Big Data
for measuring the digital economy
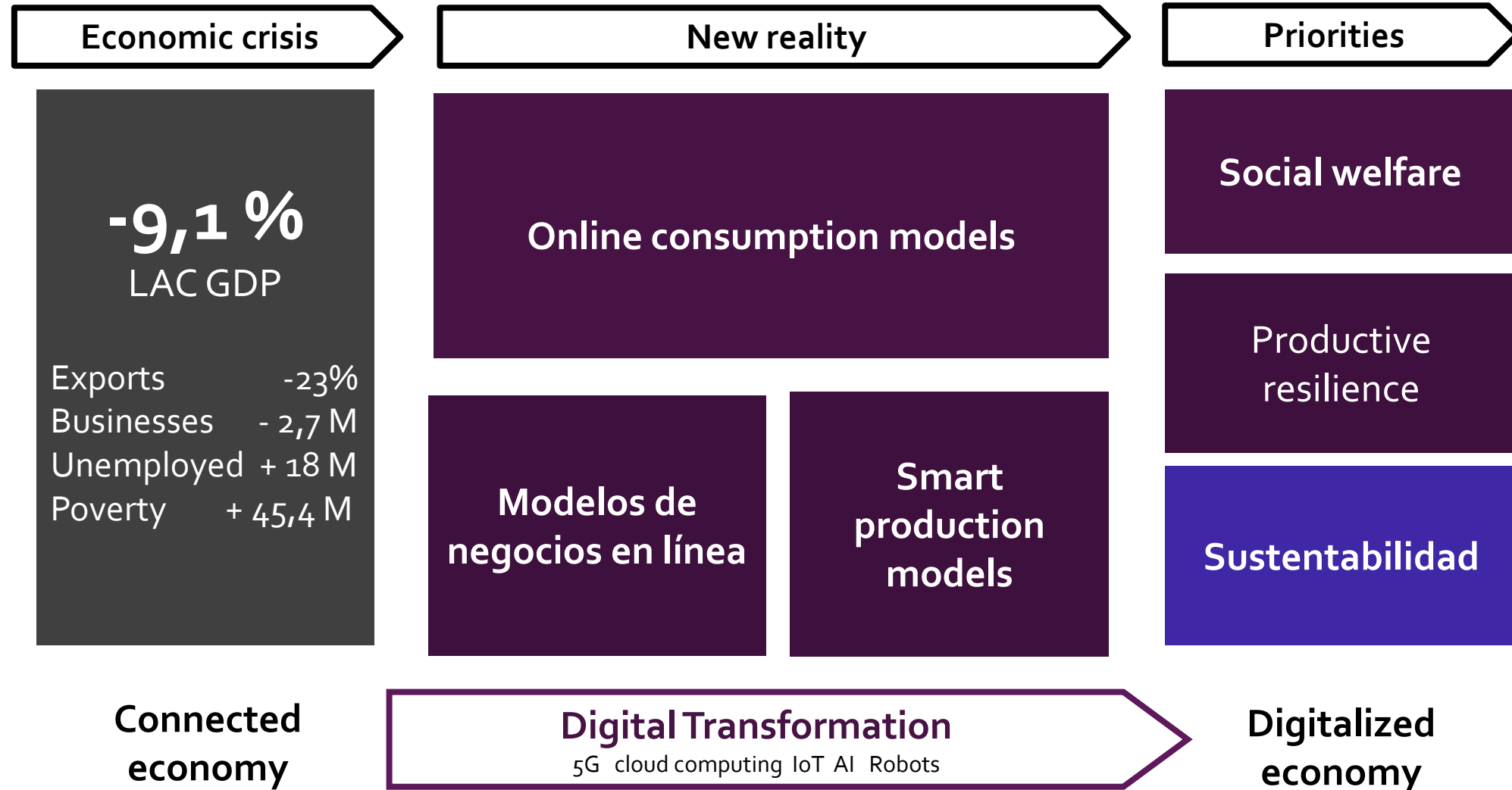A project of the 10th tranche of the UN - Development Account

Joint ECLAC and UNSD Workshop in cooperation with WTO on Trade in Services

9-11 December 2020

Valeria Jordán

UNECLAC

COVID-19 and the acceleration of digitization

Economic crisis

-9,1 %
LAC GDP

Exports   -23%
Businesses   - 2,7 M
Unemployed   + 18 M
Poverty   + 45,4 M

New reality

Online consumption models

Modelos de negocios en línea

Smart production models

Priorities

Social welfare

Productive resilience

Sustentabilidad

Connected economy

Digital Transformation
5G cloud computing IoT AI Robots

Digitalized economy

# Why we need to innovate in measuring the digital economy?

- Insufficient data to understand a new topic with great economic and social impact

- Indicators are needed beyond connectivity (e-commerce, digitization of companies, gig-economy, fintech, etc.)

