


world development report

2016 

DIGITAL DIVIDENDS

#wdr2016

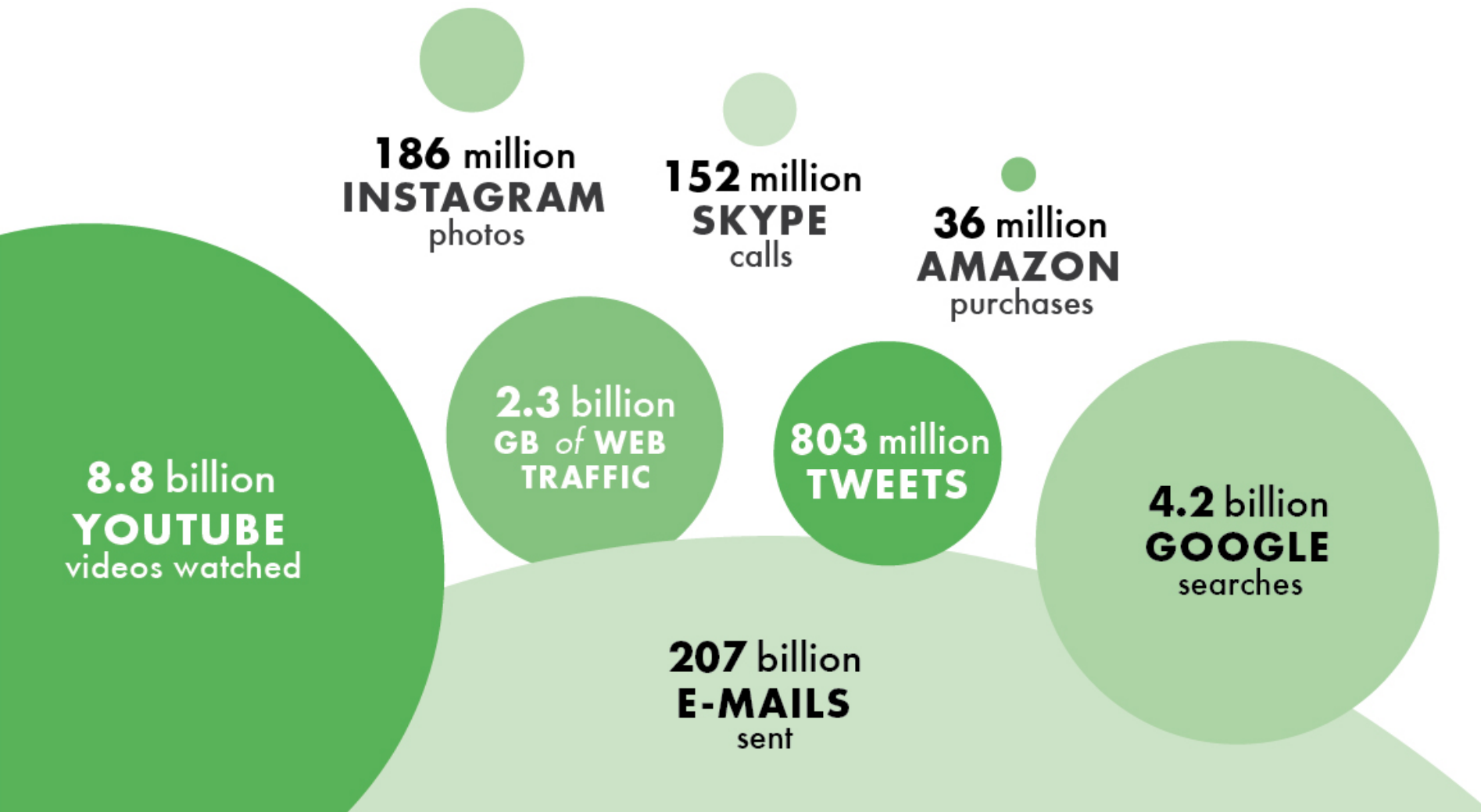
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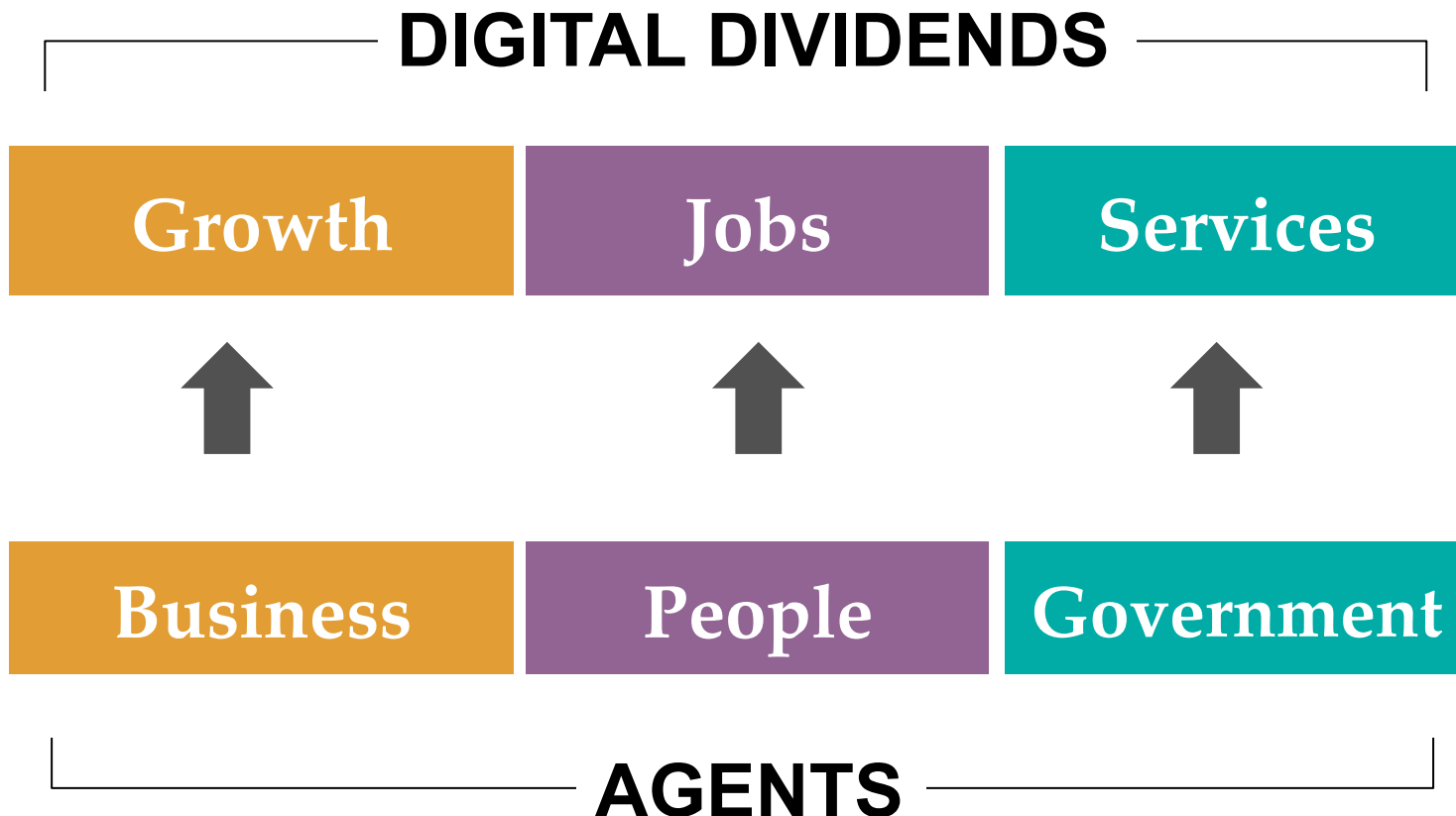
WORLD BANK GROUP

