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Trends on the labor markets, new occupations and competencies

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1. Context and perspectives

Trends of change

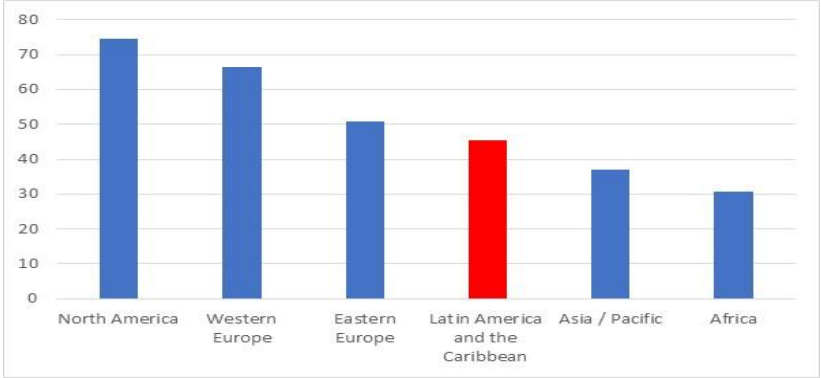
- Globalization and economic nationalism (the future of global value chains?)
- Demographic change (youth and aging)
- Technological change (digitalization, biotechnology, …)
- Green economy (transformation related to production and consumption; green technologies)
- Here: emphasis on technological change

Opportunities

- Positive correlation between digitalization and economic growth and productivity
- Contribution to progress in SDGs (environment, health, education, communication, social inclusion, governance)
- Job opportunities
- Productive use of existing assets (new business models)

Challenges arising from technological transformation

- Lag in progress in digitalization
- Digitalization index, 2015



- Risk of widening external productivity gap
- Risk of widening internal productivity gaps

Perspectives on the analysis of the impact of new technologies

- Compensatory
- Deterministic
- Contextual

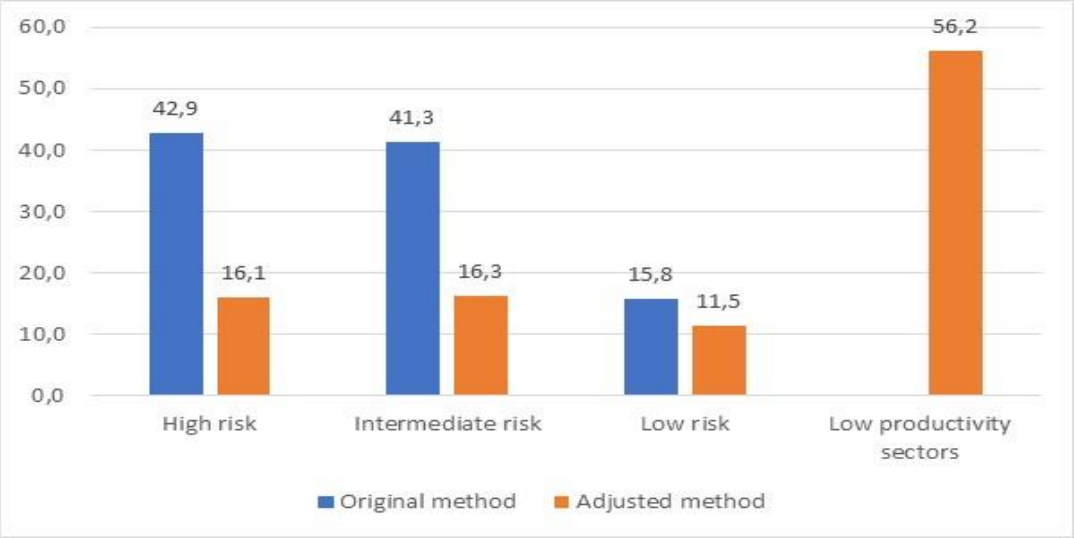
=> “Conditioned contextual”

2. Risks for the substitution of human work

Taking into account the structural characteristics of LAC's labor markets changes the estimates of the risk of job destruction

Latin America (12 countries): Risk of substitution of human work, method Frey and Osborne, standard and adjusted versions

(Percentages; simple averages)