- The COVID-19 pandemic presented a greater need for data to identify trends (distance learning, remote working, e-health, etc)

- Digital footprints as new sources of data

    - Social networks
    - Websites content
    - Electronic transactions
    - Call Detail Records
    - GPS

Big Data for measuring the digital economy in LAC countries

ECLAC project with funds from the UN Development Account (2016 – 2020)

- Objetive: improve national capacities in the Latin America and the Caribbean region to measure the digital economy using big data analytics and traditional statistics to support evidence-based policy design.

- Activities:
  i. Capacity building on big data techniques.
  ii. Experimental exercises to generate indicators
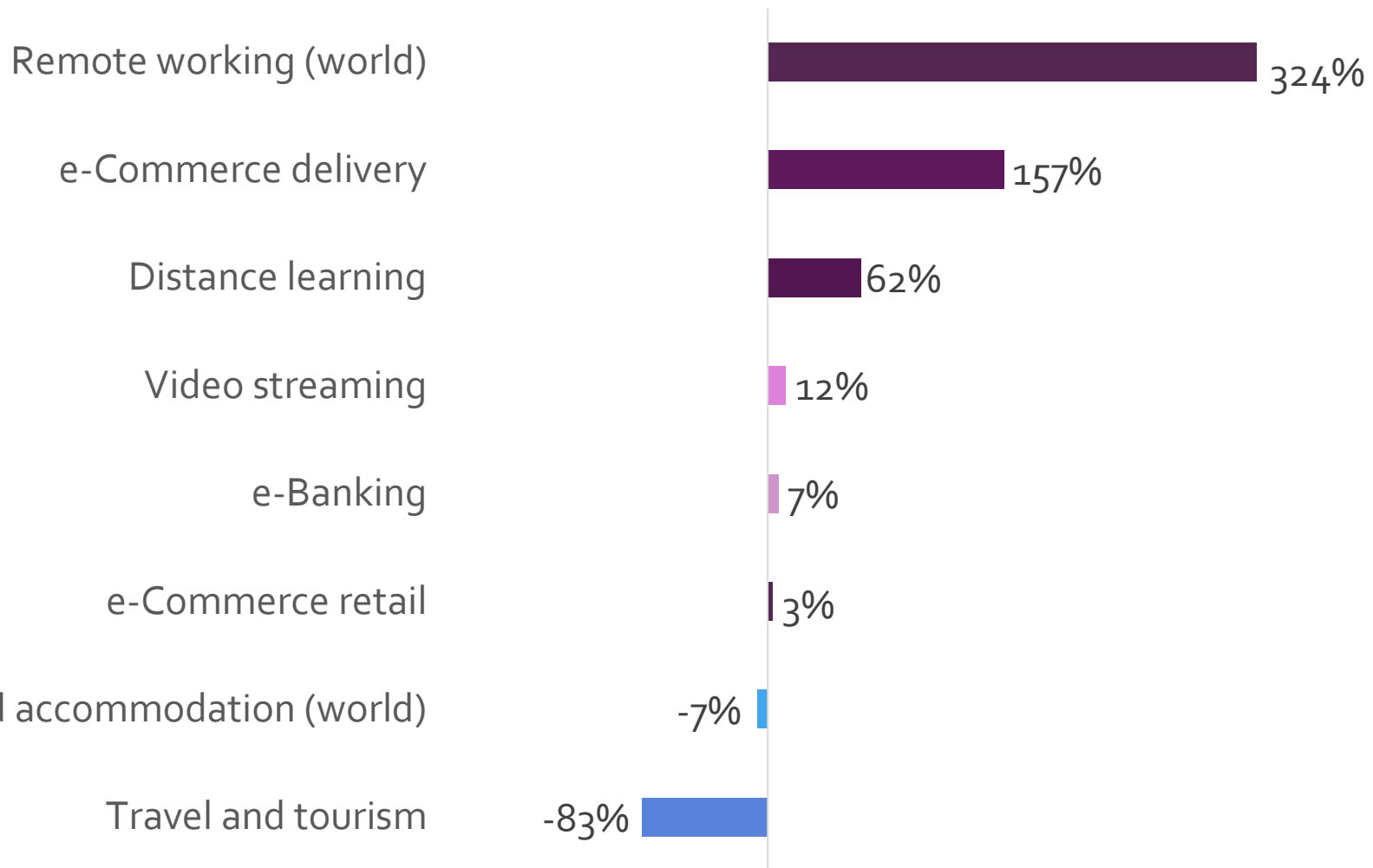
Web data
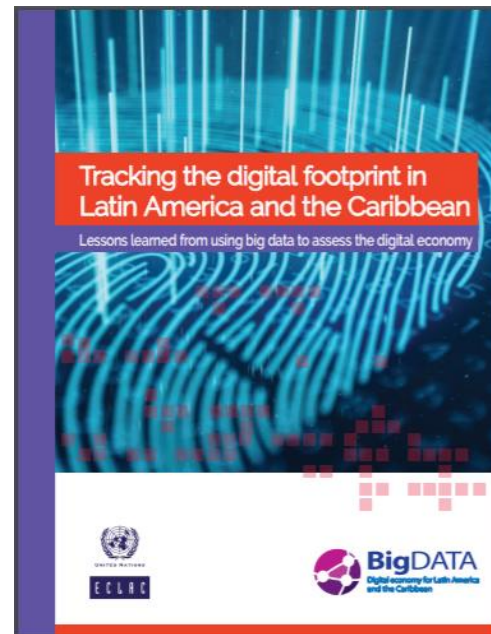
Web data combined with administrative records based on...

