Vocational training and the challenges of the transition to digital economies and societies

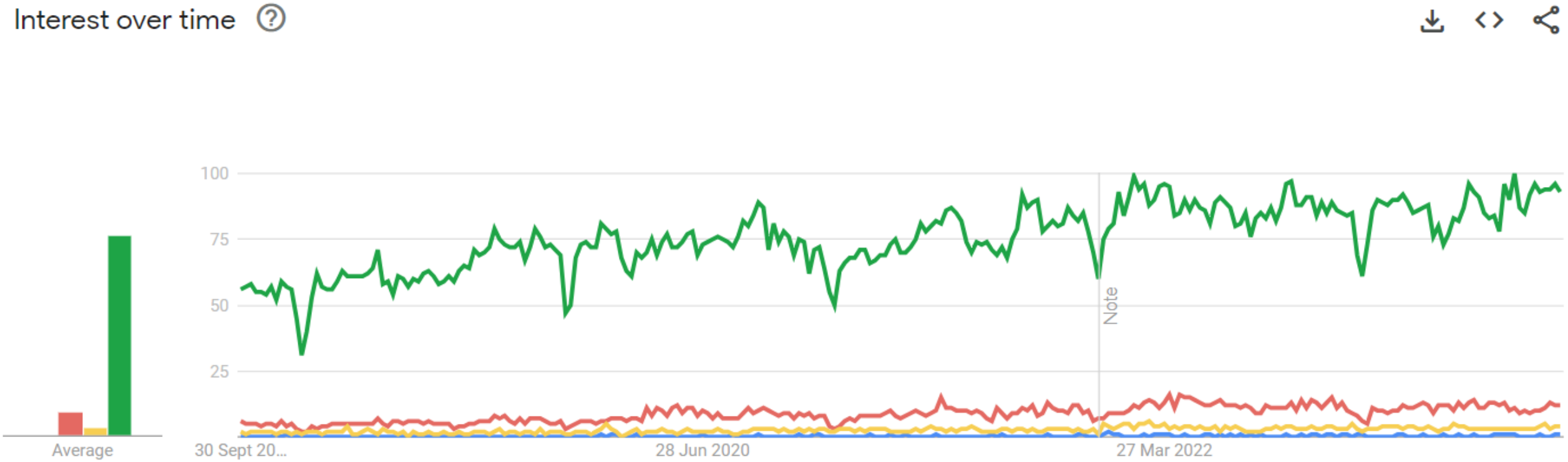
Presentation points

1. An opportunity / Challenge
2. Digital transition - general characteristics
3. Digital transition in LAC - some facts
4. Digital transformation as a frame of reference
5. Being part of a just digital transition
6. Digital transformation of VET
7. Dilemmas

1. Opportunity / Challenge

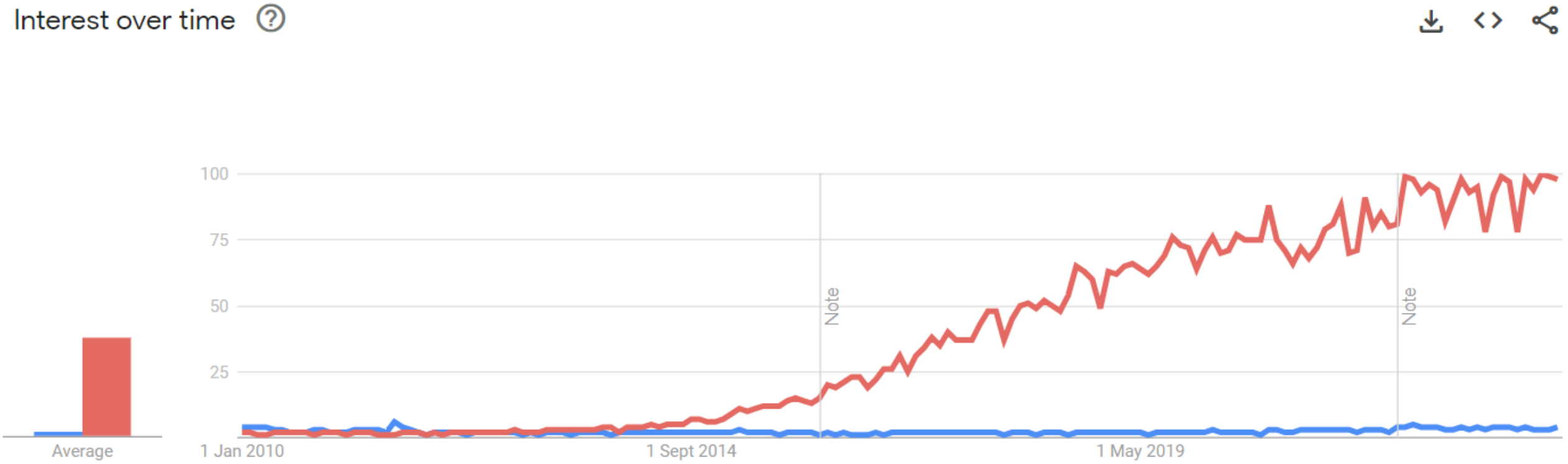
"To be a key player for a just digital transition process of the economy."

