

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**MEXICO**

**SKILLS-BASED HUMAN RESOURCES DEVELOPMENT PROGRAM  
(PROFORHCOM)**

**(ME-L1142)**

**LOAN PROPOSAL**

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ELECTRONIC LINKS	
<b>REQUIRED</b>	
1.	Plan of activities <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38045753">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38045753</a>
2.	Monitoring and evaluation plan <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38040417">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38040417</a>
3.	Procurement plan <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38041027">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38041027</a>
4.	Environmental safeguards <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38041509">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38041509</a>
<b>OPTIONAL</b>	
1.	Upper secondary education in Mexico (National Institute for the Evaluation of Education) <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043190">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043190</a>
2.	Comprehensive Reform of the Upper Secondary Education System in Mexico (Office of the Deputy Secretary of Upper Secondary Education) <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043188">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043188</a>
3.	Panorama educativo de México [Education overview of Mexico]. National Educational System Indicators 2012 – Basic and upper secondary education (Office of the Deputy Secretary of Upper Secondary Education) <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043185">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043185</a>
4.	Analysis to support the design of monitoring and supervision mechanisms for PROFORHCOM <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=936584">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=936584</a>
5.	Strategic sectors for Mexico <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043171">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043171</a>
6.	Loan proposals and technical cooperation document PROFORHCOM I, loan 1579/OC-ME <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=428726">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=428726</a>  PROFORHCOM II, loan 2167/OC-ME <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2068150">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2068150</a>  Related technical cooperation operation ME-T1190 <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36809669">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=36809669</a>
7.	Sector note: Labor sector, 2010-2012 <a href="http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35349235">http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35349235</a>

8. Institutional Capacity Assessment System (ICAS) report on the executing agency  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935768>
9. Program itemized budget  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38157855>
10. Operating Regulations  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38250974>
11. Official Gazette Resolution 442  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935877>
12. Official Gazette Resolution 444  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935885>
13. Official Gazette Resolution 445  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935898>
14. Official Gazette Resolution 447  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935913>
15. Official Gazette Resolution 449  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1935916>
16. Official Gazette Resolution 450  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1936514>
17. Official Gazette Resolution 480  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1936517>
18. Official Gazette Resolution 484  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1936518>
19. Official Gazette Resolution 692  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38157928>
20. Economic analysis  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38043043>
21. PMR  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38046985>
22. References  
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=38045627>

## ABBREVIATIONS

CLC	Cuenta por liquidar certificada [certified settlement account]
CONALEP	Colegio Nacional de Educación Profesional Técnica [National System for Technical Vocational Education]
CONOCER	Consejo Nacional de Normalización y Certificación de Competencias Laborales [National Job Skills Standardization and Certification Council]
COPEEMS	Consejo para la Evaluación de la Educación Media Superior [Council for the Evaluation of Upper Secondary Education]
COSDAC	Coordinación Sectorial de Desarrollo Académico [Sector Coordination Unit on Academic Development]
CPD	Country programming document
CSPyA	Coordinación Sectorial de Planeación y Administración de la SEMS [SEMS Sector Coordination Unit on Planning and Administration]
DGCFT	Dirección General de Centros de Formación para el Trabajo [General Directorate for Work Training Centers]
DGECyTM	Dirección General de Educación en Ciencia y Tecnología del Mar [General Directorate for Education in Marine Science and Technology]
DGESU	Dirección General de Educación Superior Universitaria [General Directorate for University Higher Education]
DGETA	Dirección General de Educación Tecnológica Agropecuaria [General Directorate for Agricultural Technological Education]
DGETI	Dirección General de Educación Tecnológica Industrial [General Directorate for Industrial Technological Education]
DGPRF	Dirección General de Presupuesto y Recursos Financieros [General Directorate for Budget and Financial Resources]
DOF	Official Gazette of the Federation
ENLACE	Evaluación Nacional del Logro Académico en Centros Escolares [National Evaluation of Academic Achievement in Schools]
GCI-9	Ninth General Capital Increase
ICAS	Institutional Capacity Assessment System
INEE	Instituto Nacional para la Evaluación de la Educación [National Institute for the Evaluation of Education]
INEGI	Instituto Nacional de Estadística y Geografía [National Institute of Statistics and Geography]
MMC	Marco Mexicano de Certificaciones [Mexican Certifications Framework]
NAFIN	Nacional Financiera, S.N.C.
OECD	Organization for Economic Cooperation and Development
OIC	Órgano interno de control [Internal audit unit]
PEF	Presupuesto de Egresos de la Federación [Expenditure Budget of the Federation]
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PMCU	Program management and coordination unit

PND	Plan Nacional de Desarrollo [National Development Plan]
PROFORHCOM	Programa de Formación de Recursos Humanos Basada en Competencias [Skills-based Human Resources Development Program]
RIEMS	Reforma Integral de la Educación Media Superior [Comprehensive Reform of the Upper Secondary Education System]
SDC	Subdirección de Contabilidad y Desembolsos [Accounting and Disbursements Subdirectorate]
SEMS	Subsecretaría de Educación Media Superior [Office of the Deputy Secretary of Upper Secondary Education]
SEP	Secretaría de Educación Pública [Department of Public Education]
SFP	Secretaría de la Función Pública [Civil Service Department]
SHCP	Department of Finance
SIAFF	Sistema Integral de Administración Financiera Federal [Federal Integrated Financial Management System]
SICOP	Sistema de Contabilidad y Presupuesto [accounting and budget system]
SNB	Sistema Nacional de Bachillerato [National Bachillerato System]
SNC	Sistema Nacional de Competencias [National Skills System]
TEA	Technical executing agency
TESOFE	Tesorería de la Federación [Federal Treasury]

## PROJECT SUMMARY

### MEXICO

### SKILLS-BASED HUMAN RESOURCES DEVELOPMENT PROGRAM (PROFORHCOM) (ME-L1142)

Financial Terms and Conditions					
<b>Borrower:</b> United Mexican States  <b>Executing agency:</b> Department of Public Education (SEP)		<b>Flexible Financing Facility*</b>			
		Amortization period:	Bullet payment on 15 July 2024		
		Original WAL:	Up to 10.6 years**		
		Disbursement period:	5 years		
<b>Source</b>	<b>Amount</b>	Grace period:	Up to 10.6 years		
IDB (Ordinary Capital)	US\$170 million	Inspection and supervision fee:	***		
Local	US\$30 million	Interest rate:	LIBOR		
		Credit fee:	***		
Total	US\$200 million	Currency of approval:	U.S. dollars from the Ordinary Capital (OC)		
<b>Project objectives:</b>					
The purpose of the program is to help improve the employability of graduates of technical upper secondary education, vocational training, and job-skills development in Mexico. The specific objective is to help improve the skills of upper secondary education graduates through improvements in the quality and relevance of technical upper secondary education, vocational training, and job-skills development; and strengthening and shifting the emphasis of the National Skills System (SNC).					
<b>Special contractual conditions precedent to first the disbursement:</b> Evidence of signature and entry into force of the contract of mandate and execution between the borrower, Nacional Financiera, S.N.C. (NAFIN), the Department of Public Education (SEP), the National System for Technical Vocational Education (CONALEP), and the National Job Skills Standardization and Certification Council (CONOCER) for project execution (see paragraph 3.3).					
<b>Exceptions to Bank policies:</b> None.					
<b>Procurement:</b> Goods and services eligible for financing will be procured in accordance with the Bank's procurement policies, using standard documents harmonized with the Civil Service Department (SFP) and the Bank (see paragraphs 3.5 to 3.8, and Annex III).					
<b>Project qualifies as:</b>					
	SEQ [X]	PTI [ ]	Sector [ ]	Geographic [ ]	Headcount [ ]

\* Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting modifications to the amortization schedule, as well as currency and interest rate conversions, subject in all cases to the final amortization date and the original weighted average life (WAL). The Bank will take market conditions, as well as operational and risk-management considerations, into account when considering such requests.

\*\* The WAL may be shorter, depending on the contract signature date.

\*\*\* 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 the relevant policies.