Digital revolution has brought many private benefits

A typical day in the life of the internet



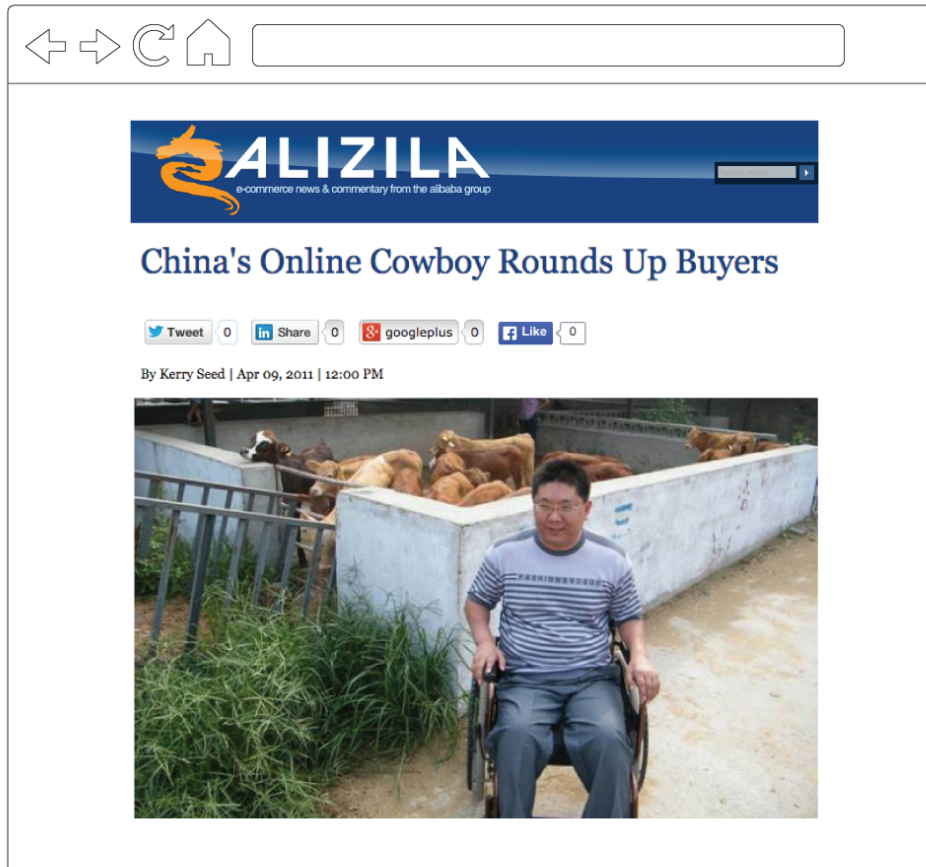
But are countries reaping sizable digital dividends?



Are the benefits reaching everyone, everywhere?

Digital technologies are transforming **BUSINESS**

DIGITAL **MARKETPLACE**



The image shows a screenshot of a web browser displaying an article on the Alizila website. The browser's address bar is empty. The Alizila logo, featuring a stylized orange dragon and the text 'ALIZILA e-commerce news & commentary from the alibaba group', is at the top. Below the logo is the article title 'China's Online Cowboy Rounds Up Buyers'. Social media sharing buttons for Twitter, LinkedIn, Google+, and Facebook are visible, each with a '0' next to it. The author information reads 'By Kerry Seed | Apr 09, 2011 | 12:00 PM'. The main image of the article shows a man in a wheelchair sitting in front of a concrete enclosure filled with brown cows.