Transition ≠ Transformation



Google Trends data for: digital transition and digital transformation (en, en)

Transition ≠ Transformation

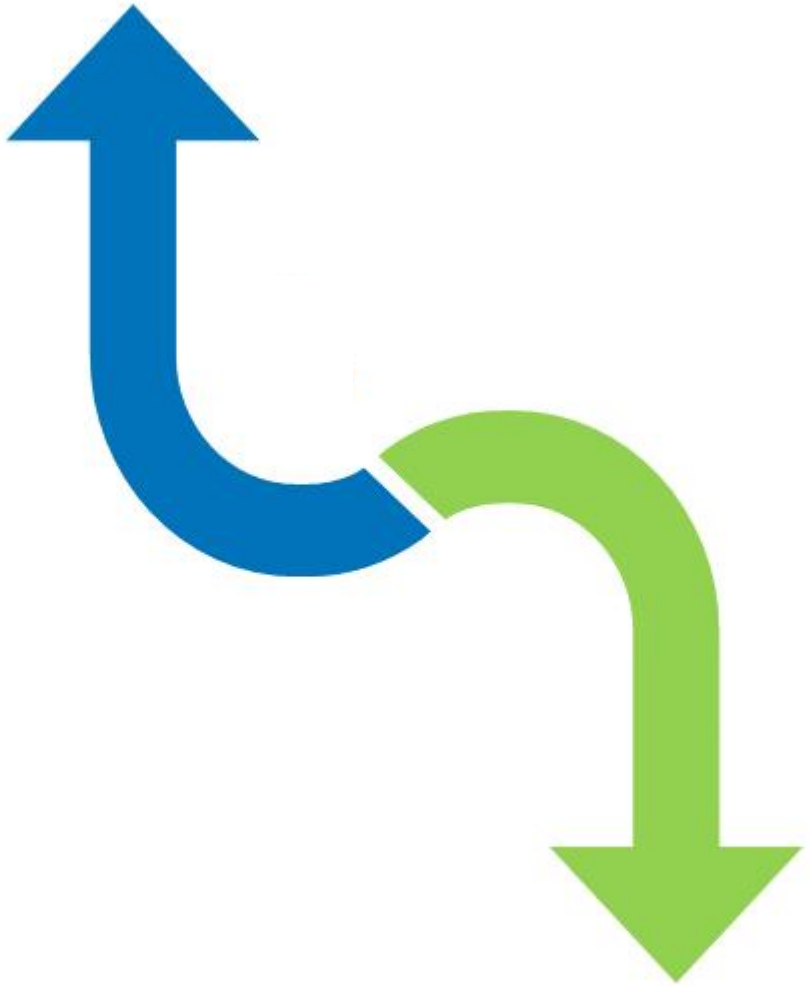


Datos de Google Trends para: digital transition y digital transformation

It involves action on two fronts

External front

Respond to the changes that the digital transition introduces in the labor market.



Internal front

Design and implement your own digital transformation.