Some results

Changes in activity level based on traffic to websites and apps

(quarter 2 vs quarter 1 2020)

Remote working (world) — 324%
e-Commerce delivery — 157%
Distance learning — 62%
Video streaming — 12%
e-Banking — 7%
e-Commerce retail — 3%
Hotels and accommodation (world) — -7%
Travel and tourism — -83%

Fuente: Cepal con datos de similarweb.com

% of female business owner on Facebook

In FB during the pandemic, entrepreneurs have expanded :
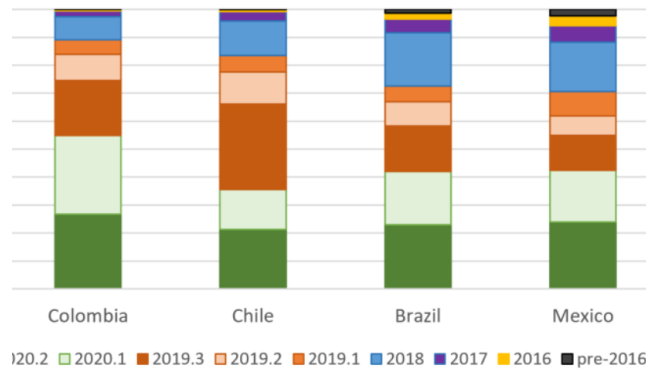
Females X 3 (from 1.6 million to 4.1 millions)
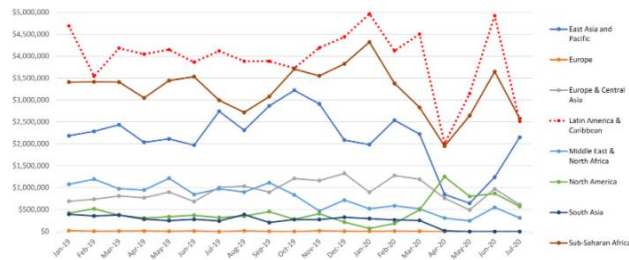
Males X 2.5 (from 1.2 million to 3.0 millions)
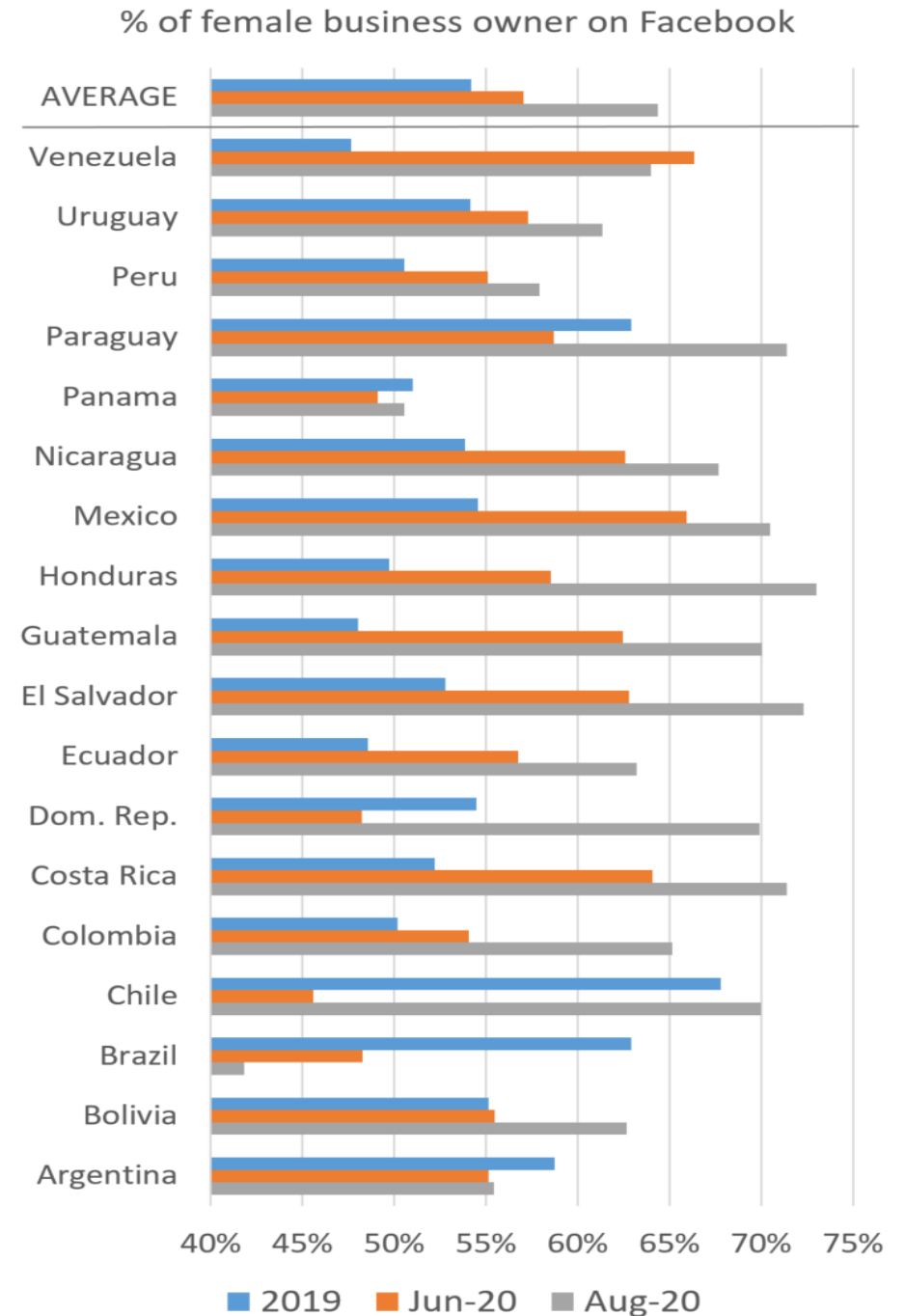
More and more data