Number of small & medium enterprises on Taobao (Alibaba):

**5 MILLION
& COUNTING**

Digital technologies are transforming **PEOPLE'S LIVES**

DIGITAL PAYMENTS



*Where mobile
money accounts
outnumber
bank accounts*

*Number of mobile money
accounts worldwide:*

**300 MILLION
& COUNTING**

(end of 2014)

Digital technologies are transforming **GOVERNMENT**

DIGITAL IDENTITY

← → ↻ 🏠

THE  NEW
INDIAN EXPRESS

▪ **Trafficking Victims see New life in Aadhaar**

By Daniel Thimmaya | Published: 30th March 2015 06:00 AM | Last Updated: 30th March 2015 10:57 AM

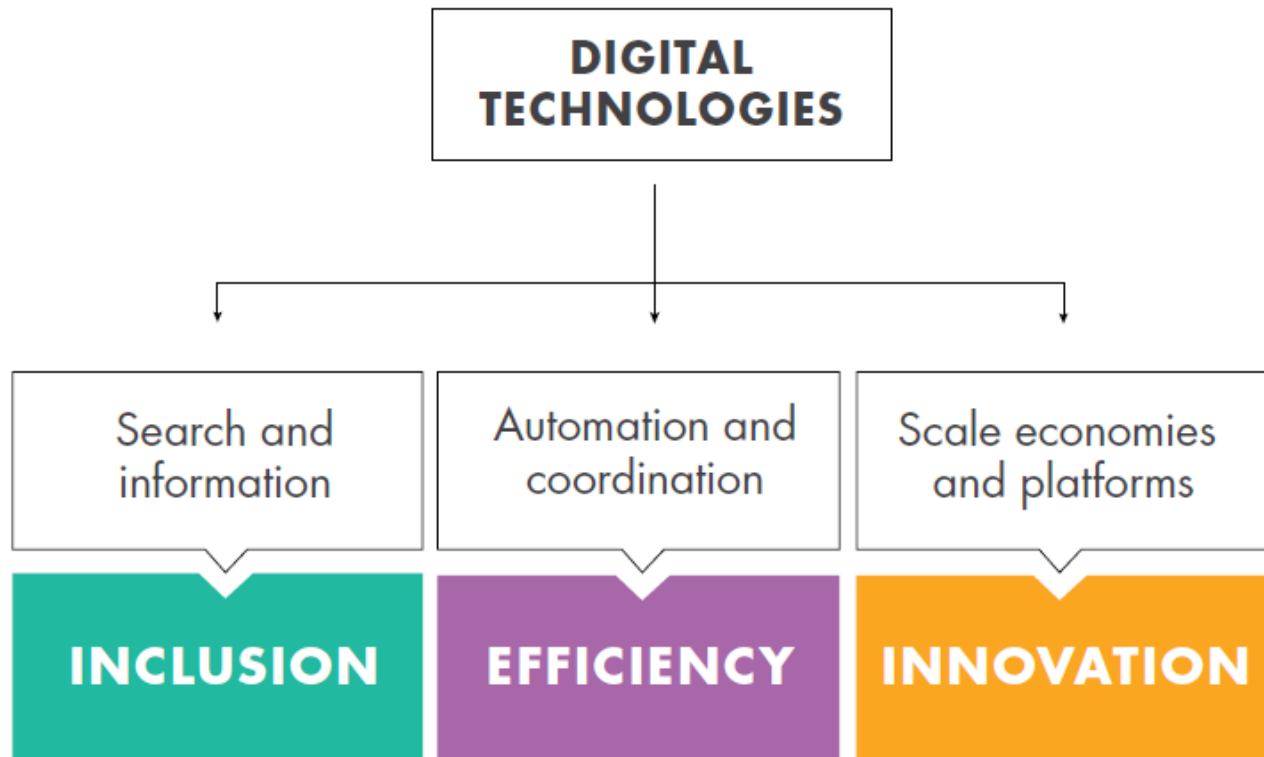
The New Indian Express



Indians with digital identity:

**950 MILLION
& COUNTING**

The main mechanisms to promote development



Expand the information base, lower information costs and create information goods

Then why the deep pessimism surrounding the global economy?

a. Global productivity

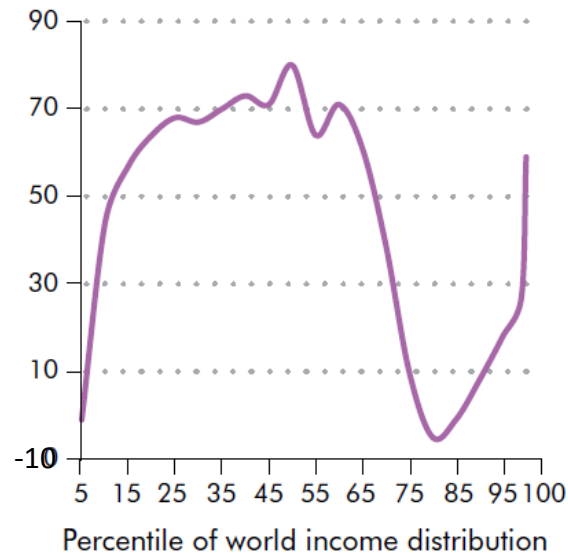
Five-year moving average of median growth of labor productivity per hour worked, in percent, in 87 countries.