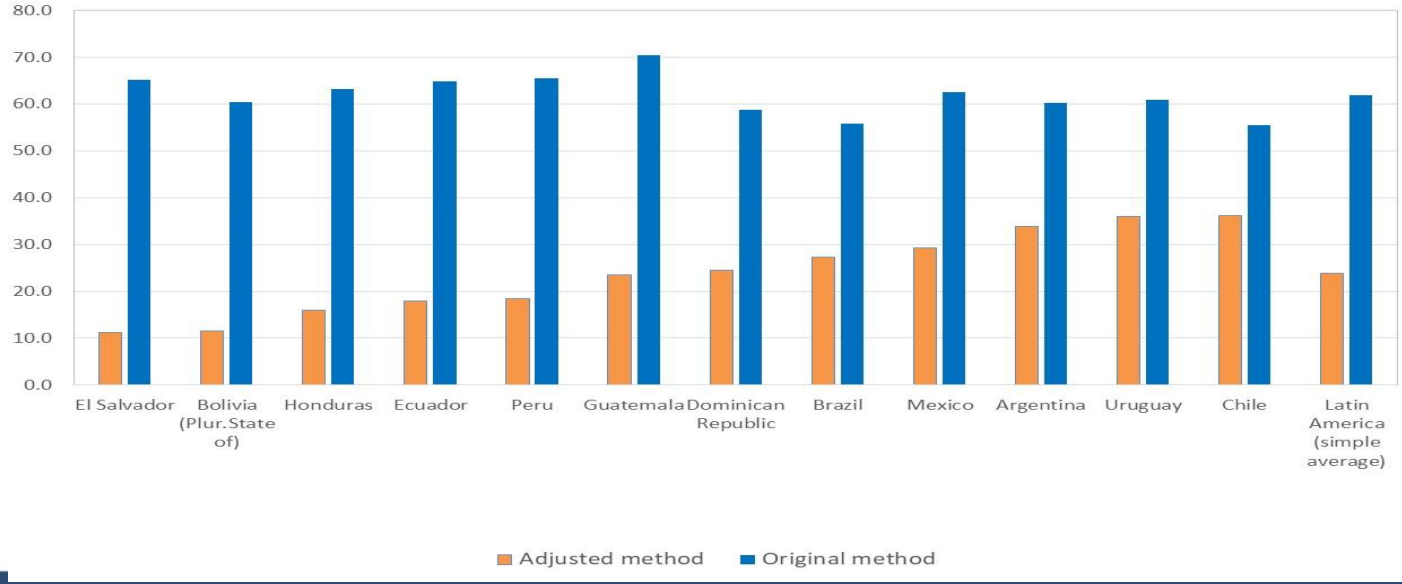
Source: Weller, Gontero, and Campbell, 2019

Which jobs are not at risk? The worst!

The methodological adjustment also affects the risk of substitution of individual countries

Average risk of substitution of human work, method Frey and Osborne, original and adjusted versions

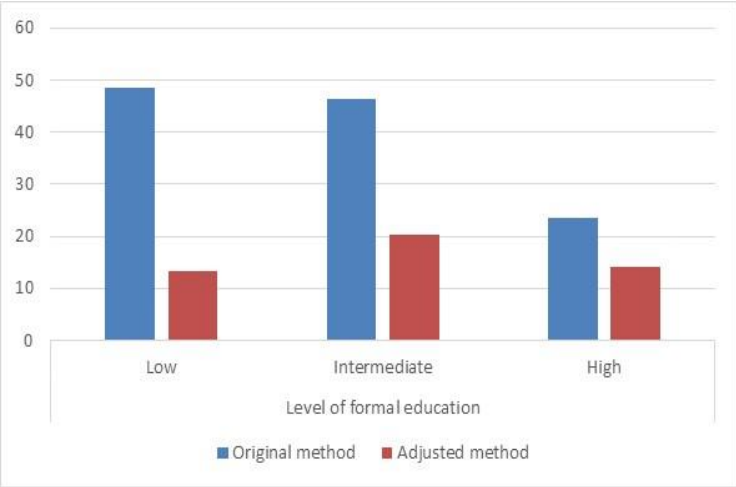
(Percentages)