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem to be addressed, and rationale

- 1.1 Economic growth is related to the number of people employed, labor productivity gains, and physical capital utilization. Therefore, policies encouraging the population to join the labor market and improve their skills and job performance play a decisive role in productivity growth and, consequently, in economic growth.<sup>1</sup> This is particularly important in Mexico, since although per capita GDP has risen in the last 20 years, and the labor force's average number of years of education has increased,<sup>2</sup> productivity levels fell by 0.4% per year over the period, whereas in Chile and Korea they grew at average rates of 1.1% and 2.4%, respectively.<sup>3</sup>
- 1.2 Vocational education and training systems that are responsive to the productive sector's requirements in terms of content, volume, and regional distribution are a prerequisite to improving people's job skills. Therefore, establishing systematic and interactive linkages between the education and training system and the productive sectors is one of the main challenges the country faces if training is to make a bigger contribution to raising productivity and driving economic growth in the medium and long term.
- 1.3 The Mexican educational system is divided into three levels: basic education, upper secondary education, and higher education. The levels and tracks are shown in Table I-1.

**Table I-1**  
**Mexican Educational System**

Basic Education (ages 3-15)		Upper Secondary Education (ages 16-18)		Higher Education (age 19 and older)	
LEVELS	Preschool ages 3-5	TRACKS	General <i>bachillerato</i>	LEVELS	Technical college
	Primary school ages 6-12		Technological <i>bachillerato</i>		Undergraduate ( <i>licenciatura</i> )
	Lower secondary school ages 13-15		Technical vocational education		Graduate school

- 1.4 **Upper secondary education.** The structure of Mexico's upper secondary education system is complex. Of young people aged 16-18 (6.2 million), 69.3% (4.3 million) are enrolled in upper secondary education:<sup>4</sup> 49.5% men and 50.5% women, and 36% from poor households. Although reforms in recent years have sought to adopt a common organizational framework, education remains very heterogeneous. Of

<sup>1</sup> Black and Lynch (1996); Duryea and Pagés (2002); Toner (2011); Almeida et al. (2012); OECD (2012).

<sup>2</sup> Per capita GDP rose at an average annual rate of 1.4% from 1990 to 2012 (The Economist Intelligence Unit), while the population's average schooling rose from 6.3 years in 1990 to 8.8 in 2012 (INEE).

<sup>3</sup> Mexico (1990-2011): INEGI; Chile and Korea (1996-2011): The Conference Board Total Economy Database.

<sup>4</sup> Office of the Deputy Secretary of Upper Secondary Education (SEMS) (2012).



the tracks, the general *bachillerato* has a more academic focus, geared towards preparing students for higher education and accounts for 60.5% of enrollments. The technical tracks, in which 39.5% of students enroll, are dual purpose, allowing access both to higher education and to the labor market. Students can opt for a technological *bachillerato* (30.7%) or technical vocational education (8.8%).<sup>5</sup>

- 1.5 The supply of training for work offered at the level of technical upper secondary education (technological *bachillerato* and vocational training) is organized at federal level into subsystems overseen by the Office of the Deputy Secretary of Upper Secondary Education (SEMS) (see Table I-2). Responsibility for the technological *bachillerato* lies with the General Directorate for Industrial Technological Education (DGETI), the General Directorate for Agricultural Technological Education (DGETA), and the General Directorate for Education in Marine Science and Technology (DGECyTM). Vocational training is managed by the National System for Technical Vocational Education (CONALEP). Additionally, the General Directorate for Work Training Centers (DGCFT) provides job-skills development<sup>6</sup> for workers in employment, businesses, and job-seekers.

**Table I-2**  
**SEMS Vocational Education and Training system (2011-2012 cycle)<sup>7</sup>**

<b>Technological <i>bachillerato</i></b>	<b>Vocational training</b>	<b>Job-skills development</b>
Young people aged 16-18 in technical upper secondary education		Workers in employment and job-seekers
<b>DGETI, DGETA, DGECyTM</b> • 1,331,224 students, 96 programs of study	<b>CONALEP</b> • 303,955 students, 48 programs of study	<b>Work Training Centers</b> • 1,200,000 served • 58 specializations • 246 skills-focused courses

- 1.6 **Challenges of quality and relevance.** Efforts have been made to improve the quality of vocational training over the last two decades. However, the achievements are still insufficient. The 2012 National Dropout Survey identified students' lack of interest in studying and schools' lack of capacity to meet their educational needs as factors associated with dropping out.<sup>8</sup> Although the dropout rate has fallen,<sup>9</sup> only four out of ten young people who begin a *bachillerato* course complete it within the prescribed three years.<sup>10</sup> The fact that upper secondary education is obligatory (2012) adds the challenge of offering a high quality curriculum that equips young

<sup>5</sup> The term "technical vocational education" applies solely to CONALEP and refers to an additional professional license that its graduates receive along with their technological *bachillerato*.

<sup>6</sup> The country's skills improvement system is managed by the Labor Department and the SEP.

<sup>7</sup> SEMS (2012).

<sup>8</sup> SEMS (2013).

<sup>9</sup> From 19.8% in the 1996-1997 school year to 14.4% in the 2011-2012 year. See INEE (2011).

<sup>10</sup> INEE (2011); OECD (2012).

- people with the skills the market demands and while fulfilling their needs and interests.
- 1.7 Given the role of productivity gains as a driver of growth, a labor force that is ill prepared to meet the new challenges of boosting productivity is a bottleneck to productive development.<sup>11</sup> The lack of skilled human capital generates a vicious circle of low availability and low demand for high performance jobs. According to independent measurements, 70% of students in the final grade of their *bachillerato* obtain low or insufficient results.<sup>12</sup> There is also a divergence in the way young people's education is perceived when they join the labor market: 77% of education providers believe that school/college-leavers are ready for work, versus only 40% of employers.<sup>13</sup> Another sign that the labor market considers upper secondary education to offer little value-added is that its graduates earn only 30% more than those completing only lower secondary, whereas graduates from higher education earn on average almost twice as much (95%).<sup>14</sup> This inadequate competency level and the earnings gap between graduates from upper secondary education and from higher education are a reflection of the need to strengthen the educational system and of insufficient linkage with the productive sector.<sup>15</sup> This is also related to the scant alignment of upper secondary education and job-skills development with productive needs and the priorities of economic growth, as well as employers' limited involvement in training for work. All these factors affect the employability<sup>16</sup> of graduates from technical education and job-skills development, which is the sector's main challenge.
- 1.8 **A further problem is the shortage of teacher training.** Almost 40% of the 194,952 upper secondary teachers do not have an undergraduate degree (general *bachillerato*: 37.2%; technological *bachillerato*: 44.3%; and technical vocational studies: 34%). Of those that do, only 74% also hold a graduate degree.<sup>17</sup> Although since 2008 approximately 67,000 teachers<sup>18</sup> have received skills-based training at the upper secondary level, 66% of all teachers<sup>19</sup> have not taken part in any of the

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<sup>11</sup> Plan Nacional de Desarrollo 2013-2018 [National Development Plan 2013-2018] (PND 2013-2018).

<sup>12</sup> ENLACE test (2012).

<sup>13</sup> Mourshed et al. (2012).

<sup>14</sup> Campos, et al. (2012).

<sup>15</sup> PND 2013-2018.

<sup>16</sup> In this proposal (and for evaluation purposes) employability is defined as a person's capacity to find employment in the best possible job, keep it, and progress and obtain alternative work, associated with this person's ability to generate earnings flows—continuous or intermittent—over the course of his or her working life. Employability also means that the person is being equipped with the skills to facilitate mobility over the course of his or her career (see Giordano 2003). However, the current measurement methodology is somewhat limited and only enables a young person's workforce integration to be measured two years after graduation from upper secondary education.

<sup>17</sup> INEE (2011), "La educación media superior en México" [Upper secondary education in Mexico], Report 2010-2011.

<sup>18</sup> This figure represents 34.3% of all upper secondary teachers at federal, state, and autonomous level.

<sup>19</sup> INEE (2011).

training activities available to them.<sup>20</sup> There is also the challenge of establishing requirements and minimum standards to enter and remain in teaching careers.