Business

b. Global inequality

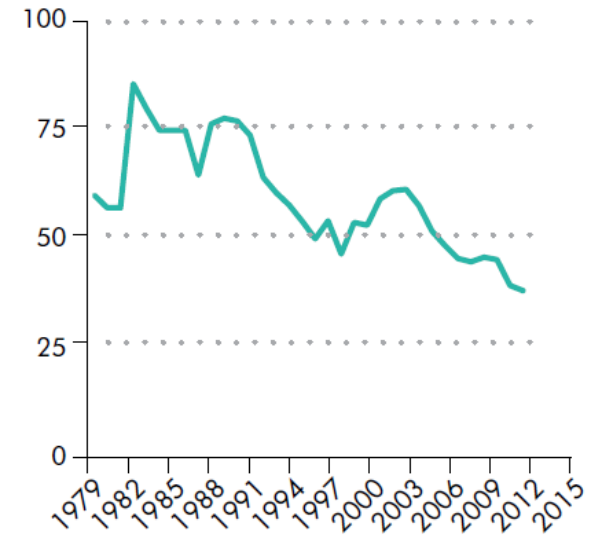
Percentage change in real income between 1998 and 2008 at different levels of world income distribution in 2003 prices



People

c. Global governance

Share of elections that are free and fair (%)



Governments

Not because of digital technologies, but in spite of them

1. A significant digital divide remains



6 BILLION *without* BROADBAND



4 BILLION *without* INTERNET



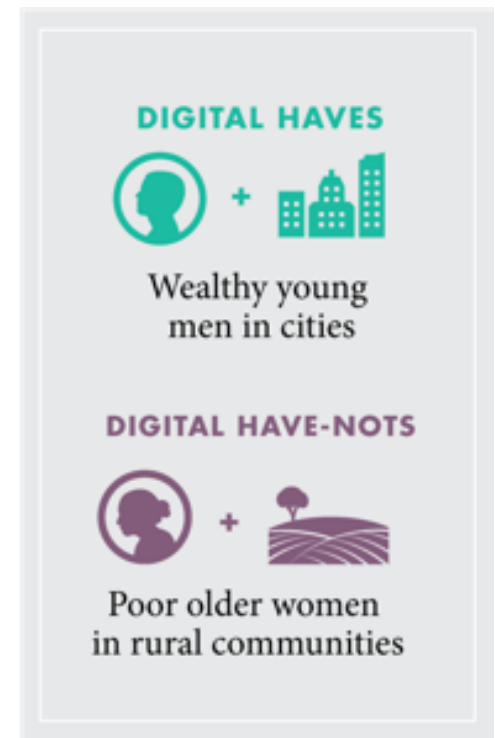
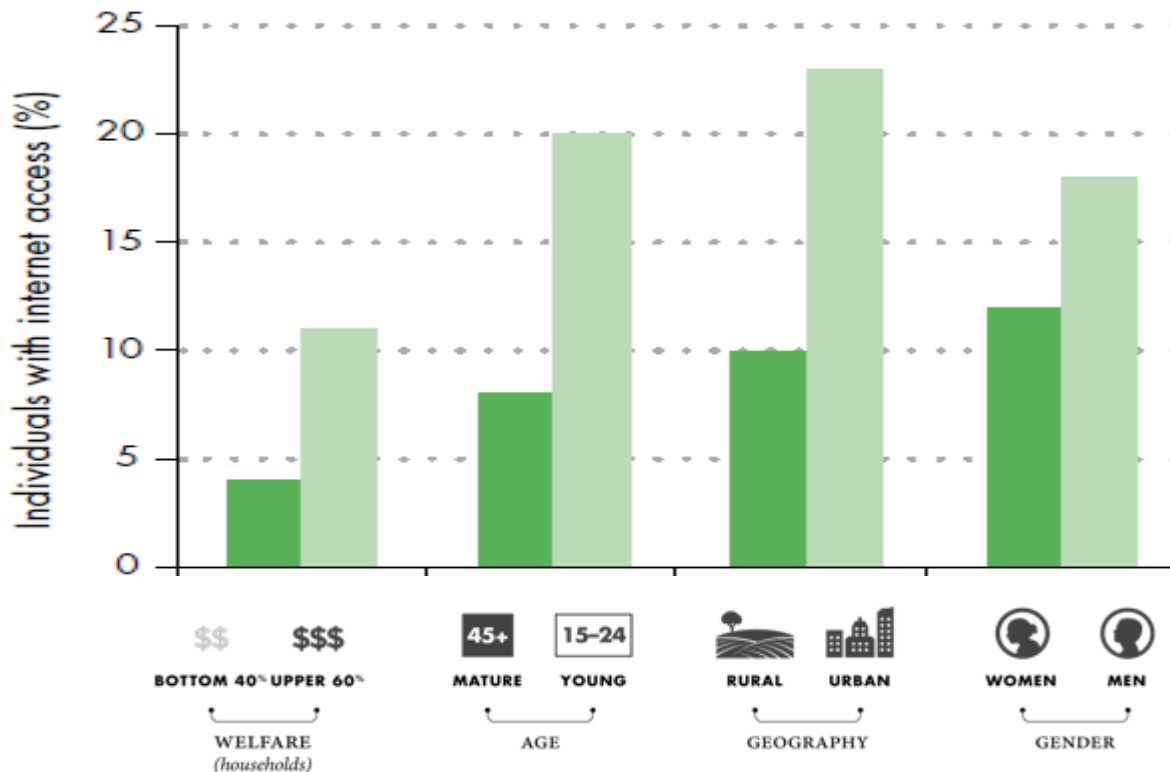
2 BILLION *without* MOBILE PHONES