Digital transformation of internal processes

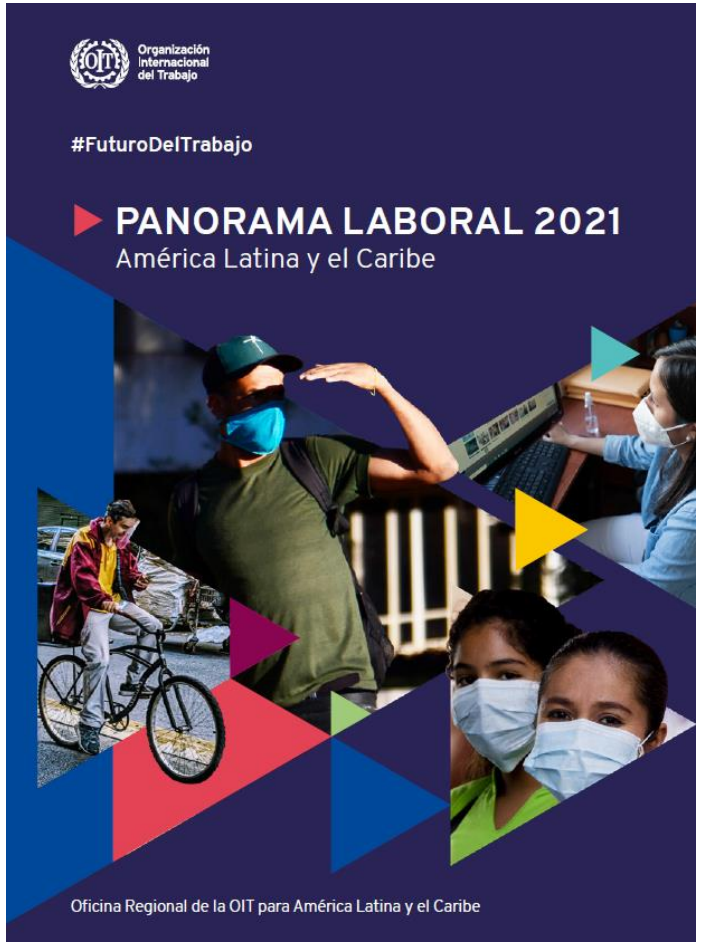
Digital transformation of the processes that support the training offer..

2. Digital transition

Digital transition

Economic, social and environmental impacts of digital technologies, which are manifested in the quantity and quality of employment, in productivity, in international trade, in the production structure, in the skills required, in the organization of companies and in the dynamics of interaction between companies and between people.

(Adapted from Panorama Laboral, 2021)



Characterization of the Digital Transition

- A global phenomenon with differentiated effects at the local, national and regional levels.
- It is the set of social and economic transitions triggered by the use of digital technologies.
- When considering society and the economy as a whole, the process is gradual.
- It is an uncoordinated process/phenomenon.

Actors in the digital transition

Digital transition is often driven by a combination of factors involving various stakeholders. Here are some key players influencing the digital transition:

1. Governmental Institutions
2. International Organizations
3. Technology Companies
4. Research and Development Entities
5. Innovators and Entrepreneurs
6. Consumers and Users
7. Educational and Training Institutions
8. Non-Governmental Organizations (NGOs)
9. Private sector, companies and employers' organizations
10. Workers and workers' organizations.

Opportunities

- Improved productivity through various means, including automation.

- Digital inclusion in banking, education, health, e-government, labor.

Productivity

Digital productivity paradox: 1995 - 2004 vs 2005. Some hypotheses:

- The low hanging fruit was harvested first
- The J-curve of productivity.
- The way productivity is measured does not capture the digital economy.
- Lack of "talent"/Skills.
- There is evidence at the firm level (not aggregate) that technologies improve productivity.