- 1.9 **The SEMS's strategy to address these challenges.** In 2008 the SEMS launched a Comprehensive Reform of the Upper Secondary Education System (RIEMS), leading to the creation of the National *Bachillerato* System (SNB). The reform brings consistency to a previously fragmented system through a series of curricular changes. This comprehensive reform, supported in part by the Bank, has made progress on improving the quality and relevance of upper secondary education. This progress includes: (i) creation of a Common Curricular Framework, which standardizes a single profile required for all graduates; (ii) a teacher training initiative, enabling teachers to acquire skills<sup>21</sup> to help students learn more effectively; (iii) introduction of qualification criteria in selection processes for school principals;<sup>22</sup> (iv) independent measurements of students' academic achievement (ENLACE and PISA tests); (v) introduction of instruments to report on the workforce integration of upper secondary graduates;<sup>23</sup> (vi) implementation of a school accreditation system; and (vii) linkage actions with direct collaboration of productive sectors in setting priorities and orientation of educational management.
- 1.10 The current administration's education agenda puts special emphasis on deepening progress on the RIEMS comprehensive reform of the upper secondary education system and promoting policies to close the gap between the skills acquired in schools and those today's world demands, based on: (i) developing significant learning and skills that serve students lifelong in terms of their job performance; (ii) strengthening technology courses and job-skills development; (iii) forging closer linkages between education and productive sectors; and (iv) establishing a system to raise professional standards among teachers.<sup>24</sup>
- 1.11 **National Skills System.** The National Job Skills Standardization and Certification Council (CONOCER) was established in 1995 as the regulatory body for the National Skills System (SNC).<sup>25</sup> Its main task is to promote and regulate

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<sup>20</sup> Courses, workshops and seminars; licenses and specializations; professional development activities on teaching or teaching strategies; or content of subjects taught.

<sup>21</sup> The skills promoted are: generic (crosscutting skills relevant to all disciplines); discipline-specific (comprising knowledge, skills and frames of mind based on traditional disciplines and professions); and vocational skills (developing an individual's productive capacity in a given work context).

<sup>22</sup> School principals were previously selected directly by state governors. Following the RIEMS comprehensive reform of the upper secondary education system, principals have to undergo a competitive process and demonstrate that they are qualified.

<sup>23</sup> The Encuesta Nacional de Inserción Laboral de los Egresados de la Educación Media Superior [National Survey on Workforce Integration of Upper Secondary Education Graduates] (ENILEMS) offers information on the labor market integration of young people aged 18 to 20 years who graduate from upper secondary education, in order to assess the relevance of this educational level. The survey covers the whole country.

<sup>24</sup> PND 2013-2018.

<sup>25</sup> The Government of Mexico defines the SNC as the sum of the systems established in CONOCER (Standardized Job Skills System and the Job Skills Certification System).

standardization and certification of job skills. Its aim is therefore first to identify and systematize productive sector demand for relevant job skills and serve as a resource for the vocational education and training system, whether providing training before or during work. Second, it aims to guarantee the quality of individuals' job skills certification. Although a system of this kind should be a fundamental instrument in aligning education and training with demand from productive sectors, and in stimulating the country's productivity and competitiveness,<sup>26</sup> after almost two decades the involvement of the countries' most strategic sectors and leading firms remains scant. The funding arrangements, composition, and functions of the current mechanism may be to blame for this, as they create incentive issues at institutional level and on the demand side for CONOCER's job-skills standards certifications.<sup>27</sup> The current administration's challenge going forward is to make CONOCER a valued resource for the system's potential users: businesses, workers, and educators.

- 1.12 **The current state of transforming education.** The transformation of the education supply and the achievements outlined above are bringing consistency to upper secondary education, but this process needs to continue in order to become entrenched. The main challenges<sup>28</sup> that remain are: (i) diversifying and expanding the linkage mechanisms between education and employment on all levels (local, regional, national), so as to allow programs of study to be defined and updated strategically and in a timely manner; (ii) upgrading institutions' equipment;<sup>29</sup> (iii) expanding and institutionalizing opportunities to bring young people into contact with the world of work (internships, on-the-job training, etc.); (iv) correcting the imbalance between young people's demand for certain courses of study and the needs of the productive sector, which reflects information gaps and inadequate vocational guidance; (v) establishing a comprehensive system of professional development and ongoing training, to equip teachers with the tools they need to bring about the transformation in education; (vi) introducing teacher selection requirements and effective incentives to stimulate quality improvements; (vii) fine-tuning methodologies to measure young people's learning achievements and employability; and (viii) positioning the SNC vis-à-vis the country's growth agenda and the productive sphere.

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<sup>26</sup> The international literature, in particular that of the OECD and the IDB, employs a broader concept of skills development systems that includes job skills certification systems, but is not limited to them.

<sup>27</sup> The limited use of job skills standards by productive sectors is a reflection of the fact that they do not reflect the industry's needs. Over the last five years only around 120,000 job skills certificates have been issued (0.4% of the country's employees), CONOCER (2013). It is not known what proportion of these certificates have been sought by productive sectors as part of their selection strategy or to improve their workers' job skills.

<sup>28</sup> Kis et al. (2009).

<sup>29</sup> As programs of study are developed and/or redesigned, it is also necessary to upgrade the equipment in line with changes to the curriculum.

- 1.13 **Bank support in the sector.** The Bank has been supporting the modernization of vocational education and training since 1997.<sup>30</sup> The scope of this collaboration was expanded with the Skills-based Human Resources Development Program (PROFORHCOM), Phase II (loan 2167/OC-ME). According to a study by the Office of Evaluation and Oversight (OVE),<sup>31</sup> PROFORHCOM II envisages a series of unprecedented innovations, aligned with the objective of consolidating skills-based education at the upper secondary level. These include: (i) the use of standards in curriculum design, geared towards ensuring that curricula are aligned to demand from the productive sector; (ii) investments in school equipment to support the planned changes; (iii) introduction of on-the-job training to ease young people's transition to the labor market; (iv) recognition of the need to support teachers' skills development to make the transition from a teaching model based on rote learning to a skills-based model in the Single Graduate Profile;<sup>32</sup> and (v) analysis of trends, first and foremost in strategic sectors, to align the SNC with the productive sector's needs, in order to foster the development of these sectors within the CONOCER framework. Phase II facilitated the alignment of almost 100% of courses; 15,000 young people benefited from on-the-job training, 34% of teachers received skills-based training; and 10 strategic sectors took part in CONOCER.
- 1.14 **Effectiveness of interventions of this type.** Investing in general—and particularly technical—upper secondary education is a strategic priority for the region because any improvement in: (i) curricular content and teaching methods,<sup>33</sup> (ii) teachers' skills,<sup>34</sup> and (iii) linking young people and educators with the world of work<sup>35</sup> will help improve the quality and relevance of education, and ultimately keep young people engaged during their school years and thereby improve their opportunities for development in a globally interconnected economy.<sup>36</sup>
- 1.15 **Lessons learned.** The lessons learned during Phases I and II of PROFORHCOM include the following: (i) the process of transforming the curriculum is making upper secondary education more consistent, and the unification of standards is enabling portability between subsystems. However, this is a medium-term process,

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<sup>30</sup> The Bank supported the creation of CONOCER and promoted the participation and leadership of important sectors at an initial stage through the Job Skills Standardization and Certification Pilot Scheme (MIF/AT-89) with US\$3 million. Since 2005, the Bank has financed the Skills-based Human Resources Training Program (PROFORHCOM). This program is divided into two phases: Phase I (loan 1579/OC-ME) for US\$50.4 million, and Phase II (loan 2167/OC-ME), approved in 2009, for US\$100 million. PROFORHCOM has addressed quality through teacher training, materials, equipment, school plans and programs, and by measuring learning. In terms of relevance, it has continued fostering the participation of productive sectors in the identification of skills standards (CONOCER).

<sup>31</sup> Székely (2012).

<sup>32</sup> The current model consists of training teachers to develop teaching techniques to foster the soft and crosscutting skills students are expected to develop.

<sup>33</sup> IDB (2012).

<sup>34</sup> Ibid; McKinsey (2007, 2009).

<sup>35</sup> Ryan (2001); Hanushek et al. (2010); Eichhorst et al. (2012); Hoffman (2012).

<sup>36</sup> Székely (2012).

which still requires more public-private coordination on all levels to achieve effective education planning and codify continuous improvement processes in the design of vocational programs of study relevant to the country's growth needs; (ii) curriculum planning mechanisms have to ensure much closer linkage between businesses, schools, and subsystems and could benefit from more leadership from the productive sector; (iii) in order for teachers to take advantage of the opportunities for professional training and development offered by the system, effective incentives need to be given for their participation; (iv) for the national skills system to be relevant and drive the country's labor productivity and competitiveness, it is essential to involve key productive sectors (in terms of their size, dynamism, and outlook for future growth) in its construction; and (v) the effects of the institutional transformation brought about by the RIEMS comprehensive reform of the upper secondary education system only began to take shape in 2011.<sup>37</sup> The interventions supported therefore need to be given time to mature (their effects will be assessed in 2014).

