Economic Trends in LAC

Strong growth over the past decade

But lower than other emerging regions and slowing down......

Source: World Bank WDI
Economic Trends in LAC

GDP per capita in LAC relative to the USA

Lac GDP pc was 14.8% compared to the US in 1960. Now it is 13.2%.

Source: World Bank

And the region is not catching up
What is the problem?

Low Productivity Growth!

Source: Fernandez-Arias (2014)
### What is the problem?

Low Productivity Growth

#### Index of Productivity Relative to US (1960=1)

- **Typical LAC country**
- **Typical East Asian country**
- **Typical ROW country**

**Source:** Fernandez-Arias (2014)

#### Table 1: Growth Accounting: LAC vs Comparison Countries (1960-2011) (%)

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>D GDP per capita (a)</th>
<th>D Factor Accumulation (b)</th>
<th>D TFP (c)</th>
<th>% Share (c) / (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAC</td>
<td>1.79</td>
<td>1.80</td>
<td>-0.01</td>
<td>-0.006%</td>
</tr>
<tr>
<td>East Asia and Pac.</td>
<td>3.69</td>
<td>2.85</td>
<td>0.83</td>
<td>22.5%</td>
</tr>
<tr>
<td>United States</td>
<td>1.99</td>
<td>1.21</td>
<td>0.78</td>
<td>39.2%</td>
</tr>
<tr>
<td>China</td>
<td>6.04</td>
<td>4.21</td>
<td>1.83</td>
<td>30.3%</td>
</tr>
<tr>
<td>Finland</td>
<td>2.74</td>
<td>1.44</td>
<td>1.30</td>
<td>47.4%</td>
</tr>
</tbody>
</table>
INNOVATION AND PRODUCTIVITY

Innovation  
Productivity Growth  
Economic performance
Significant gap in R&D investment

However, there are significant differences across countries in LAC

Source: World Bank WDI, RICYT, OECD
Shortage of human capital for innovation

Researchers per 1,000 in the labor force

LAC: 1.11
OECD: 7.18
USA: 8.08

Also in LAC: women under-represented in STI

Women researchers by field in Colombia
- Natural Sciences: 32%
- Engineering & Tech: 21%
- Medical Sciences: 48%
- Agricultural Sciences: 40%
- Humanities: 37%

Situation in LAC looks a bit more promising than in the EU: 43% vs 33%

However, composition matters!

(not enough data)

Low women patent ownership in LAC:
- 6.7% women-only
- 69.6% men-only

Source: Women is Science, UNESCO; SHE Figures 2015, EU.

Source: Morales and Sifontes (2014)
Women and innovation
Some evidence about Chile

Country: **Chile**
Data: Longitudinal Firm Survey (ELE)
Year: 2009
Total sample: 7,062 observations
Sample covered in this exercise: **1,855**
- Micro, small and medium sized firms
- With 5 or more employees
- With information about ownership
- With information about innovation

Grazzi & Olivari (2015)

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Firm ownership by gender:

- **Only owner**
  - Male: 367
  - Female: 80
- **Partner**
  - Male: 839
  - Female: 125
- **General manager**
  - Male: 380
  - Female: 64

Females are less represented in the business population

But how innovative are female-led firms compared to male-led firms?
## Some evidence about Chile

<table>
<thead>
<tr>
<th>Ownership status</th>
<th>Gender</th>
<th>% of innovator</th>
<th>% of product innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only Owner</td>
<td>Female</td>
<td>50</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>50</td>
<td>31</td>
</tr>
<tr>
<td>General manager</td>
<td>Female</td>
<td>47 ** *</td>
<td>20 *** ***</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>58</td>
<td>38</td>
</tr>
</tbody>
</table>

Grazzi & Olivari (2015)

**Mean test:**

\[
\text{diff} = \text{mean(Female)} - \text{mean(Male)}
\]

Ha: \( \text{diff} < 0 \)

Pr(\( T < t \))

* (10%) ** (5%) *** (1%)

**Mean test controlling for firm size and sector:**

* (10%) ** (5%) *** (1%)

Few female owners. But are as innovative as male owners. But not general managers....
# Some evidence about Chile

<table>
<thead>
<tr>
<th>Ownership status</th>
<th>Gender</th>
<th>Proportion of females in overall firm workforce (in %)</th>
<th>Proportion of females in top occupations* (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only Owner</td>
<td>Female</td>
<td>41 *** ***</td>
<td>55 *** ***</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>General manager</td>
<td>Female</td>
<td>38 *</td>
<td>50 *** ***</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>33</td>
<td>21</td>
</tr>
</tbody>
</table>

Grazzi & Olivari (2015)

* Top occupations include: Directors professionals and/or technicians.

**Mean test:**

diff = mean(Female) - mean(Male)

Ha: diff > 0

Pr(T > t)

* (10%) ** (5%) *** (1%)

**Mean test controlling for firm size and sector:**

* (10%) ** (5%) *** (1%)

Better gender balance in workforce when female are involved in business ownership and management.
Why does it matter?

- To **address** the problem of gender gaps in STI, LAC countries need to **acknowledge first** that there is a problem and that it matters.

- It matters because we are losing valuable talent

- It matters because diversity is productive
  - Socially diverse groups are more innovative and creative than homogeneous groups.
  - New topics into the research agenda; including the integration of gender dimension on research content.
How the IDB is addressing this issue for LAC?

24 month project (Sept 2015-August 2017)

Component 1: Measurement
Component 2: Research
Component 3: Awareness
Component 1: Measurement

• Objective:
  – Produce a set of gendered indicators in science, technology and innovation (STI) for the Latin American and the Caribe region.

• Activities:
  – What needs to be measured? (Concepts)
  – How do we measure? (Indicators)
  – What data do we need? (Data)
  – Where is the information we need? (Sources)

• Output:
  – A dataset
Component 2: Research

- **Objective:**
  - Understand the **costs** the LAC region faces due to the under-representation of women in STI

- **Activities:**
  - Definition of a conceptual framework to guide research about costs derived from gender gaps (to be carried out by an expert advisor).
  - Call for papers: Selection of 5 papers
  - Presentation of papers in a Technical Workshop (Gender Summit 2016)
Component 3: Awareness

• Objective:
  – Promote awareness, dialogue and action for gender equality in STI activities in LAC.

• Activities:
  – Support the organization of the Gender Summit 8 North America – 2016
  – A panel about LAC in the GS8
  – Elaboration, publication and dissemination of the project results
    • Source of robust evidence for policymakers, science leaders, science stakeholders, institutions, gender experts and science strategy decision makers when discussing, designing and evaluating policy actions.
  – Presentation of monograph in a Regional Workshop organized by the IDB
Thank You!!