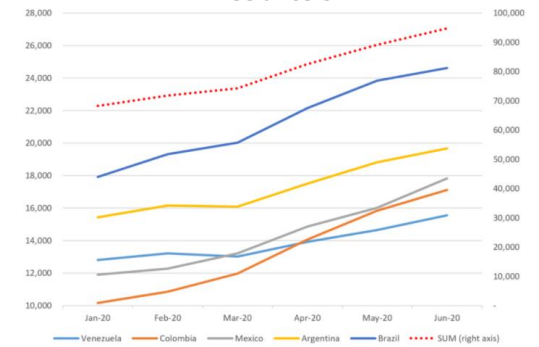products online, prices, crowdfunding, freelancers, labor market, rental and accommodation…

online product creation date
2020.2 ■ 2020.1 ■ 2019.3 ■ 2019.2 ■ 2019.1 ■ 2018 ■ 2017 ■ 2016 ■ pre-2016

Crowdfunding total amount

Freelancers

Distribution of companies by type of online presence, March 2020
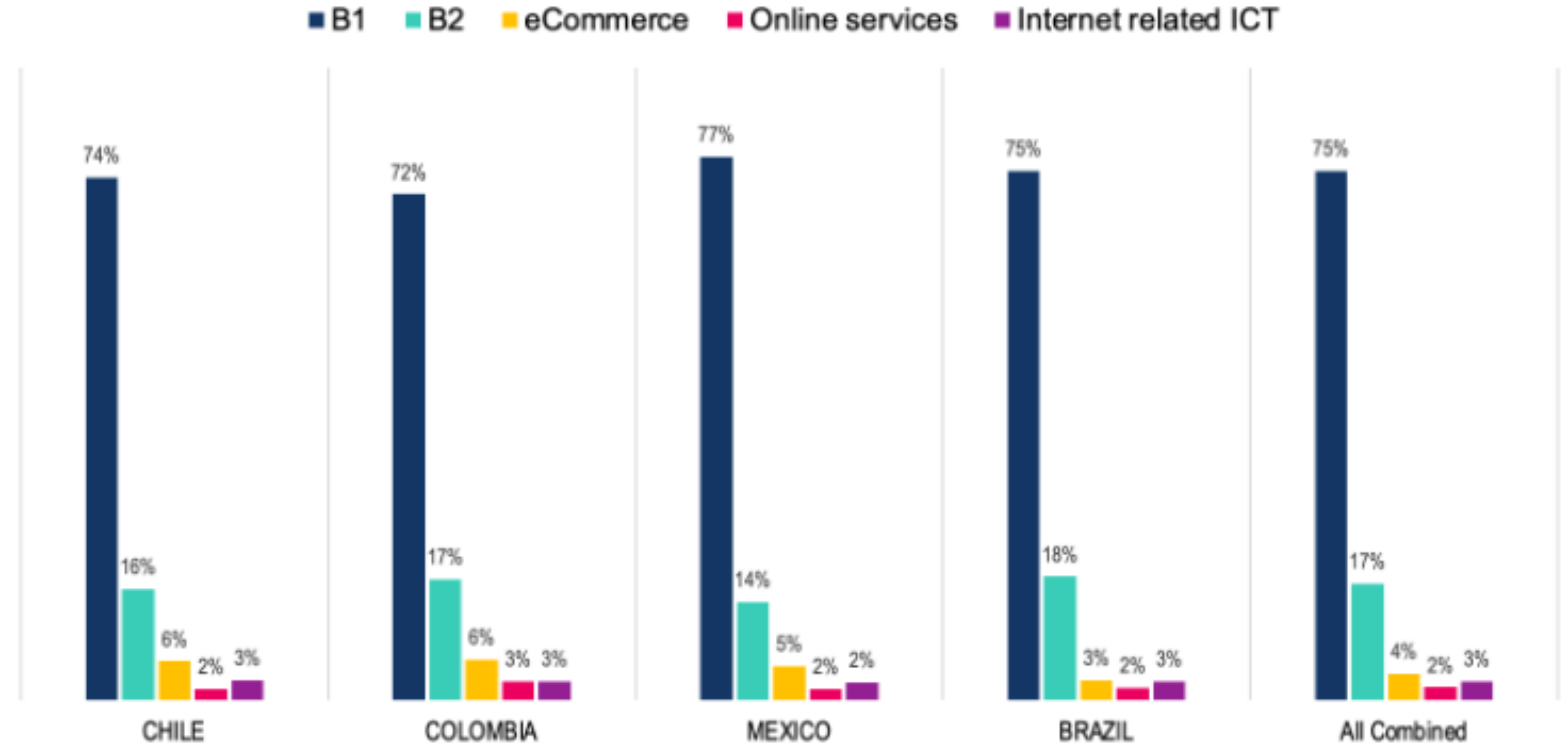(percentage)

75% of businesses have passive presence

The core of the internet economy makes up 8% (Brazil) - 12% (Colombia) and about 50% belongs to online Stores
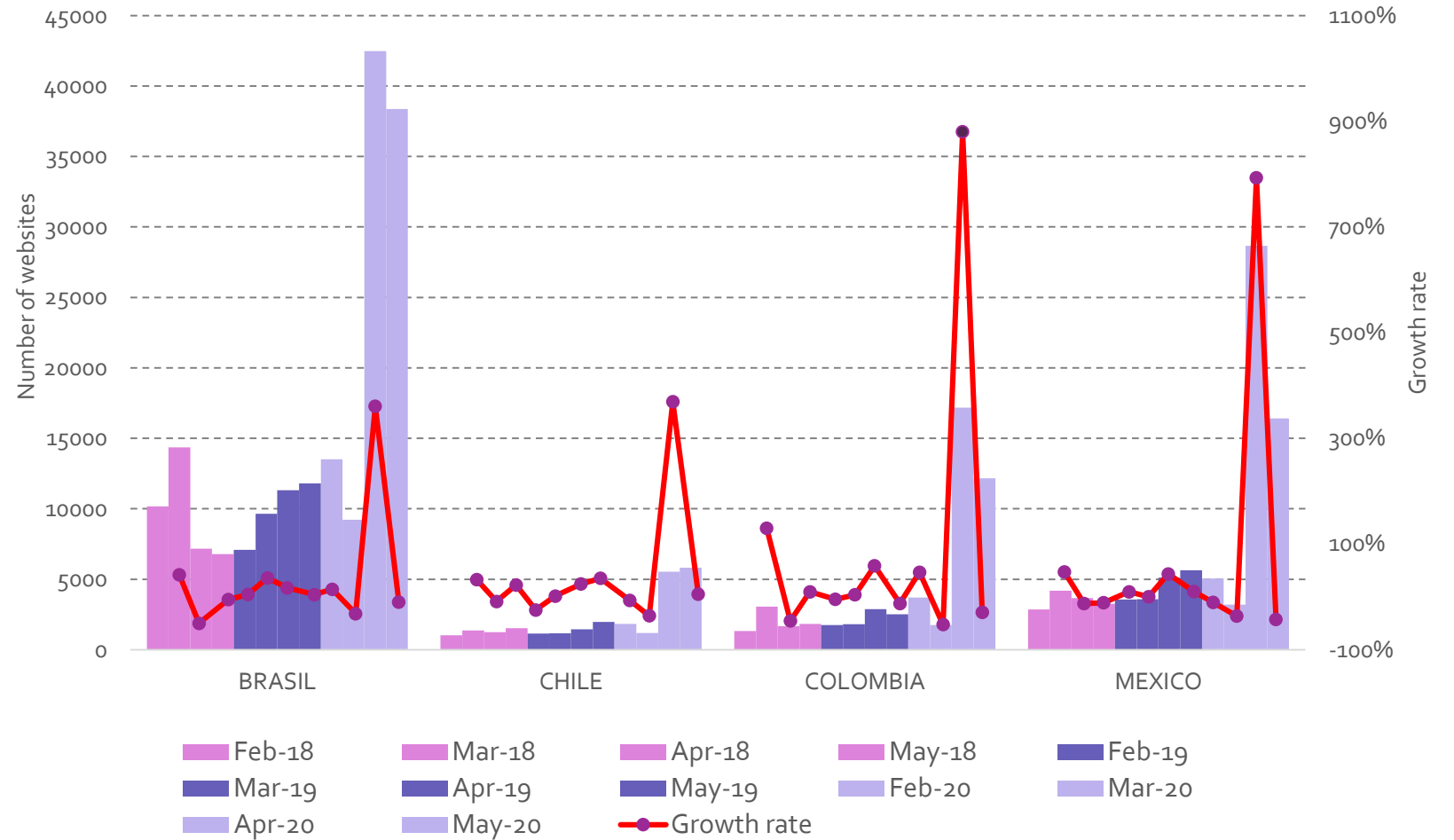
20% switched to transactional with the pandemic