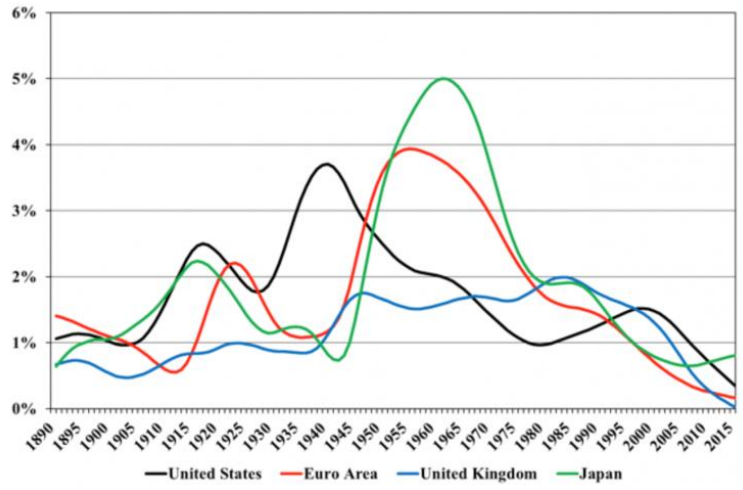
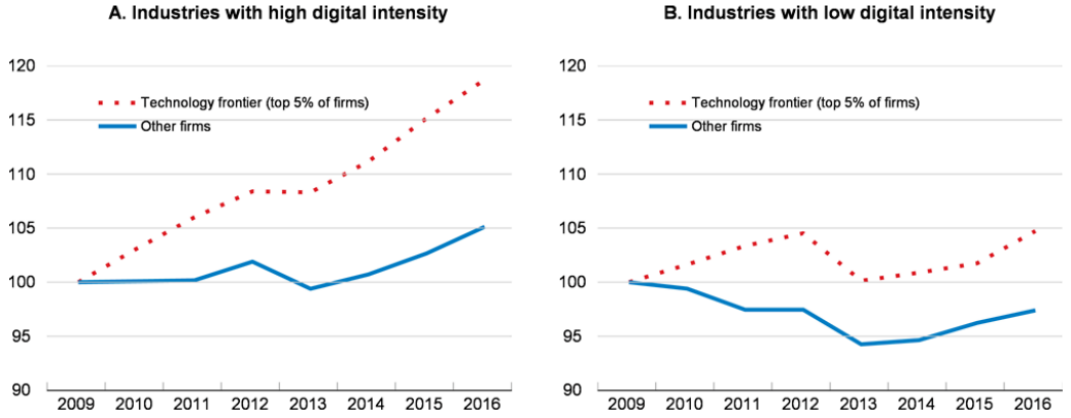


Figure 2.2. **Productivity dispersion across firms has increased, especially in digital intensive sectors**

Average multifactor productivity, index 2009 = 100



Automation, employment and inclusion

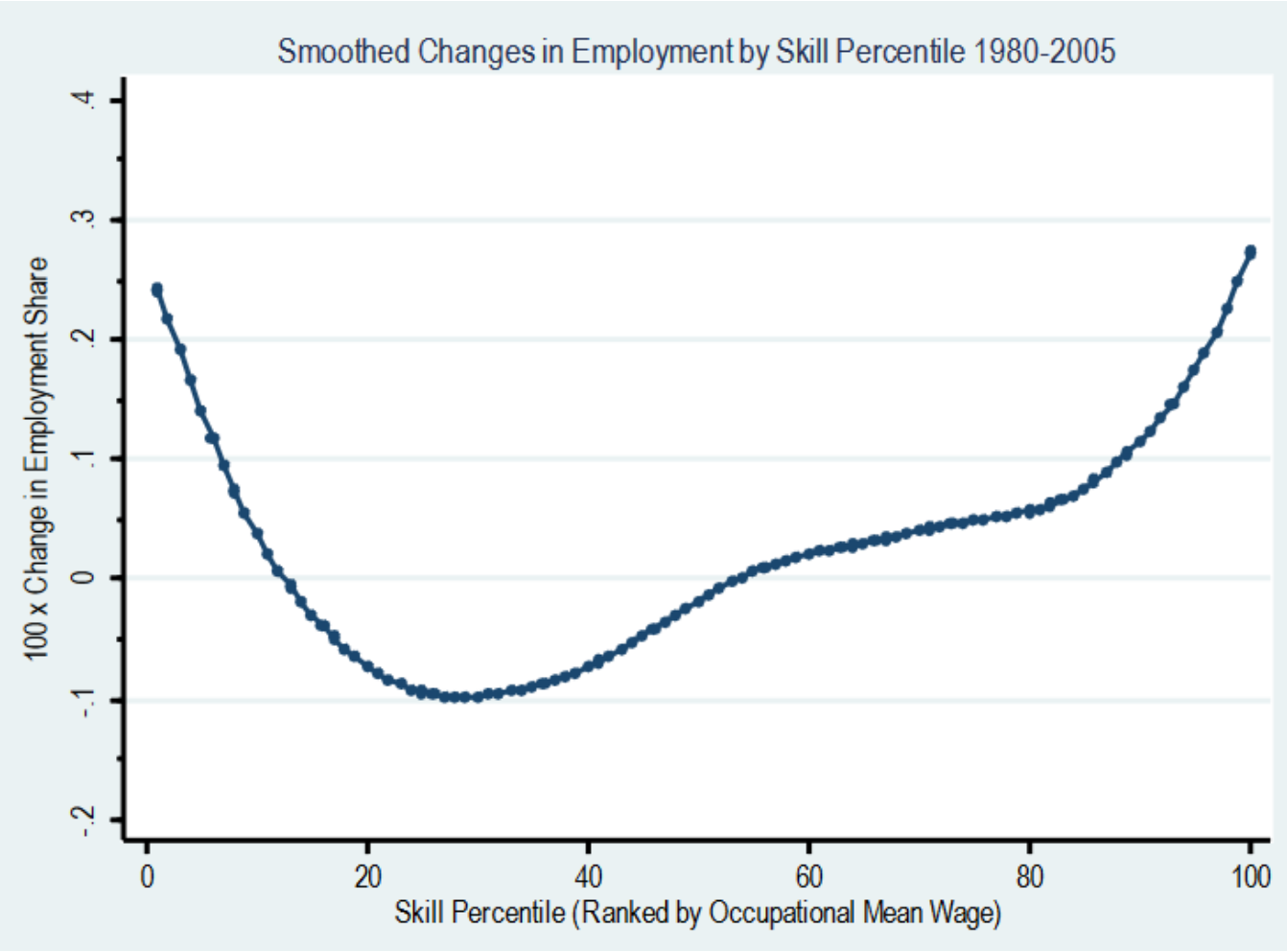
What is certain is that companies invest in automation generating effects on employment and possibly in terms of inclusion, although this depends on other variables.