## **B. Program strategy**

1.16 The program beneficiaries are graduates of technical upper secondary education, vocational training, and job-skills development. The problem PROFORHCOM addresses is the quality and relevance shortcomings in the educational offering. The three factors underlying this problem are: (i) limited relevance of the curriculum and ineffective teaching methods; (ii) limited linkage with the productive sector; and (iii) shortcomings in teacher training and profiles.<sup>38</sup> Even though the program interventions only represent a fraction of the total investment associated with the strategy to transform education,<sup>39</sup> these investments will support key aspects of upper secondary education and pave the way for Mexico's continuous training model to be developed further, in line with the Mexican government's agenda. These aspects include: (i) strengthening linkages with productive sectors (education planning and opportunities for in-company training);<sup>40</sup> (ii) standardized evaluation of young people's skills; (iii) strengthening schools (adaptation of classrooms and equipment) and staff through new tools to improve student learning and support the transition from school to work; (iv) expanding the scope of teacher training and professional skills development; (v) strengthening and shifting the emphasis of the SNC, so it can drive labor productivity and guide vocational training.

1.17 **Curriculum innovation and integration of educational offerings.** The process of planning programs of study and defining their content (through the Sector

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<sup>37</sup> Six percent of public establishments have been accredited and 7% are close to evaluation by the Council for the Evaluation of Upper Secondary Education (COPEEMS).

<sup>38</sup> The content of each of the lines of action and their correlation with the outcomes are discussed in required [electronic link 2](#) in relation to the indicators.

<sup>39</sup> PROFORHCOM II contributed 0.74% (US\$68 million) of the SEMS budget between 2010-2012.

<sup>40</sup> A preliminary analysis identified a number of sectors including the automotive industry, tourism, electrical/electronic; information technology; mining; renewable energy, etc. (see link on Strategic Sectors for Mexico).

Coordination Unit on Academic Development (COSDAC)) will be strengthened, so as to establish a continuous process of aligning programs of study and skills standards with the priorities of the productive sectors with strongest development potential in Mexico and link them to international standards valued by these industries. This stage also aims to enable more effective public-private partnership mechanisms geared toward stimulating growth in certain regions. Building on international good practices,<sup>41</sup> the scope of coordination with employers by schools, subsystems, and nationally, will be expanded.<sup>42</sup> Sector-level planning will be strengthened to bolster the links with sectors on the design and constant updating of programs of study in each industry, taking regional and national growth agendas into account.

- 1.18 Planning and analysis tools will be fine-tuned to match students' expectations with productive priorities for the country's growth. Actions will be supported to improve the information and vocational guidance given to students, to both guide their career choices and make it easier for them to join the labor market.<sup>43</sup> On this point there is evidence that information and guidance has a positive impact on students' decisions.<sup>44</sup> Teaching methods and supplementary activities geared toward fostering an entrepreneurial culture in the learning process will also be strengthened.
- 1.19 **School-to-work transition.** In order to smooth the school-to-work transition and strengthen linkages with the productive sector, support will be given to enable students to gain work experience. This will involve expanding the menu of internships, on-the-job training placements and sandwich courses so young people can get first-hand experience of the sort of work to which the courses they are taking lead. A more extensive in-company training initiative will be introduced, modeled along the lines of apprenticeship arrangements, in which several key industries will take part, cooperating and cofinancing these processes.<sup>45</sup> The evaluation of this new action was considered in the program evaluation strategy and is a necessary step towards defining its potential advantages in cost-benefit terms, so as to meet the challenge of coordinating efforts with employers and overcoming schools' technology and equipment limitations.
- 1.20 In the teacher training, professional skills, and certification area, the development of a comprehensive ongoing training and updating strategy will be supported,

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<sup>41</sup> Hoffman (2011); Kis et al. (2009).

<sup>42</sup> Models of partnership led by industries or other key stakeholders will be explored to ensure that content is relevant; create mechanisms for constant feedback; provide places for apprentices; establish trainee contract modalities; set standards for in-company teaching, and instructor accreditation.

<sup>43</sup> The preliminary results of studies under way suggest that interventions geared toward informing young people and their parents about the labor-market returns and outcomes of technical education versus general education, or of certain courses, and providing vocational guidance, can be a very cost-effective way of achieving better decision-making. See Goux et al. (2013).

<sup>44</sup> Jensen (2006).

<sup>45</sup> Education systems that combine classroom teaching with in-company instruction through apprenticeships produce better outcomes in terms of workforce integration. See Hanushek et al. (2010).

expanding on and stepping up the efforts to enhance teachers' professional skills begun in previous phases, together with those under the new Professional Teaching Service Act.<sup>46</sup> The main focus of this teacher and administrator training and certification is to improve their ability to link education management and schools with employers and other organizations in the productive and social environment. It will therefore support: (i) introduction of systematic selection and recruitment requirements; (ii) establishment of criteria for periodic refresher training and certification; (iii) the development of new training mechanisms to equip teachers with the educational tools they need to improve learning and develop students' skills; (iv) continuous training activities; (v) introduction of systematic assessments to accompany teachers' professional development; and (vi) activities to give teachers exposure to the country's priority productive sectors. The professional development and certification of teachers and administrators is a common feature of top-performing education systems in terms of learning outcomes, such as those in Finland, Korea, and Singapore.<sup>47</sup>

- 1.21 **Evidence-based policy decisions.** A number of steps will be taken to supplement the progress made on measuring workforce integration (see paragraph 1.9), such as: (i) a quasi-experimental impact evaluation of the program at national level to measure the effects on the workforce integration of upper secondary school graduates;<sup>48</sup> (ii) a quasi-experimental impact evaluation measuring the effect of workplace training on the students receiving it; and (iii) a series of essential monitoring indicators to inform policy decisions (see paragraph 3.13 and the [monitoring and evaluation plan](#)).
- 1.22 **Strengthening and shifting the emphasis of the National Skills System.** Support will be provided to align CONOCER's sector-wide approach with the country's productivity and competitiveness priorities. To ensure that job skills standards are the main human resource management tool in productive sectors, CONOCER's policy-making capabilities and ability to provide technical support, coordination, and promotion of the National Skills System will be strengthened. This will be accompanied by other activities supporting CONOCER's sound management within the framework of the National Skills System.
- 1.23 The role of the Mexican Certifications Framework (MMC) is being assessed with a view to including qualifications awarded based on either academic or work experience certification, as well as linkage between the two types of certification.
- 1.24 **Country strategy.** The program is consistent with the sector objective of promoting greater workforce integration in the Bank's country strategy with

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<sup>46</sup> The Ley General del Servicio Profesional Docente [Professional Teaching Service Act] was passed on 11 September 2013, completing the constitutional reform of education launched in February 2013.

<sup>47</sup> Mourshed et al. (2009).

<sup>48</sup> Employment rates, formal employment rates, wages, and the percentage of young people continuing into higher education will be measured. Thus far, no comparison group has been defined. This will be determined, once progress has been made on the evaluation design.



Mexico (document GN-2595-1) and in the new strategy now in preparation.<sup>49</sup> The expected outcome is enhanced employability of the graduates of vocational training, through close collaboration with the Government of Mexico on the development of effective, high quality technical education systems. In the context of the Ninth General Capital Increase (GCI-9), the program is aligned with the lending program's priority objective of poverty reduction and equity enhancement, in particular with the sector priority of the Strategy on Social Policy for Equity and Productivity (document GN-2588-4).<sup>50</sup> The program contributes to regional development targets 3.1.2, "Teachers trained," and 3.1.5, "Individuals benefited from programs to promote higher labor market productivity."

**C. Objective, lines of action, and cost**

1.25 The general objective of the program is to help improve the employability of graduates of technical upper secondary education, vocational training, and job-skills development in Mexico. The specific objective is to help improve the skills of upper secondary education graduates through improvements in the quality and relevance of technical upper secondary education, vocational training, and job-skills development; and strengthening and shifting the emphasis of the National Skills System (SNC).

**1. Component 1. Improve the quality and relevance of technical upper secondary education, vocational training, and job-skills development (US\$144.5 million)**

1.26 Building on the transformation of technical education and job-skills development begun in previous phases, lines of action will be financed that, taken as a whole, strengthen education planning mechanisms, linkages to the productive sector, and teacher training and professional development, so as to improve graduates' skills and consequently their employability.