Legend: ■ B1 ■ B2 ■ eCommerce ■ Online services ■ Internet related ICT

CHILE: 74%, 16%, 6%, 2%, 3%
COLOMBIA: 72%, 17%, 6%, 3%, 3%
MEXICO: 77%, 14%, 5%, 2%, 2%
BRAZIL: 75%, 18%, 3%, 2%, 3%
**All Combined:** 75%, 17%, 4%, 2%, 3%

Businesses choose to have online presence during the COVID-19 pandemic

Number of new business websites registered per month in selected countries and monthly growth

Number of websites

Growth rate

BRASIL   CHILE   COLOMBIA   MEXICO

Feb-18   Mar-18   Apr-18   May-18   Feb-19
Mar-19   Apr-19   May-19   Feb-20   Mar-20
Apr-20   May-20   Growth rate

Source: ECLAC, Project Big Data for measuring the digital economy".

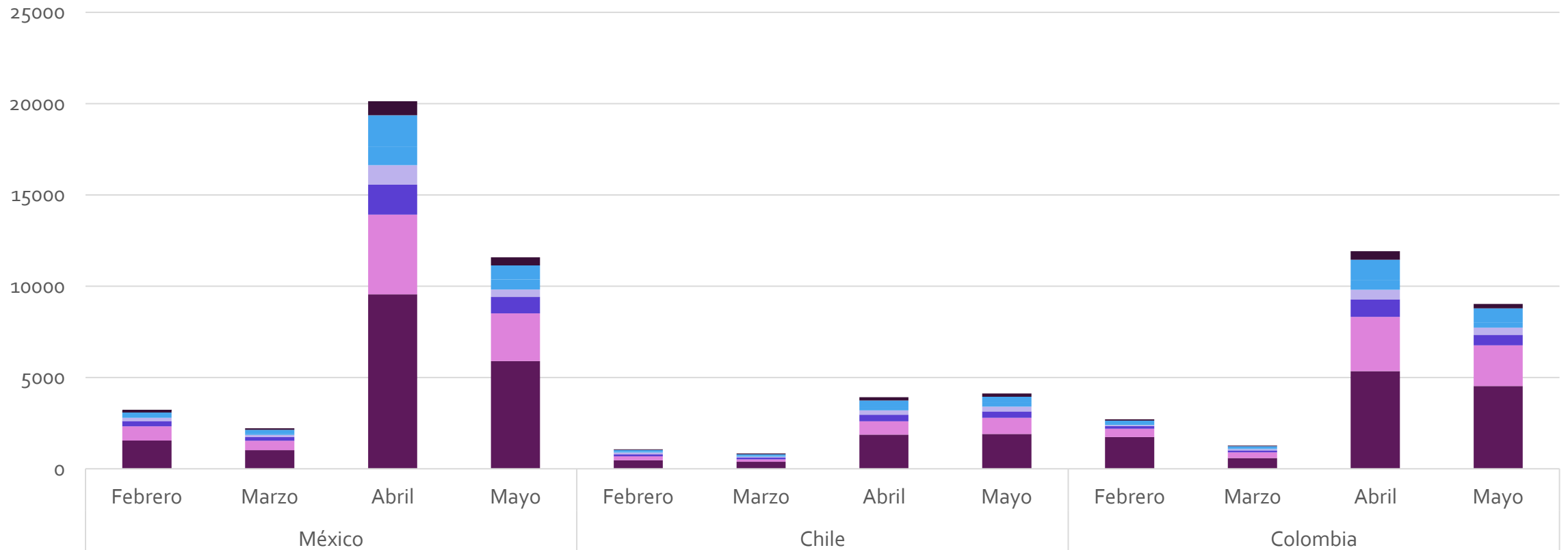**Crecimiento interanual de sitios web empresariales por tipo en países seleccionados (en porcentajes)**