- Acemoglu in 1999 observes the polarization of the labor market.
- Author in 2003 studies it in a more rigorous way.
- Frey and Osborne - 2013 and 2017: technological potential / high qualification.
- Task-based rather than occupational approach - ILO paper on AI - complementary adaptation.
- Dauth et al. 2017 - They find that robotization had no aggregate employment effects in Germany.
- Criticism of Autor for equating skill level with income appears today.
- Technological development does not in fact seem to have generated unemployment, but rather changes in the composition of occupations and in the demand for employment.

Contracara (fíjate vos no me gusta ninguna trad)

The opportunities for productivity improvement and inclusion are counterbalanced by existing conditions that may be aggravated:

- Business divide
- Digital divide
- Skills gap



3. Digital transition in LAC

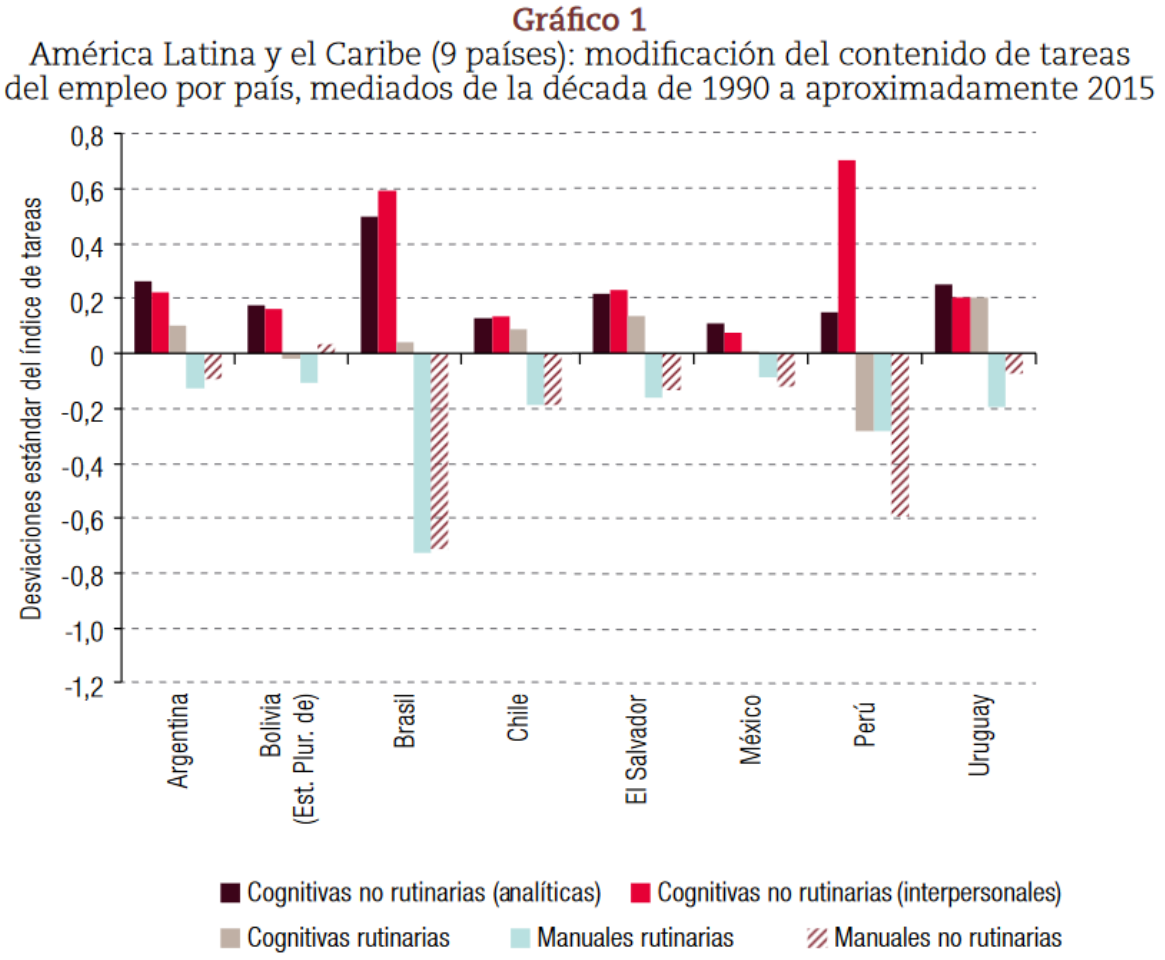
Is this happening in the region and what are the implications for VET?