0.4 BILLION *without* A DIGITAL SIGNAL

Divides persist between and within countries—in access and capability

... between and within countries—in access and capability

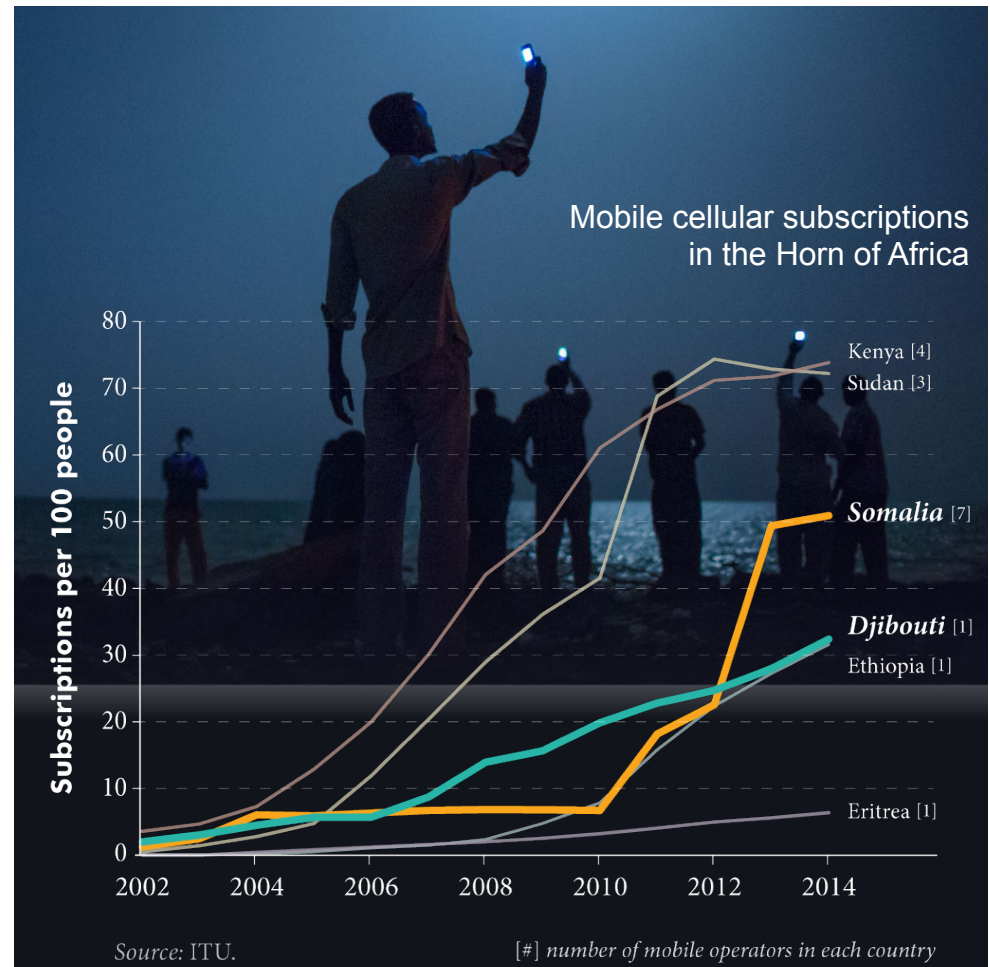


SECTORAL POLICIES

Making internet access universal, affordable, open and safe

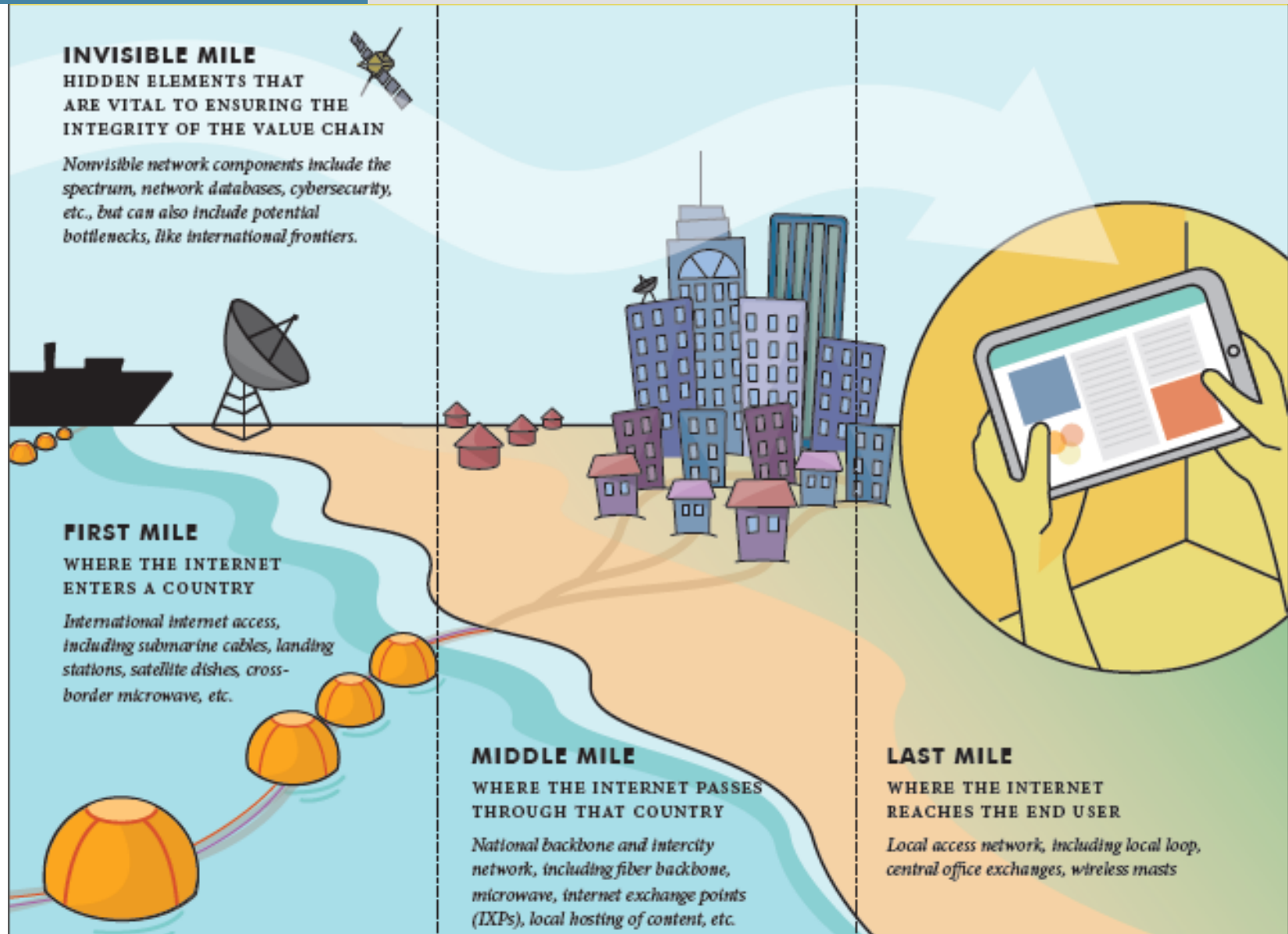
SUPPLY SIDE ISSUES