1.27 **Alignment of programs of study with the productive dynamics of the country's key sectors and markets.** The program may finance: (i) technical assistance to support COSDAC's evaluation and updating of programs of study, and its standardization of generic, subject-matter specific, and professional skills in priority training areas; (ii) technical assistance for the transformation of vocational programs of study and support on the definition of alternative methods to ensure access to new technologies and equipment; and (iii) equipping of educational institutions, programs of study, and subsystems involved in curriculum alignment and coordination in the priority education fields.

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<sup>49</sup> The indicator is aligned with the country strategy, even though the program was not included in the 2013 country programming document (CPD).

<sup>50</sup> Education plays an important role in human resource development for productive activity, and technical education has a positive rate of return for low-income youth, so it tends to reduce social inequality (see Székely, 2012).

- 1.28 **Models of cooperation between the educational system and the productive sector.** Financing will be provided for: (i) the development of models of collaboration between the educational system and the productive sector (regional and state institutional linkage committees); and (ii) mechanisms to identify market signals from a regional context and to strengthen education planning.
- 1.29 **Opportunities for learning in the workplace.** The aim is to expand, diversify, and improve the use of economic support, to bring young people into contact with work and guide their choice of course of study. Financing will be provided for: (i) development of a Mexican dual training model<sup>51</sup> that broadens and deepens opportunities for in-company learning; (ii) expansion of on-the-job training scholarships for upper secondary students; and (iii) additional support to introduce young people to the world of work, with entrepreneurship actions from the initial stages of training.
- 1.30 **Vocational guidance.** Technical assistance will be financed to identify and expand good practices in vocational guidance.
- 1.31 **Teacher training and professional development.** The program may finance: (i) teacher and administrator training and certification processes; (ii) the use of information technology to support learning development; (iii) refresher training for teachers; (iv) specialization development actions (undergraduate or graduate degree), or study programs and/or sabbaticals in productive sectors; and (v) establishing a network of school administrators as a mechanism for continuous improvement, updating participants' knowledge, and accelerating their training.
- 1.32 **Mexican Certifications Framework (MCC).** Analysis will be financed to identify good practices in qualification systems. The aim of the MMC is to develop a system integrating all types of market certification or educational qualification operating in the country.
- 1.33 **Monitoring and evaluation to guide policy decisions.** Databases providing information for the outputs and outcome monitoring indicators will be eligible for financing. A series of studies and diagnostic assessments are being conducted (2013-2014) that will guide evaluation decisions additional to those envisaged in the monitoring and evaluation plan. These will be eligible for financing if they contribute to the interest of measuring the effects of the educational transformation supported in this stage.

## **2. Component 2. Strengthen and shift the emphasis of the National Skills System (US\$12.75 million)**

- 1.34 **Redefinition of the National Skills System strategy.** Financing will be provided for: (i) preparation of notes and holding coordination events with representatives of government and business agencies, aimed at specifying the productive sectors in which greatest efforts to improve human resources will be required, through jobs

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<sup>51</sup> In-company training in greater depth over a period of one or two years.

skills standards; (ii) prospective sector studies to identify relevant functions and skills for employment and productivity; (iii) participation in the Programme for the International Assessment of Adult Competencies (PIAAC);<sup>52</sup> and (iv) other activities to develop the National Skills System.

- 1.35 **Strengthening and reengineering of CONOCER.** Financing will be provided for: (i) analysis of the use and value-added of job skills certificates by businesses and individuals; (ii) analysis of the industrial organization for job skills evaluation and certification and review of good practices in standardization, evaluation, and certification processes, (iii) creation of a national skills bank, in partnership with strategic sectors; (iv) improving technical assistance and transfer of good practices in strategic sectors of the National Skills System (including onsite support, e-learning, and participation of business executives in project management and implementation); (v) policy restructuring and proposal for institutional redesign of CONOCER; and (vi) communication and dissemination activities, and the purchase of furniture and computer equipment.

**D. Key results indicators**

- 1.36 The Results Matrix indicators are: (i) employment rate of graduates; (ii) formal employment rate; (iii) wages; (iv) proportion of graduates who study or work; and (v) terminal efficiency rate (see [required electronic link 2](#)).
- 1.37 **Cost and financing.** The estimated cost of the program is up to US\$200 million. Of that amount, up to US\$170 million will be financed by the Bank, and up to US\$30 million will be from the local counterpart (see [optional electronic link 9](#)).

**Table I-3**  
**Program Cost (US\$)<sup>53</sup>**

Investment categories	IDB (OC)	Local contribution	Total
Component 1	144,500,000	25,500,000	170,000,000
Component 2	12,750,000	2,250,000	15,000,000
Administration, monitoring, evaluation, and audit <sup>54</sup>	12,750,000	2,250,000	15,000,000
<b>Total</b>	<b>170,000,000</b>	<b>30,000,000</b>	<b>200,000,000</b>

<sup>52</sup> This evaluation measures cognitive and job-related skills (reading comprehension, numeracy, and problem solving in a technology-rich environment) of adults aged 16 to 65 years.

<sup>53</sup> Annual amounts depend on the programming agreed upon with the Department of Finance (SHCP) in coordination with the SEP.

<sup>54</sup> Administration costs include the operating costs of the program management and coordination unit (PMCU) and, as applicable, leasing of offices. The amount budgeted for program evaluation is US\$5 million. Audits will be covered with the local counterpart.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 The proposed operation is an investment loan with a five-year disbursement period and schedule as shown in Table II-1.

**Table II-1**  
**Tentative Disbursement Schedule (in US\$000s)**

Source	1	2	3	4	5	Total
<b>IDB</b>	18.9	56.7	56.6	18.9	18.9	170.0
<b>Local</b>	3.4	10.0	10.0	3.3	3.3	30.0
<b>Total</b>	<b>22.3</b>	<b>66.7</b>	<b>66.6</b>	<b>22.2</b>	<b>22.2</b>	<b>200.0</b>

### B. Environmental and social safeguard risks

- 2.2 Given its nature, this operation will produce no significant adverse environmental or social impacts. This operation has been classified as category “C” under the Environment and Safeguards Compliance Policy (Operational Policy OP-703).

### C. Fiduciary risks

- 2.3 This operation will use the same systems and controls as the previous loan, for which the Institutional Capacity Assessment System (ICAS) analysis yielded an average rating of 96.76% for all functions evaluated, reflecting sufficient development for program execution. However, weaknesses and areas for improvement were identified in several competitive bidding processes during execution of the previous phase; consequently, national competitive bidding processes will be subject to ex ante review.

### D. Other risks

- 2.4 The program seeks to build on the efforts begun under the Comprehensive Reform of the Upper Secondary Education System (RIEMS) to align vocational training with strategic sectors’ standards and the country’s growth agenda. Without the participation and leadership of strategic productive sectors, the operation would be at risk of not achieving its aims. However, this risk is regarded as relatively low, since in previous phases the productive sectors have shown an interest in supporting the program. The open dialogue between the Government of Mexico and the productive sector will continue, in order to drive innovations and relevance in training policy.

## III. IMPLEMENTATION AND ACTION PLAN

### A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower will be the United Mexican States, which will appoint Nacional Financiera, S.N.C. (NAFIN), as its financial agent.