Fuente: CEPAL, proyecto "Big data para la medición de la economía digital", 2020.
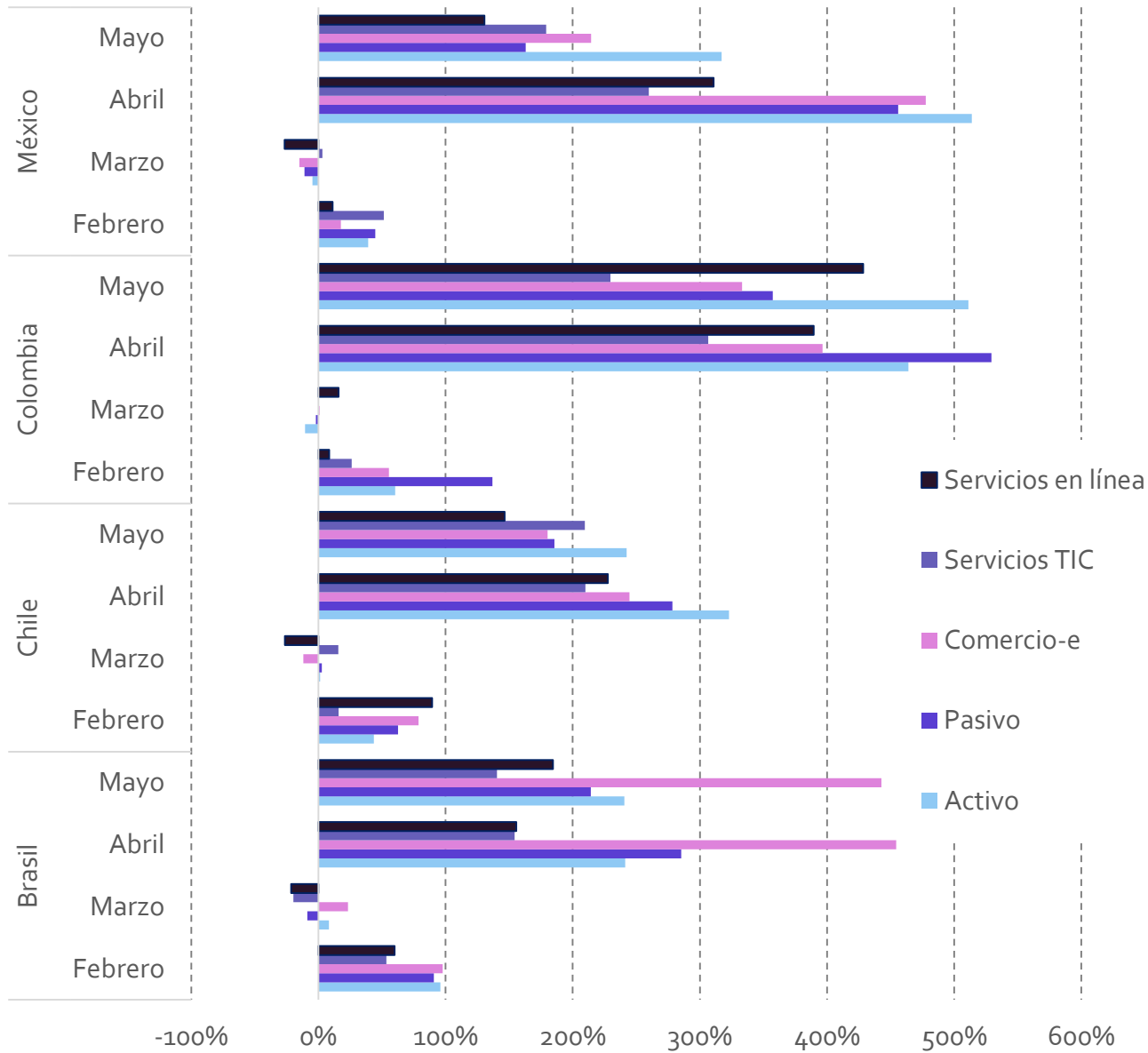
Explosion of e-commerce sites

Retail and businesses services go online

Source: ECLAC, Project "Big Data for measuring the digital economy", 2020.