Some facts about the region

- Significant increase in Internet penetration.
- There are still connectivity quality issues.
- Still a costly service.
- Strengthens geographical and socioeconomic gaps.
- In terms of automation, it does not seem to have exactly the same effects.

Polarization in the region?

- There does not seem to be polarization in relation to occupations.
- In fact, an increase in medium and high-skilled occupations
- Argentina - movement from low and high to medium.
- Peru - average rating 2004 - 2011.
- These results are consistent with the LAC analysis between 1995 - 2015.



What is happening in the region?

→(Relatively) low level of workforce skills.

→Low levels of digital competence (PIACC)

→Demand for higher level skills.

→Initial level of digitization of companies / technologies vs. processes

→Low levels of management innovation (World Bank)

→Demand for soft skills ... for the digital economy?

What is happening in the region?

To the above we add:

- Great productive heterogeneity.
- High levels of social inequality.

→ A digital revolution certainly widens the existing gaps between companies and between social strata.

→ This exacerbates a pre-existing challenge in VET. A demand that forces it to "stretch" in order to respond to companies and people in very different contexts.

Technical/technological change in LAC is "slow and uneven", challenges are qualitatively different

4. Digital transformation as a frame of reference

Digital transformation

- It is the result of addressing the opportunities and threats of the digital transition.

- It is a coordinated process or not ... to the extent that organizations are reactive or there is ownership.