- The executing agency will be the Department of Public Education (SEP), acting through the Office of the Deputy Secretary of Upper Secondary Education (SEMS), with the support of the program management and coordination unit (PMCU) and the participation of the technical executing agencies (TEAs).
- 3.2 **Program management and coordination unit (PMCU).** The PMCU is an entity reporting to SEMS that is responsible for programming, monitoring, evaluation, administration, and financial management of the loan. Its basic functions are described in the program's Operating Regulations.
- 3.3 **Technical executing agencies (TEAs).** The agencies tasked with technical execution of the lines of action to be financed will be: CONALEP, the DGCFE, the DGETI, the DGETA, the DGECyTM, COSDAC, the SEMS Sector Coordination Unit on Planning and Administration (CSPyA), and CONOCER. The TEAs will be responsible for the execution of program resources and will provide status reports to the PMCU for delivery to the Bank. This mechanism worked successfully in Phases I and II of PROFORHCOM. A **special condition precedent to the first disbursement** will be evidence of signature and entry into force of the contract of mandate and execution between the borrower, Nacional Financiera, S.N.C. (NAFIN), the Department of Public Education (SEP), the National System for Technical Vocational Education (CONALEP), and the National Job Skills Standardization and Certification Council (CONOCER) for project execution.
- 3.4 **Operating Regulations.** The Operating Regulations set out the procedures for execution of the program's lines of action, including the technical and eligibility requirements for TEA activities under the operation. The Operating Regulations make explicit reference to enforcement of the rules of operation published in Mexico's official gazette, *Diario Oficial de la Federación*, for both the SEMS scholarship program and CONOCER's operations.
- B. Procurement**
- 3.5 Goods and services will be procured, and consultants contracted, in accordance with the Bank's procurement policies (documents GN-2349-9 and GN-2350-9). The program does not include financing of works. The short list for consulting services may comprise entirely national consultants when their cost is US\$500,000 or less.
- 3.6 Pursuant to the "Policies for the selection and contracting of consultants financed by the Inter-American Development Bank" (document GN-2350-9), the following may be subject to single-source selection: (i) the National Institute of Statistics and Geography (INEGI), up to US\$13 million, to conduct the monitoring surveys; such single-source selection is justified under paragraph 3.10(a), as a continuation of consulting services provided by INEGI under PROFORHCOM Phase II; and (ii) the Organization for Economic Cooperation and Development (OECD), up to US\$1.2 million, for the fixed cost of running the PIAAC survey for a sample of 5,000 people; such single-source selection is justified under paragraph 3.10(d),

since the OECD is the only entity accredited to perform this survey (see [required electronic link 3](#)).

- 3.7 Procurements will be subject to ex post supervision, with the exception of the procurements conducted under the international competitive bidding (ICB) and national competitive bidding (NCB) modalities (see paragraph 2.3 and Annex III, paragraph 4.6), which will be subject to ex ante review, as established in the procurement plan.
- 3.8 In February 2013, the Board of Executive Directors of the Bank accepted the increased use of Mexico's public procurement system, as established in the country strategy update (document GN-2595-3). This system may therefore be used, once the corresponding implementation agreement has been signed with the Government of Mexico (see Annex III).

### **C. Retroactive financing, exchange rate, and audit**

- 3.9 **Retroactive financing.** The Bank may retroactively finance, against the loan proceeds, eligible program expenditures of up to 20% of the total loan amount, incurred by the borrower, provided that requirements substantially similar to those established in the loan contract have been met. Such expenditures must have been incurred on or after 7 August 2013 (approval date of the project profile), but no more than 18 months before the loan approval date. The Bank may recognize expenditures incurred on or after the above date as part of the local contribution.
- 3.10 **Exchange rate.** The recommended exchange rate for conversion of expenses in local currency into U.S. dollars is the rate in effect on the last business day of the month prior to the month of expenditure execution, or the rate agreed upon with the Bank (document GN-2415).
- 3.11 **External audit.** The Borrower, acting through the SEP and NAFIN, will deliver the program's annual financial statements, audited by independent auditors eligible for the Bank, in accordance with the terms of reference previously agreed upon with the Bank and the Civil Service Department (SFP). In view of the period for the closure of the Mexican government's public accounts and the financial consolidation of the TEAs by the PMCU, it is recommended that the deadline for delivery of the annual financial statements be extended to 180 days after the close of the fiscal year. The audit will be financed by the local counterpart.

### **D. Summary of arrangements for monitoring results**

- 3.12 A monitoring and evaluation plan has been agreed upon that will utilize the output and outcome indicators reflected in the Results Matrix. Wherever possible, instruments available to SEMS will be used for data collection.
- 3.13 Two impact evaluations will be performed with a quasi-experimental design. As part of these evaluations, the indicators will include: employment rate, formal employment rate, wages; percentage of young people continuing on to higher education (see [required electronic link 2](#)). From the results of the economic analysis, it may be concluded that the program is cost-effective, since the net

present value of benefits is positive even under the most conservative scenarios (see [optional electronic link 20](#)).

Development Effectiveness Matrix			
Summary			
<i>I. Strategic Alignment</i>			
<b>1. IDB Strategic Development Objectives</b>	Aligned		
Lending Program	Lending for poverty reduction and equity enhancement		
Regional Development Goals	Share of formal employment in total employment.		
Bank Output Contribution (as defined in Results Framework of IDB-9)	i) Teachers trained, and ii) Individuals (all, men, women, youth) benefited from programs to promote higher labor market productivity.		
<b>2. Country Strategy Development Objectives</b>	Aligned		
Country Strategy Results Matrix	GN-2595-1	Improved job prospects for graduates of technical high schools.	
Country Program Results Matrix	GN-2696	The intervention is not included in the 2013 Country Program Document.	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
<i>II. Development Outcomes - Evaluability</i>	Highly Evaluable	Weight	Maximum Score
	9.5		10
<b>3. Evidence-based Assessment &amp; Solution</b>	10.0	33.33%	10
<b>4. Ex ante Economic Analysis</b>	10.0	33.33%	10
<b>5. Monitoring and Evaluation</b>	8.4	33.33%	10
<i>III. Risks &amp; Mitigation Monitoring Matrix</i>			
Overall risks rate = magnitude of risks*likelihood	Low		
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		
<i>IV. IDB's Role - Additionality</i>			
The project relies on the use of country systems (VPC/PDP criteria)	Yes	Financial management: SICOP and SIAFF. Procurement: Compranet.	
The project uses another country system different from the ones above for implementing the program			
The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
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 impact evaluation will aim at employment indicators of secondary education graduates for different interventions in education starting in 2008. Indicators will include employment rate, salary at first job (social security), formality for first job and continuity to higher education.	

The intervention aims to improve the employability of secondary education graduates through: i) improvements in the quality and relevance of technical higher secondary education, professional training and job training supply, and ii) the strengthening of the national system for certification of competencies. 70% of students in the last grade in upper secondary school obtain elemental or not sufficient levels of basic competencies; 40% of employers report that graduates are not ready to be incorporated in the labor market and the fact that the rate of return to higher education is double that of higher secondary education is taken as evidence of education supply with low quality and relevance. The diagnostic is based on national official statistics. The effectiveness of the proposed solutions is based on international evidence.

The vertical logic for the results matrix is: benefited students from a curricular transformation, trained teachers, economic support for internships and a proposal to guide the national system to certify competencies leads to a higher quality and more relevant education supply. An improved education supply leads to more students graduated and a higher probability of employment in the short run. In the long run, the program should lead to higher probability of employment, higher wages and more individuals enrolled in higher education. The project proposes two evaluations: one based on regression discontinuity and another with matching.

There are no major risks identified. The justification given is the Bank's experience working with the executing agency. There are no proposed measures to mitigate risks.



## RESULTS MATRIX

<b>Project objective</b>	To help improve the employability of graduates of technical upper secondary education, vocational training, and job-skills development in Mexico.

Impact indicators	Baseline	Final target	Remarks
Difference in the employment rate between graduates from institutions in the treatment group and those in control group.	0	2.5	Measured 12+ months after graduation (difference in percentage points). Sources of information: administrative data to build the progress index and ENILEMS. Treatment and control groups will be defined according to the reform implementation progress index. The level of indicators for the 2011 generation of graduates: employment rate, 40%; formal employment rate, 32%; monthly wages, 2,500 pesos; proportion of graduates continuing to higher education, 33%. Final target expected to be measured in 2017.
Difference in the formal employment rate between graduates from institutions in the treatment group and those in control group.	0	2.5	
Wage difference between graduates of institutions in the treatment group and those in control group.	0	2.5	
Difference in the proportion of young people continuing to higher education between graduates of institutions in the treatment group and those in control group.	0	4	

Outcome indicators	Baseline	Final target	Remarks
Terminal efficiency rate for technical upper secondary education.	61.8% (2012)	63% (2018)	<b>Source:</b> SEMS report on main figures by educational cycle and level of education (baseline SEMS 2012).
Percentage of upper secondary education graduates studying or working three months after graduation.	68% (2011 graduates)	70% (2017 graduates)	<b>Source:</b> ENILEMS.

