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Introduction
Economics of Higher Education

The connection between Higher Education and the economy is longstanding

Broadly speaking, it plays a key role on many levels:

- Economic, social and cultural development
- The increase of human capital stock
- The construction and dissemination of knowledge base, its transference and further dissemination

Being a driver of innovation, competitiveness and productivity, Higher Education has acquired a growing importance on national agendas, including in Latin America.
Economists have traditionally identified three factors of production: land, labor and physical capital.

In the 1960s, increasing attention was paid to the quality of labor, level of education and training in the workforce.

Human capital embodies the knowledge and the set of skills, competencies and attributes embodied in individuals that foster the creation of value and well-being.

Governments are expected to adopt human capital policies, notably through investments in all stages of education.
Impact on Economic Performance

Higher Education is one of the many factors behind the differences in growth and performance among countries.

Elaboration: FGV Projetos.
Source: GDP data extracted from IMF, WEO Database (2014); Education data extracted from UNDP Open Data (2014).
Higher Education Benefits

Higher education provides both **individual** and **social benefits**, which can be monetary and non-monetary, direct and indirect, short and long-term.

### Individual
- greater employment possibilities
- access to **better paying occupations** (wage premium)
- greater **occupational prestige**

### Social
- **market externalities** (e.g. higher productivity and easier diffusion of new technologies)
- **positive non-monetary effects** (e.g. stronger institutions and the rule of law)
- **positive indirect effects** (e.g. greater awareness of environmental issues)

Social and Private Returns * to Investment in Education by Level (latest year, in %)

As an economic resource, Higher Education economic returns are affected by the relative scarcity of human capital.

Note (*): Non OECD countries.
Elaboration: FGV Projetos.
Source: Brunner (2013).

* The discount rate that equates a stream of education benefits to a stream of educational costs at a given point in time by level of Education.
Part II
Recent Trends in Latin America
The most remarkable trend in the region has been the **expansion** of Higher Education systems.

**Net Enrolment Rate in Tertiary Education** (in %)
Share of youths in tertiary education age attending superior education institutions

<table>
<thead>
<tr>
<th>Country</th>
<th>1990s</th>
<th>Early 2000s</th>
<th>Latest Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>28</td>
<td>33</td>
<td>23</td>
</tr>
<tr>
<td>Brazil</td>
<td>21</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Chile</td>
<td>18</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>9</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Dominican Rep.</td>
<td>11</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Ecuador</td>
<td>27</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>El Salvador</td>
<td>7</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Honduras</td>
<td>4</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>Mexico</td>
<td>18</td>
<td>12</td>
<td>24</td>
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<td>Nicaragua</td>
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<td>12</td>
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<td>Panama</td>
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<tr>
<td>Paraguay</td>
<td>8</td>
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<tr>
<td>Uruguay</td>
<td>8</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Venezuela</td>
<td>29</td>
<td>18</td>
<td>21</td>
</tr>
</tbody>
</table>

**Elaboration:** FGV Projetos.
**Source:** SEDLAC (2014).
Increasing Public Investment

To cope with **demographic change and mass demand**, most countries in the region have significantly increased **public spending** on Higher Education.

**Government Expenditure on Tertiary Education** (as % of GDP)

- **Argentina**: 0.8, 1.2
- **Bolivia**: 0.9, 1.6
- **Brazil**: 0.9, 2.0
- **Chile**: 0.5, 1.0
- **Colombia**: 0.7, 1.0
- **Costa Rica**: 0.9, 1.2
- **Ecuador**: 0.1, 1.2
- **El Salvador**: 0.6, 0.3
- **Mexico**: 1.0, 0.8
- **Paraguay**: 0.7, 1.6
- **Peru**: 0.5, 0.5
- **Uruguay**: 0.5, 1.2

**Elaboration**: FGV Projetos.
**Source**: UIS Data Center (2014).
The role of Private Institutions

Following education reforms in Latin America, the role of **Private Institutions** has been greatly enhanced, expanding opportunities beyond public budgetary possibilities.

**Share of Private Enrolment in Tertiary Education** (in %)

<table>
<thead>
<tr>
<th>Country</th>
<th>Early 2000s</th>
<th>Latest Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Bolivia</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Brazil</td>
<td>65</td>
<td>72</td>
</tr>
<tr>
<td>Chile</td>
<td>72</td>
<td>84</td>
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<tr>
<td>Colombia</td>
<td>64</td>
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<tr>
<td>El Salvador</td>
<td>71</td>
<td>68</td>
</tr>
<tr>
<td>Honduras</td>
<td>21</td>
<td>40</td>
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<tr>
<td>Mexico</td>
<td>30</td>
<td>32</td>
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<tr>
<td>Paraguay</td>
<td>58</td>
<td>66</td>
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<tr>
<td>Peru</td>
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<tr>
<td>Uruguay</td>
<td>11</td>
<td>14</td>
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<tr>
<td>Venezuela</td>
<td>44</td>
<td>29</td>
</tr>
</tbody>
</table>

**Elaboration:** FGV Projetos.
**Source:** UIS Data Center (2014).
The “Diploma Effect”

Due to the **market value of their credentials**, Higher Education graduates are experiencing **lower unemployment and higher salaries**

**Unemployment Rate - Total and with Higher Education** (latest year, in %)

**Wage Gaps between Secondary and Tertiary Education Graduates** (25-64 year-old males, latest year)

Elaboration: FGV Projetos.
Source: OECD PISA 2012 Database.