- Competition policy
- Public-private partnerships
- Effective telecom & internet regulation

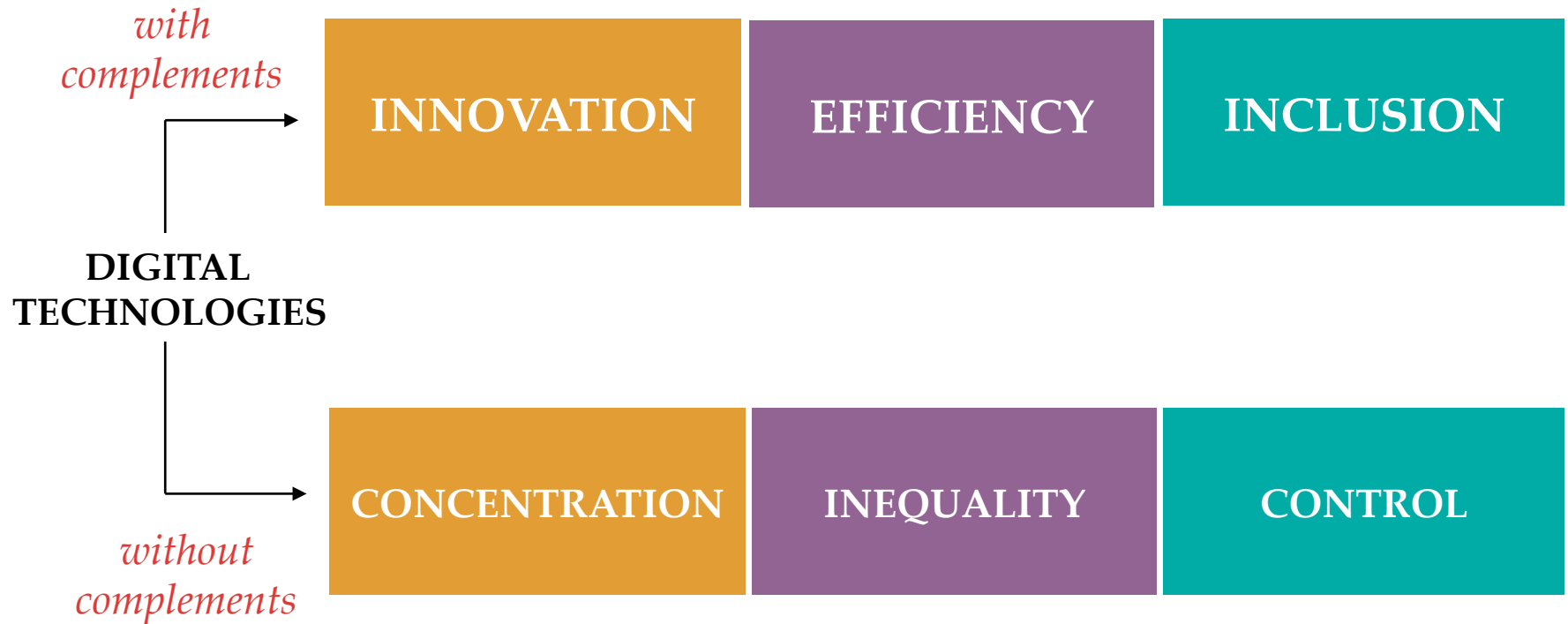


SECTORAL POLICIES

A Framework for considering policy interventions



2. Digital technologies often lack analog complements

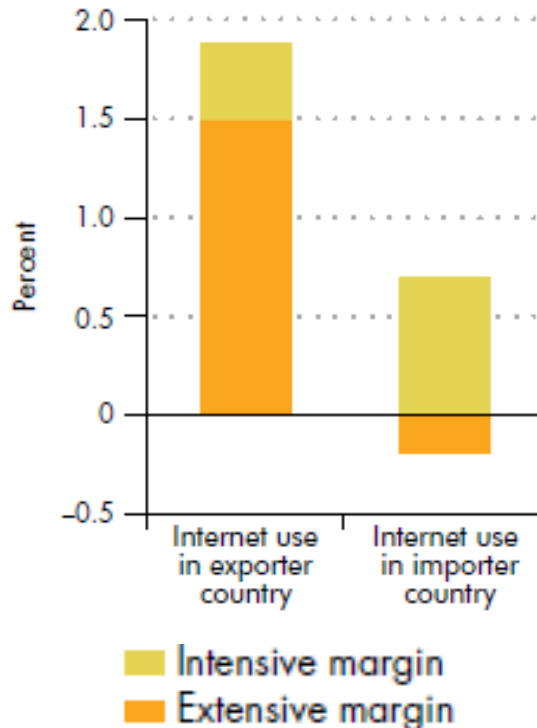


What are those complements?