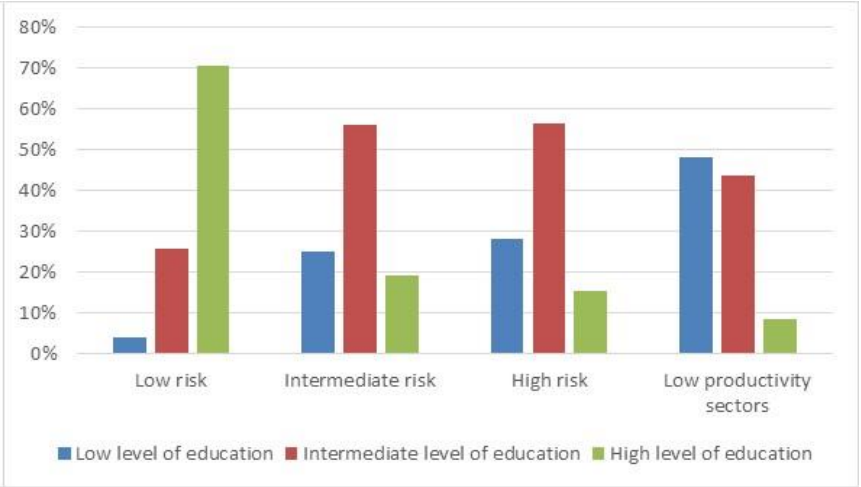
Source: Weller, Gontero, and Campbell, 2019

Technological change deepens the risk for further polarization of the occupational structure

Latin America (12 countries): Proportion of workers at high risk of technological substitution, by level of education



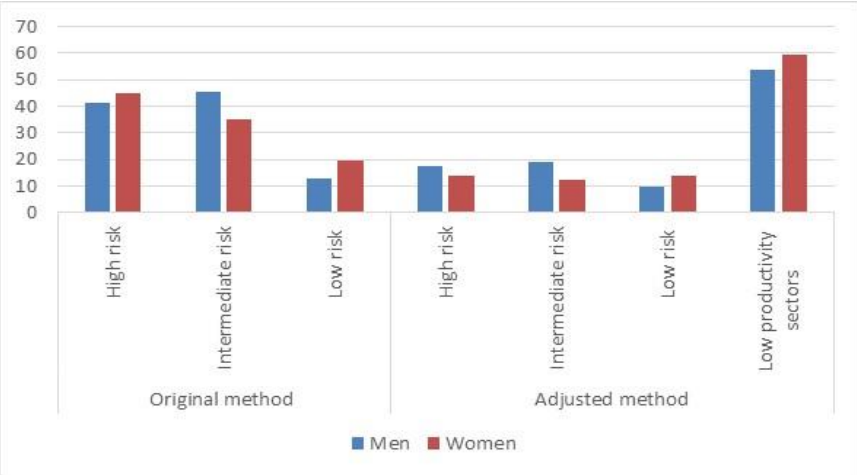
Latin America (12 countries): Composition of jobs, by level of risk of technological and level of education



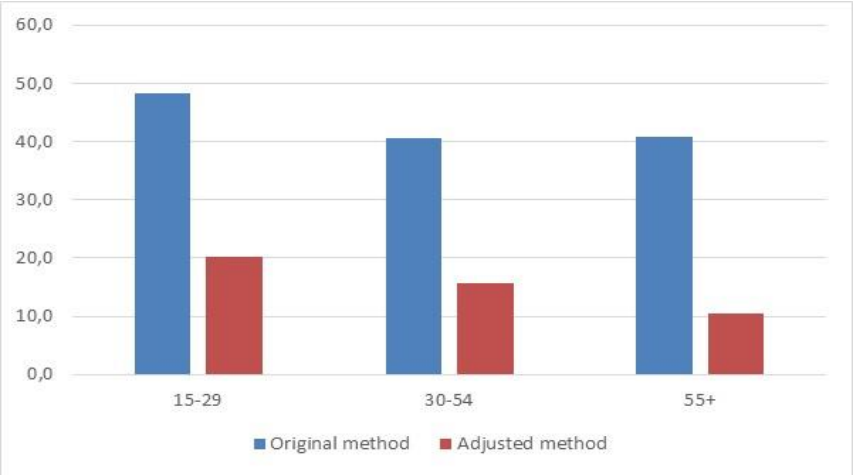
- Best perspectives for the most skilled
- Least skilled concentrated in low productivity sectors; least skilled in higher productivity sectors nearly exclusively with high or intermediate risk of substitution
- Workers with intermediate skills represent majority of workers with high risk of substitution

