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

- **Objective:** 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 combined with administrative records based on...

**Discussion Paper**

Measuring the Internet economy in The Netherlands: a big data analysis

The views expressed in this paper are those of the authors and do not necessarily reflect the policies of the United Nations.

2016 | 14
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
In FB during the pandemic, entrepreneurs have expanded:

Females $\times 3$ (from 1.6 million to 4.1 millions)

Males $\times 2.5$ (from 1.2 million to 3.0 millions)
More and more data

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

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

Source: ECLAC, Project Big Data for measuring the digital economy.”
Crecimiento interanual de sitios web empresariales por tipo en países seleccionados (en porcentajes)

Explosion of e-commerce sites

Retail and businesses services go online

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

4. Data Innovation requires institutional adjustments and new capabilities
FOR MORE INFORMATION

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

COVID-19 Observatory in Latin America and the Caribbean
https://www.cepal.org/en/topics/covid-19