Digital technology can accelerate growth ...

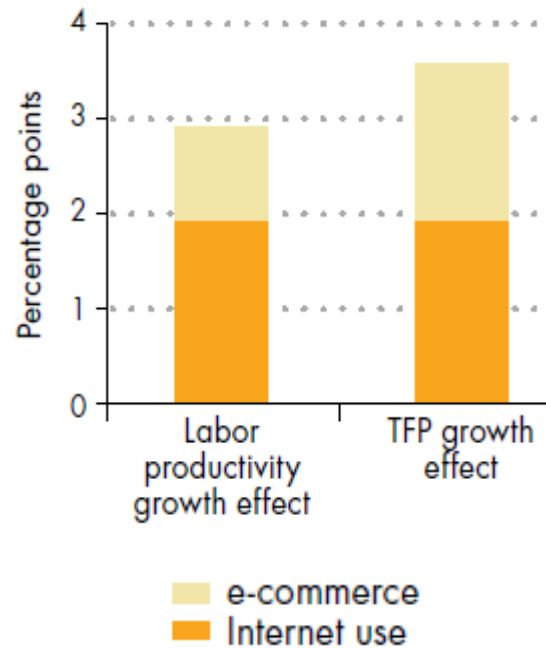
TRADE

The internet increases trade between countries, 2001-12



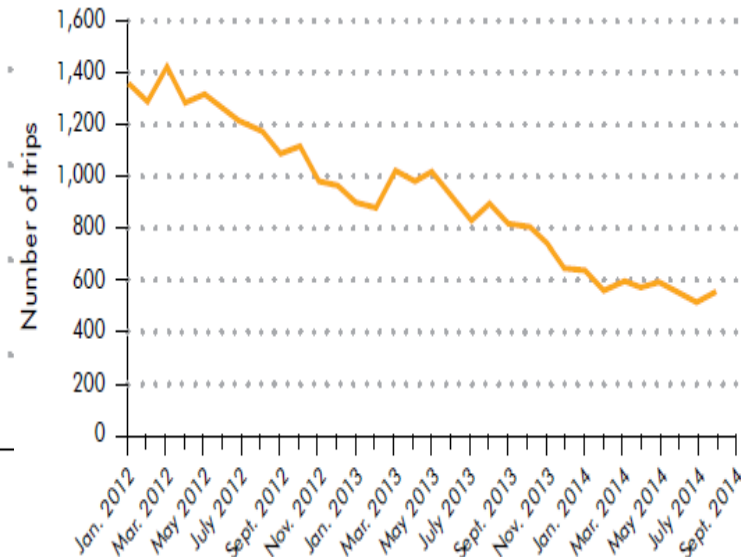
PRODUCTIVITY

Vietnamese firms using e-commerce have higher total factor productivity growth, 2007-12