Specific risks are apparent for men and women, and for different age groups

Latin America (12 countries): Proportion of workers by level of risk of technological substitution and sex
(Percentages)



Latin America (12 countries): Proportion of workers in high risk of technological substitution, by age group
(Percentages)



- Risk for men: work in branches with high levels of risk of substitution (agriculture, manufacturing)
- Risk for women: work in occupations with high levels of risk (within branches)

Young people with higher proportion of high risk jobs – but adults larger proportion of workers in high risk jobs (34% - 56% - 10%)

In high and intermediate productivity sectors, structural factors and public policy affect the speed and characteristics of the introduction of new technologies

	General impact on introduction of new technologies	Potential relative impact in Latin America
Proportion of tasks that can be automatized	+	(+)
Labor productivity gains	+	+
Reduction of labor costs	+	-
Capacity of innovation and adjustment	+	-
Cost of implementation	-	-
Cost of maintenance and updating	-	-
Good general infrastructure	+	-
Legal or administrative restrictions	-	+ / -
(Other) Sector & firm specific factors	+ / -	+ / -

But also INDIRECT impact …

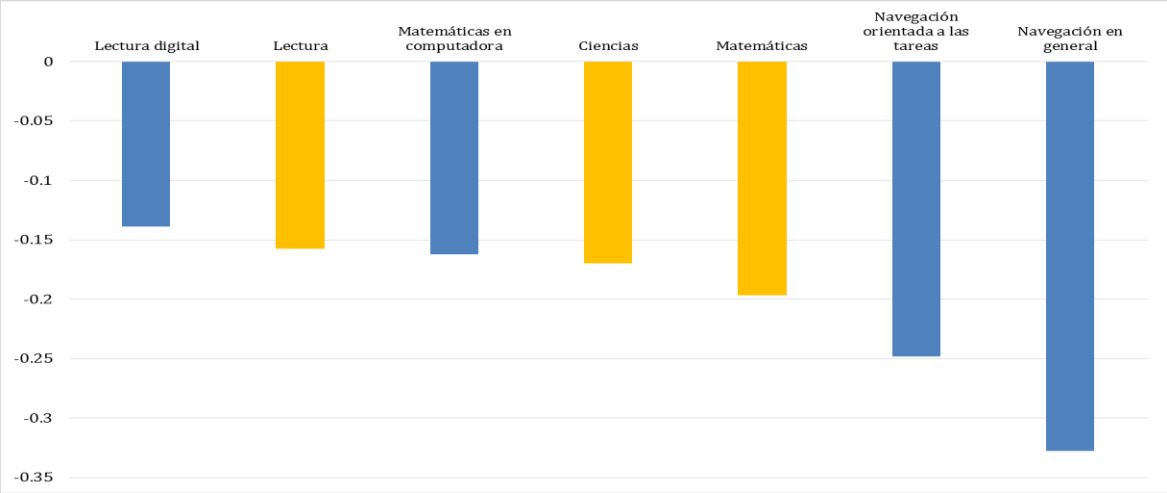
3. Challenges for education and technical training

To take advantage of new opportunities, adequate skills are crucial

- New opportunities (including transformation of existing jobs) in occupations related to the development and the implementation or the use of new technologies, productivity gains that create space for new demand (USA: Between 1980 and 2007 occupations with names previously non-existent represented nearly half of new jobs)
- Growing demand for non-routine skills
  - cognitive (related to the direct use of new technologies) …
  - as well as non cognitive/ socio-emotional (communication, auto-organization, teamwork, client orientation, continuous learning, creativity in problem solving, etc.)