The challenge of combining web data with business administrative records

Completeness of information for 6 variables used to merge the Business Registry to the website database. (in percentages) (Information based on Nov 2020)
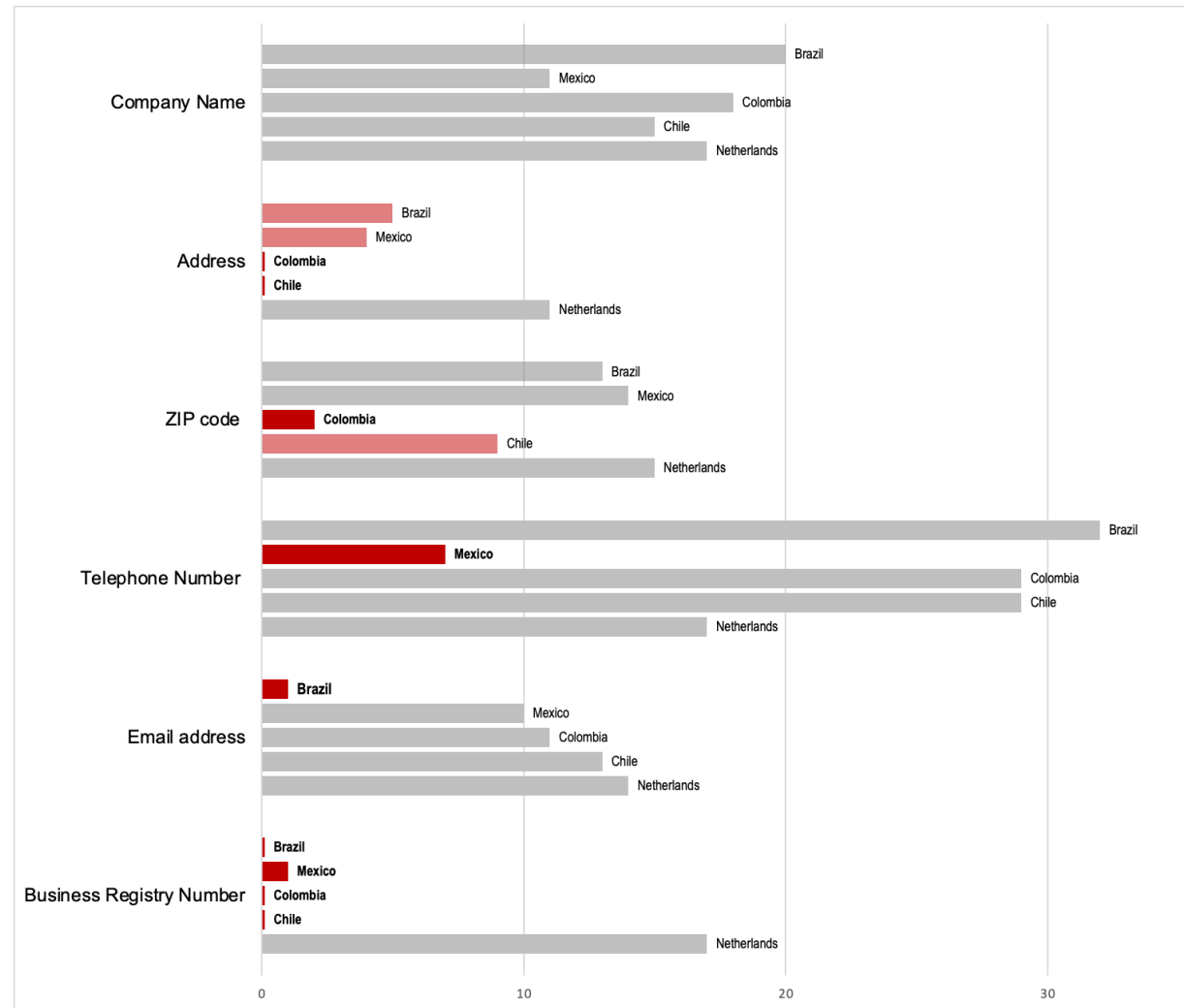
Web data can be used to generate indicators and improve administrative records

LESSONS

1. Unprecedented diversity of data that is useful to understand new paradigms

2. Accessing data is always difficult, there is no magic solution

3. Big data and traditional statistics are complementary: different purposes

Original	Administrative records	Big Data

4. Data Innovation requires institutional adjustments and new capabilities

THANKS!

FOR MORE INFORMATION

Big data for measuring the digital economy (valeria.jordan@cepal.org)

https://www.cepal.org/en/proyectos/big-data-grandes-datos-la-economia-digital-america-latina-caribe

COVID-19 Observatory in Latin America and the Caribbean

https://www.cepal.org/en/topics/covid-19