Output indicators	Base	2014	2015	2016	2017	Final target	Remarks
<b>Component 1: Improve the quality and relevance of vocational education and training</b>							
Economic support for training in the workplace.	0	754	2,850	5,206	7,190	16,000	<b>Source:</b> Program reports.
Beneficiaries served by the program.	0	2,000,000	2,000,000	2,000,000	2,000,000	8,000,000	<b>Source:</b> Program reports. Includes students in technical upper secondary education, vocational training, and persons attending job-skills development at federal level per year. Beneficiaries of the curriculum transformation. <sup>1</sup> The academic year starts in August and ends in July, so each year the previous academic year is reported, with reports in November of each year.
Teachers trained.	0	1,000	4,000	4,000	4,000	13,000	<b>Source:</b> Program reports.
<b>Component 2: Strengthen and shift the emphasis of the National Skills System</b>	<b>Base</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>Final target</b>	<b>Remarks</b>
Proposed shift in emphasis of the National Skills System developed and agreed upon by consensus with the private sector.	0	-	-	-	1	1	<b>Source:</b> Program reports. Means of verification: Final document.

<sup>1</sup> Curriculum transformation is understood to mean the development and/or redesign of courses, including: technical advisory support, equipment, vocational guidance, measurement of learning outcomes, and new forms of teaching. In addition, the beneficiaries served are also eligible for economic support, and their teachers can receive training, financed by the program (and measured in the other two outputs of the matrix) or federal resources.

## FIDUCIARY AGREEMENTS AND REQUIREMENTS

**Name:** Skills-based Human Resources Development Program (PROFORHCOM), ME-L1142

**Executing agency:** Department of Public Education (SEP)

**Prepared by:** Gloria Coronel, Lead Specialist in Financial Management; Víctor Escala, Fiduciary Specialist in Procurement; and Miriam Garza, Fiduciary Operations Analyst.

### I. EXECUTIVE SUMMARY

- 1.1 The general objective of PROFORHCOM is to help improve the employability of graduates of technical upper secondary education, vocational training, and job-skills development in Mexico.
- 1.2 The first phase of the Skills-based Human Resources Development Program (PROFORHCOM), financed by the Inter-American Development Bank (IDB), began operation in April 2005, with retroactive recognition of expenditures since 2003. Two phases of implementation were planned, each with an estimated duration of 3 to 5 years. The first phase (loan 1579/OC-ME, ME-0250) was completed in 2009 with financing of US\$50.4 million in IDB funds and a local contribution of US\$33.6 million. The second phase (loan 2167/OC-ME, ME-L1039), approved in 2009 and now in execution, is for a total amount of US\$125 million, with US\$100 million in IDB financing and a local contribution of US\$25 million. The original, and current, date for the last disbursement under this operation is 8 February 2015.

### II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 2.1 The executing agency will be the Department of Public Education (SEP), acting through the Office of the Deputy Secretary of Upper Secondary Education (SEMS), with the support of the program management and coordination unit (PMCU) and the participation of the technical executing agencies (TEAs). The PMCU will coordinate the participation of all the technical executing agencies involved in the program.
- 2.2 The PMCU has supported the previous phases of the PROFORHCOM program and therefore has ample experience in the management of Bank operations and in supporting joint and complementary actions by the various technical executing agencies.

- 2.3 Additionally, for coordination with the Bank, PROFORHCOM will also be supported by Nacional Financiera, S.N.C. (NAFIN), as the financial agent appointed by the Department of Finance (SHCP).

### III. FIDUCIARY RISK EVALUATION AND MITIGATION MEASURES

- 3.1 An institutional capacity analysis was conducted in December 2008, directed primarily to the PMCU, and supplementarily to the SEP's Procurement Directorate, which, although not an executing agency, supports the PMCU's operations. This was complemented with the participation of staff of the General Directorate for University Higher Education (DGESU) and the General Directorate for Education in Marine Science and Technology (DGECyTM).
- 3.2 Applying ICAS to the executing agency yielded a weighted score of 96.76%, which demonstrates a level of sufficient development, and therefore low risk, for program execution.
- 3.3 A fiduciary/financial visit was conducted in October 2012, the outcome of which was that the internal control system and bookkeeping processes for project administration were found to be efficient. That same month a procurement training visit took place, during which a random review of the procurement procedures was carried out, which found them to be satisfactory. Additionally, the annual reports on the ex post review of procurement procedures by external auditors reported that they were being performed appropriately and in line with the Bank's procurement policies.
- 3.4 **Considerations for the Special Provisions of the loan contract** are as follows:
1. The exchange rate for the rendering of accounts will be that of the last working day of the month prior to the expenditure payment date. The project's audited financial statements, audited by auditors acceptable to the Bank in accordance with the terms of reference agreed with the Bank.
  2. Audited financial reports to be delivered within 180 days after the end of the fiscal year, audited by Bank eligible firms and with ToRs agreed with the Civil Service Department (SFP) and the executing agency.
  3. Unaudited semiannual reports to be delivered within 60 days after the end of each six-month period.
  4. Before any call for tender or award of the contract can take place, the executing agency must submit the proposed procurement plan to the Bank for review and approval, in accordance with the Bank's procurement policies. This plan must be updated at least every 12 months during program execution and each updated version will be subject to review and approval by the Bank, during which it will be decided which procurement items are subject to ex ante or ex post review.
  5. The executing agency may use single-source selection for the contracting of:  
(i) the National Institute of Statistics and Geography (INEGI) up to US\$13 million, for it to conduct monitoring surveys; and (ii) the Organization for

Economic Cooperation and Development (OECD), up to US\$1.2 million, to administer the PIAAC test.

#### IV. RETROACTIVE FINANCING

- 4.1 The Bank may retroactively finance, against the loan proceeds, eligible program expenditures of up to 20% of the total loan amount, incurred by the borrower prior to the date of loan approval, provided that requirements substantially similar to those established in the loan contract have been met. Such expenditures must have been incurred on or after 7 August 2013 (approval date of the project profile), but no more than 18 months before the loan approval date. The Bank may recognize expenditures incurred on or after the above date as part of the local contribution.
- 4.2 **Agreements and requirements for procurement execution.** Given the nature of the project, the procurement of goods, nonconsulting services, and contracting of consulting firms or individual consultants is envisaged, such that the “Policies for the procurement of goods and works financed by the Inter-American Development Bank” (document GN-2349-9) and “Policies for the selection and contracting of consultants financed by the Inter-American Development Bank” (document GN-2350-9), both of 2011, will apply. If these policies are modified, the new version may be applied with the written consent of the borrower, financing agent, and the executing agency.

**Table of Threshold Amounts (US\$000s)**

Goods <sup>1</sup>			Consulting services	
ICB	NCB	Shopping	International publicity Consulting	Short list 100% national
≥ 3 million	< 3 million and > 100.000	< 100,000	> 200,000	< 500,000

#### Main procurements

Activity	Procurement method	Estimated date	Estimated amount (US\$000s)
<b>Goods and nonconsulting services</b>			
Furniture and computer equipment	NCB	2014-2015	385
Laboratory and workshop equipment	ICB	2014-2015	26,538
Equipment for supra-business centers	ICB	2014-2015	3,076
Purchase of airfare, organizing conferences, conventions, seminars, country-wide training and dissemination events, including living expenses,	S Under a framework	2014-2017	20,000

<sup>1</sup> Includes nonconsulting services.

Activity	Procurement method	Estimated date	Estimated amount (US\$000s)
logistics, and other requirements for their execution, throughout the duration of the project. <sup>2</sup>	agreement		
<b>Consulting services (firms<sup>3</sup> and individuals)</b>			
Running monitoring surveys, processing statistical information, to be carried out throughout the project.	DC	2014-2017	13,000
Administering the OECD's PIAAC test, throughout the duration of the project.	DC	2014-2017	1,200
Designing and setting up the National Skills Bank.	QCBS	2014-2015	538
Prospective study to identify functions and skills for employability and productivity at country, sector, and regional levels.	QCBS	2014-2015	1,076
Consulting services to define strategies for the transformation of the education offering.	QCBS	2014-2015	2,308
Training of linkage managers and formation of country-wide network	NECQ	2014-2015	923
Development of six standards and mechanisms of technical/vocational training skills evaluation	NECQ	2014-2015	769

- 4.3 **Single-source selection.** As established in paragraphs 3.10(a) and (d) of the “Policies for the selection and contracting of consultants financed by the Inter-American Development Bank” (document GN-2350-9), single-source selection of the National Institute of Statistics and Geography (INEGI), up to US\$13 million, will be allowed for it to conduct monitoring surveys, in view of its demonstrated specialization in the gathering, processing, and dissemination of statistical and geographical information. The single-source selection of INEGI is justified as the continuation of consulting services it has been providing under PROFORHCOM in the previous phase.
- 4.4 The single-source selection of the OECD to administer the PIAAC test has also been approved for up to US\$1.2 million, this being the fixed sum that the OECD charges countries participating in this test. The PIAAC is a program developed by the OECD to assess the adult population’s knowledge and competencies. The added value of this test is that it provides a basis for comparative analysis of skills training systems and their outcomes; as well as its international comparative dimensions.