Stages of the digitalization transformation

1. Digitization of information
2. Digitalization of processes
3. Digital transformation

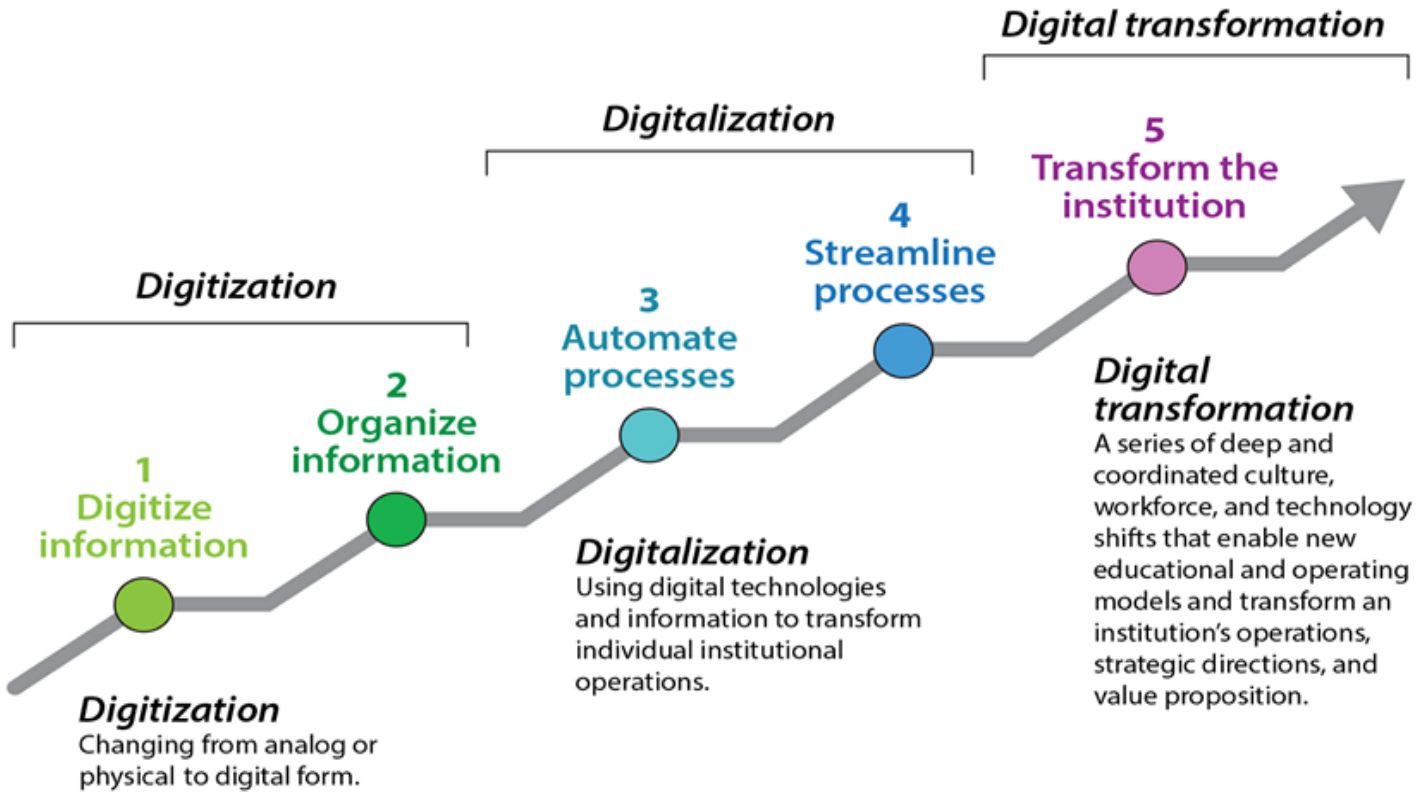


Gráfico: Defining Digital Transformation | EDUCAUSE

Three complementary factors

- Investment in Technology
- Competency Development
- Process Innovation

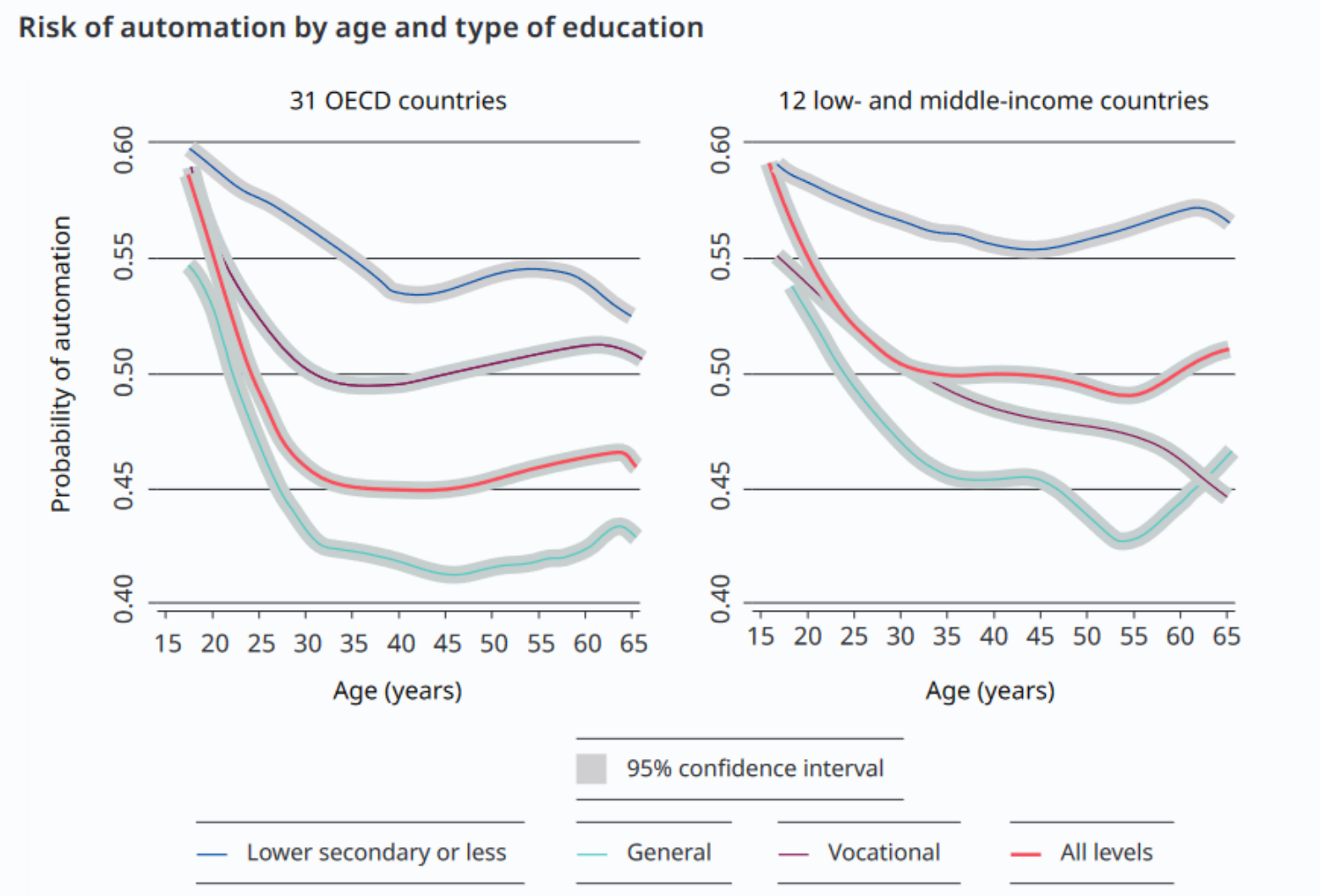
Three complementary factors

- Investing in technology: broadband, computer, office software
- In skills development: digital competencies
- In process innovation: CRM ... so, we are missing something.

- Technology: "connected" industrial equipment
- Skills: equipment operation
- Processes: big-data analysis ... we are missing something.

5. A just digital transition

VT and automation



The risk of automation is higher for those trained in vocational training.

Panorama de empleo de jóvenes 2020. OIT

How to contribute to the digital transition?

Two focuses: companies and individuals

- Maintain the training offer updated.
- Transversalize the training in digital competences in "degree" training and in continuous training.
- Strengthen capacities for training/consulting/mentoring in companies on new organizational models and opportunely base them on digital technologies (Digitization <-> DX).
- Complementing the above, transversalize training in competencies for the digital economy.

How to promote a just digital transition?

- Targeted programs.
- Institutional articulation.
- Articulation with social partners.
- Investment ...

6. Digital transformation of VET

Would the digital transformation of VET be an answer to the challenge we proposed above? Examples:

- Governance:
  - Generate spaces for regular interaction and exchange of information with stakeholders in the small and medium-sized enterprise sector.
- Identify training needs:
- Develop online tools for self-diagnosis and navigation of the available training offer.