Elaboration: FGV Projetos.
Source: SEDLAC (2014).
Bottlenecks in Secondary Education

Poor academic performance and low completion rates in Secondary Education still hinder the potential benefits from Higher Education in Latin America.

Average PISA Scores in Math in 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>388</td>
</tr>
<tr>
<td>Brazil</td>
<td>391</td>
</tr>
<tr>
<td>Chile</td>
<td>423</td>
</tr>
<tr>
<td>Colombia</td>
<td>376</td>
</tr>
<tr>
<td>Mexico</td>
<td>413</td>
</tr>
<tr>
<td>Peru</td>
<td>368</td>
</tr>
</tbody>
</table>

+ 25 year-olds that completed Upper Secondary (latest year, in %)

<table>
<thead>
<tr>
<th>Country</th>
<th>25 year-olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>28</td>
</tr>
<tr>
<td>Bolivia</td>
<td>15</td>
</tr>
<tr>
<td>Brazil</td>
<td>28</td>
</tr>
<tr>
<td>Chile</td>
<td>35</td>
</tr>
<tr>
<td>Colombia</td>
<td>22</td>
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<tr>
<td>Ecuador</td>
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<td>Mexico</td>
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<td>Paraguay</td>
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<td>Peru</td>
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<tr>
<td>Uruguay</td>
<td>17</td>
</tr>
<tr>
<td>Venezuela</td>
<td>27</td>
</tr>
</tbody>
</table>

Elaboration: FGV Projetos.
Source: OECD PISA 2012 Database.

Elaboration: FGV Projetos.
Source: UIS Data Center (2014).
Though recent experience has focused on **Quantity**, most Higher Education Systems in Latin America are still lagging in terms of **Quality**

- **Heterogeneous** academic quality and standards
- Student **performance** and **dropout** issues
- Limited role of **technical, vocational** and **short-cycles** institutions and courses
- Widening **mismatches** between higher education training and labor market needs
Part III

The Employability Challenge
The Labor Market Gap

- Despite more university graduates being available each year, employers still struggle to find skilled workers.

- The mismatching in the job market reflects the differences between what employers’ demand and what higher education institutions actually supply*:

<table>
<thead>
<tr>
<th>Traditional Curricula</th>
<th>Market Demands</th>
</tr>
</thead>
<tbody>
<tr>
<td>◆ oriented to memorializing information and abstract thinking/problem-solving</td>
<td>◆ oriented to practical reasoning and concrete problem-solving</td>
</tr>
<tr>
<td>◆ cognitive skills</td>
<td>◆ broader skills</td>
</tr>
<tr>
<td>◆ routine behavior</td>
<td>◆ focus on know-how</td>
</tr>
<tr>
<td>◆ adaptive behavior</td>
<td></td>
</tr>
</tbody>
</table>

These skills shortages in the job market raise the problem of graduates’ **employability**

**Employability** is the set of characteristics (skills, knowledge and personal attributes) that make graduates more likely to gain employment, maintain it, and obtain a new one if required.

Thus, employers are expected to invest additional time and effort **training the workforce for specific roles and tasks**
Measuring the Gap: Unemployment

Employability issues affect more commonly young adults – specially newly graduates – translating into higher unemployment rates.

Urban Open Unemployment Rate by Age Group (latest year, in %)

Elaboration: FGV Projetos.
Source: CEPALSTAT (2014).
Demand for Higher Education is **not uniform across disciplines**: in Latin America, the largest pool of graduates is concentrated in Social Sciences, Business and Law programs.

**Graduates from Higher Education by Program** (latest year, in %)

*Elaboration:* FGV Projetos.
*Source:* UIS Data Center (2014).
Structural changes, led by the services sector - the knowledge-based industries (such as ICT*) - are bringing new trends and skill requirements to the job market.

Allocation of Workforce in the Service Sector (in %)

Elaboration: FGV Projetos.
Source: CEPAL STAT (2014). * Information and Communications Technologies
Bridging the Gap

According to the International Labor Organization – ILO (UN, 2001):

“All countries need to review, rethink and reorient their education, vocational training and labour market policies to facilitate the school to work transition and to give young people (...) a head start in working life.

- How can the higher education system identify the needs of the job market and coordinate with future employers to develop adequate programs for students?
- How does the traditional university model compare with postsecondary vocational training in terms of immediate employment?
- How to advance life-long employment, enabling those who have begun their working life to develop additional skills and knowledge?
References


GENERATE, SHARE AND APPLY KNOWLEDGE FOR BRAZIL’S SOCIAL AND ECONOMIC DEVELOPMENT