<sup>2</sup> For this activity it was agreed that the NAFIN would not review the processes. Therefore shopping will be carried out under a framework agreement. Nevertheless, the Bank may conduct reviews as they are ex post processes.

<sup>3</sup> In the case of consulting services by firms, this means the short list comprises firms of various different nationalities. See “Policies for the selection and contracting of consultants financed by the Inter-American Development Bank” (document GN-2350-9), paragraph 2.6.

- 4.5 **Other major procurements.** In the case of the procurement of services relating to seminars and training events, which may include, *inter alia*, airfare, food and lodging, conference, convention and seminar logistics, the procurement mechanism used will be shopping. For these purposes the shopping process may be managed under the Mexican government's current framework agreement, bearing in mind considerations of economy and efficiency, given the government's procurement volumes, as this modality has been found to reduce transactions costs, acquisition times, is transparent, ensures traceability of the process, allows better quality service to be obtained, and reliable suppliers are available whose performance is monitored and evaluated by the Mexican public procurement authority.
- 4.6 **Procurement supervision.** Procurements will be subject to ex post supervision, with the exception of the procurements conducted under the international competitive bidding (ICB) and national competitive bidding (NCB) modalities (where weaknesses and areas for improvement have been identified), which will be subject to ex ante review, as established in the procurement plan.
- 4.7 At least one annual inspection visit is envisaged, as well as training in the procurement area.
- 4.8 **Approval of country system.** In February 2013, the Board of Executive Directors of the Bank accepted the increased use of Mexico's public procurement system (adoption of Mexico's public procurement system), as established in the country strategy update (document GN-2595-3).<sup>4</sup> This system may therefore be used, once the corresponding implementation agreement has been signed with the Government of Mexico.
- 4.9 **Records and files.** The files must be available for any procurement reviews the Bank considers relevant.

## V. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

- 5.1 **Programming and budget** The PROFORHCOM's budget is authorized annually in the Expenditure Budget of the Federation (PEF). The General Directorate for Budget and Financial Resources (DGPRF) is responsible for recording and monitoring the SEP's authorized budget using the SICOP accounting and budget system. Each area of the SEP is responsible for recording its own budget,

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<sup>4</sup> The scope of use of Mexico's federal procurement system will be for all contracts up to the ICB threshold amounts set by the Bank for the procurement of works (i.e. US\$15 million) and of goods and services (i.e. US\$3 million). Above these amounts, the Bank's procurement policies must be applied (documents GN-2349-9 and GN-2350-9). Use of the system does not include the following: (i) consulting service contracts, (ii) PEMEX contracts; (iii) contracts under the laws of state and municipal governments; and (iv) direct contracting between public agencies (interadministrative contracts). Likewise, the provisions of the federal system regarding the exclusion of foreigners and degree of national integration will not apply. The Bank reserves on application of the procurement policies in cases where conditions vary from those under which the country system was approved, or specific risks are identified.

- producing its accounts, and performing treasury tasks. The technical executing agencies have direct access to SICOP.
- 5.2 **Accounting and information systems.** SICOP has a direct link to the Federal Integrated Financial Management System (SIAFF). All expenditures by public bodies are charged against the relevant budget and require preparation of a certified settlement account (CLC), also producing a record in the SICOP system. The Federation Treasury (TESOFE) uses this CLC to process payments.
  - 5.3 **Federal Integrated Financial Management System (SIAFF).** The SIAFF is a single integrated financial management system allowing the recognition and control of budgetary execution, while strengthening the planning, budgeting, and financial programming processes, and automating government accounting.
  - 5.4 **Additional accounting system (CONTPAQi) for the consolidation of technical executing agencies.** Additionally, each technical executor keeps a separate record of the operations they execute from loan proceeds in an accounting system called CONTPAQi. Transactions in this system are reconciled continuously by the technical executing agencies with the PMCU and the SEP's institutional budget monitoring system; the PMCU is responsible for system administration and consolidation of accounting information and verifies that transactions are recorded in the right component. It will also verify the consistency and substantiation of the records and information prior to sending disbursement requests to NAFIN for forwarding to the IDB.
  - 5.5 **Disbursements, cash flows, and supporting documentation for expenditures.** The information necessary for the integration of disbursement requests is compiled using the CONTPAQi system. The person in charge of each executing agency will generate and review the CLCs monthly, verifying that the payments have full supporting documentation to substantiate the expenditure, that the expenditure is eligible, and that it is envisaged in the Procurement Plan. Once the CLCs have been validated they are recorded in the CONTPAQi system. The PMCU's Accounting and Disbursements Subdirectorate (SDC) reviews and validates the financial information recorded by the technical executing agencies in the CONTPAQi and draws up a monthly account/budget reconciliation (CONTPAQi versus SICOP). The breakdown of payments for IDB disbursement requests is generated using the information recorded by the executing agencies in CONTPAQi through SYSDUCA.
  - 5.6 **Internal control and internal audit.** In 2006, the Civil Service Department (SFP) issued its General Standards of Internal Control in the area of the Federal Government, which are generally applicable to its departments and agencies. These standards support the fulfillment of established objectives and targets, prevent risks that may affect their achievement, and foster appropriate compliance with transparency and accountability obligations in the exercise of public office.
  - 5.7 The SEP has an internal audit unit (OIC) which until 2012 was regulated by the SFP and all Federal Government regulations. Its work complies with generally accepted accounting standards and its work plan is approved by the SFP.



Mexico's new government decided to transfer supervision of the OIC to each department. This process will be implemented in 2013. Thus, in the future the OIC will depend entirely on the SEP. Although this change reduces the OIC's independence, no modifications are anticipated that adversely affect program implementation or controls.

- 5.8 **External control and reports.** As NAFIN is the financial agent, its disbursements area will review: (i) the consistency of the figures in the periodic financial reports submitted by the executing agency regarding the records NAFIN has implemented in the sphere of its competency; and (ii) accounting for expenditures (payment details) submitted by the executing agency to the Bank via NAFIN. The SFP, the IDB, and the World Bank, in coordination with the financial agents, have harmonized the formats of semiannual and annual financial reports so as to make preparing them more efficient. The SFP has issued a document entitled "Guía para la gestión financiera de los proyectos financiados por organismos financieros internacionales" [Guide for the financial management of projects financed by international financial institutions], which requires the executing agency to submit semiannually project financial reports to the financing agency every six months for their timely forwarding to the IDB. These reports, published on the SFP-DGAE website, describe the financial progress of the operation at the end of each six-month period and the cumulative report on each category of investment. It also includes details of the applications submitted during the year, expenses pending processing, and reconciliation with the IDB's records.
- 5.9 The Borrower, acting through the SEP and NAFIN, will deliver the program's annual financial statements, audited by independent auditors eligible for the Bank, in accordance with the terms of reference previously agreed upon with the Bank and the Civil Service Department (SFP). In view of the legally established period for the closure of the Federal Government's public accounts and the financial consolidation of the TEAs by the PMCU, it is recommended that the deadline for delivery of the annual financial statements be extended to 180 days after the close of the fiscal year. The audit will be financed by the local counterpart.

**Financial supervision plan**

Supervision activity	Supervision plan			
	Nature and scope	Frequency	Party responsible	
			Bank	Third party
Financial	Ex post review of disbursement requests	Periodic	Financial/fiduciary team for payments	
	Fiduciary inspection visit / analysis of internal control and control environment for payments and procurement.	Annual	Fiduciary/financial and procurement team	
	Annual allocation of budgetary resources required for project implementation	Annual	PTL with financial/fiduciary support	Executing agency
Compliance	Delivery of financial statements	Annual	PTL with financial/fiduciary specialist support	External auditor

5.10 **Execution mechanism.** As the program has an administration and monitoring function through the PMCU, and ample experience and good performance from previous operations, no changes in the execution mechanism described in above are envisaged.