- Desarrollo de competencias.
  - Hybrid training, use of platforms, digital and transversal training.
- Facilitating employability
  - Orient the student on the sector, the skills to be developed, the nature of the work, the job market in that sector and geographic area, the return on their investment, before they take the course.

Summary (not exhaustive)

Two sets of challenges/opportunities:

- Product of the change in the environment
- Technological upgrading, cross-cutting elements of competence, targeting specific companies and groups, articulation of consulting, stretching/enhancement of institutional action, institutional articulation - system building, navigating the edtech world.
- As a result of internal changes to respond to
- Teacher training, investment in equipment, changes in training models, use of data for organizational and learner decision-making, change management, negotiation with stakeholders, not reinventing the wheel/partnering with technology companies.

Summary

- The stages and factors for digitization and digital transition provide a guide for the design of actions. Design will depend in any case on the sector and type of company.
- Addressing the digital transition from the perspective of just transition requires efforts that go beyond the supply and demand logics of training.
- It also requires overcoming silo logics and articulating how the system, ideally based on the use of data as a tool for decision making.

7. Dilemmas

- How to support yourself and not depend on technology providers?
- How to offer the future if the present does not demand it. And how to invest in the present (resk upsk) and in the future at the same time.
- Spaces for innovation in organizations that know their metier well.
- How to be key in the just transition without leading it.

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Thank you