External control and reports.** In the framework of the role of the CGR (lead agency in the National Control System) and the regulations governing it, external audits of projects are outsourced to independent audit firms acceptable to the Bank. Eligible independent audit firms are evaluated periodically by the Bank. The CGR authorizes the executing agency/execution unit to select and contract an independent audit firm in accordance with Bank policies for the entire project execution period, including extensions of the final disbursement period.
- 7.10 The project financial statements include: cash flow statement, cumulative investment statement, notes to those statements, and the declaration by project management (executing agency/execution unit). The audit report will include the evaluation of the internal control system.
- 7.11 The project will require the selection of a tier I or II independent audit firm.
- 7.12 The cost of the external audits will be covered from the loan proceeds and is estimated at US\$455,000 for the seven years of execution of the loan.
- 7.13 **Financial supervision plan.** The plan may be adjusted in accordance with execution of the project and the external audit reports.

**Table 1. Supervision plan**

Activities	Nature / Scope	Frequency
Operational	Inspection visit/Review of project status	Annually
	Portfolio review with the executing agency and the Ministry of Economy and Finance	Semiannually
Financial	Ex post review of disbursements	Twice per year
	Financial audit and delivery of financial statements	Annually
	Review of disbursement requests and attached reports	2/3 times per year
	Inspection visit/analysis of internal controls and the control environment at the executing agency	Annually

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/16

Peru. Loan \_\_\_/OC- to the Republic of Peru  
Improved Levels of Productive Innovation at the National Level

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Peru, as Borrower, for the purpose of granting it a financing to cooperate in the execution of a project for improved levels of productive innovation at the national level. Such financing will be for the amount of up to US\$40,000,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_ \_\_\_\_\_ 2016)

PE-L1162  
LEG/SGO/CAN/IDBDOCS#40292277-16