But LAC suffers vast gaps in basic and digital skills

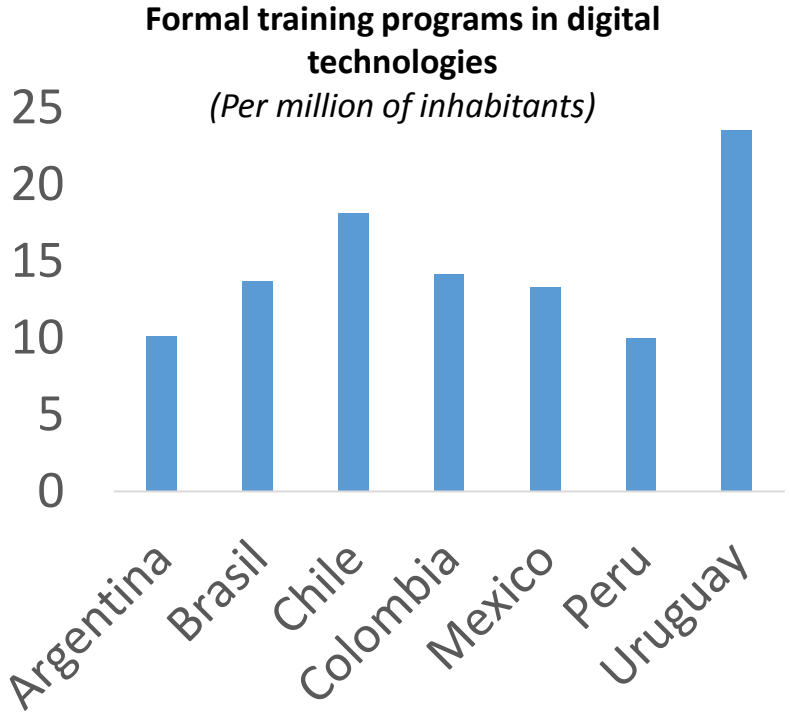
Latin America (3 countries): gaps in the results of the PISA exams 2012, compared with OECD average

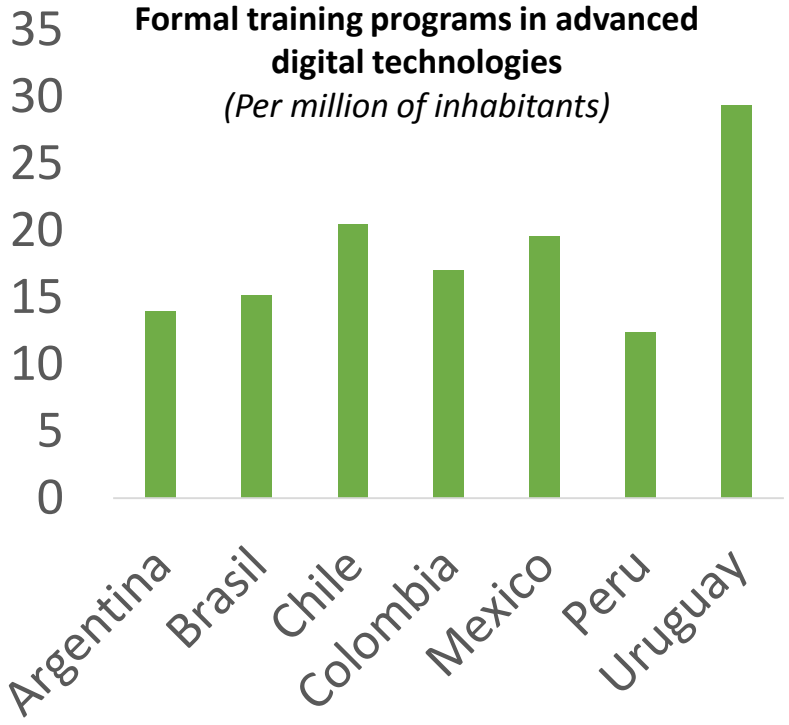


Source: Own elaboration based on OECD, 2015.
Note: The result for Latin America is the simple average of Brazil, Chile and Colombia.

… with big gaps within and between LAC countries.

Training in digital skills: what are we doing?





Source: CEPAL

In this context: Policy challenges

- Strengthen basic skills for STEM in general education
- Develop digital skills
- Develop socio-emotional skills and critical thinking
- Reduce digital gaps (age, sex, education, ethnic groups …)
- Strengthen training in firms (combination of skills, generational gap; tripartite orientation)
- Take lifelong-learning perspective
- Improve identification and anticipation of skill demand and narrow gap with study plans in education and technical training
- Improve labor market information systems

4. A few conclusions

- Risk of destruction and opportunities for the transformation and creation of jobs in the context of technological transformations generate important policy challenges
- Impact and challenges diverse for different groups of workers
- Integrated policy approach to take advantage of new opportunities
- In many areas no obvious best policy choice => processes of learning and dialogue
- Challenges for curriculum development for new skills (cognitive and non cognitive)
- New job opportunities not exclusively related to new technologies

Thank you very much!