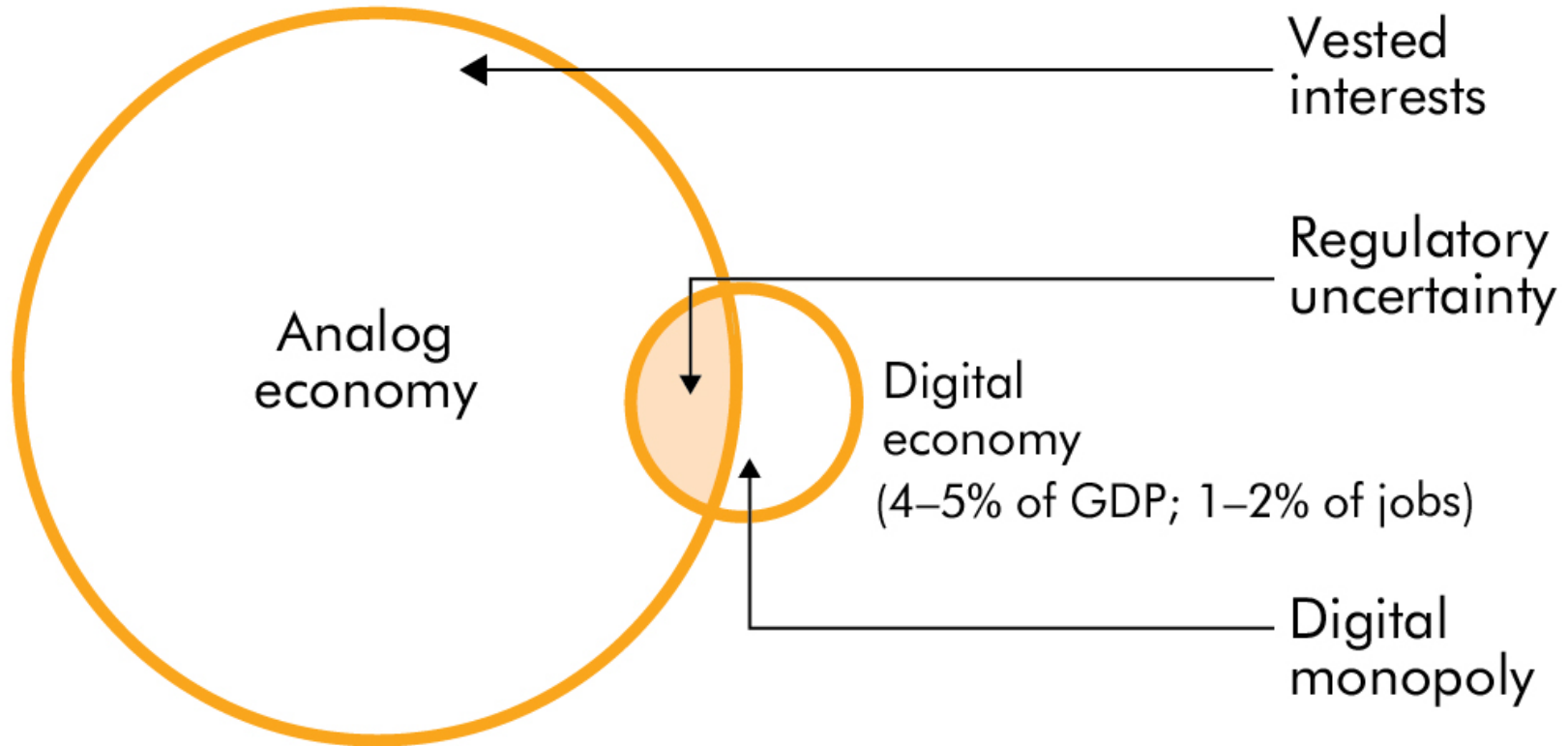


COMPETITION

Average monthly trips per traditional taxi in San Francisco after Uber started operation



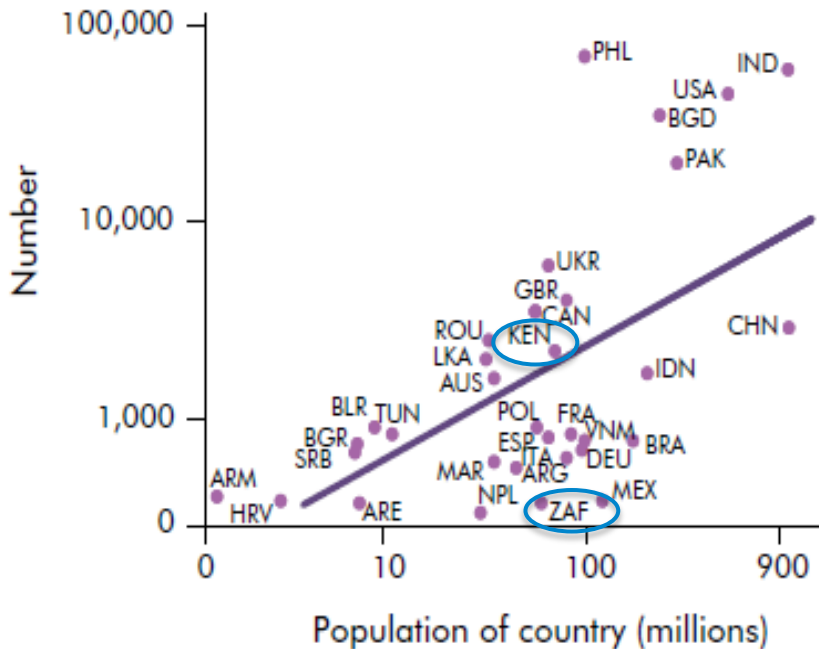
...but scale without **COMPETITION**
→ risks of lower digital adoption and growing divergence



Digital technology can expand opportunities...

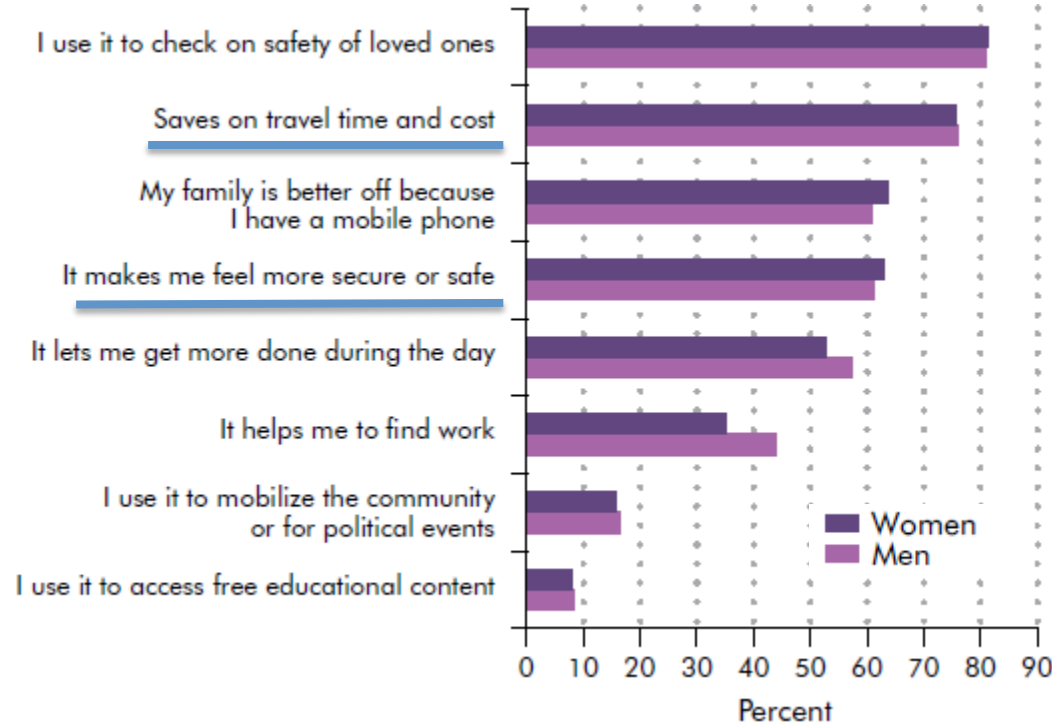
JOB CREATION

Number of oDesk contractors



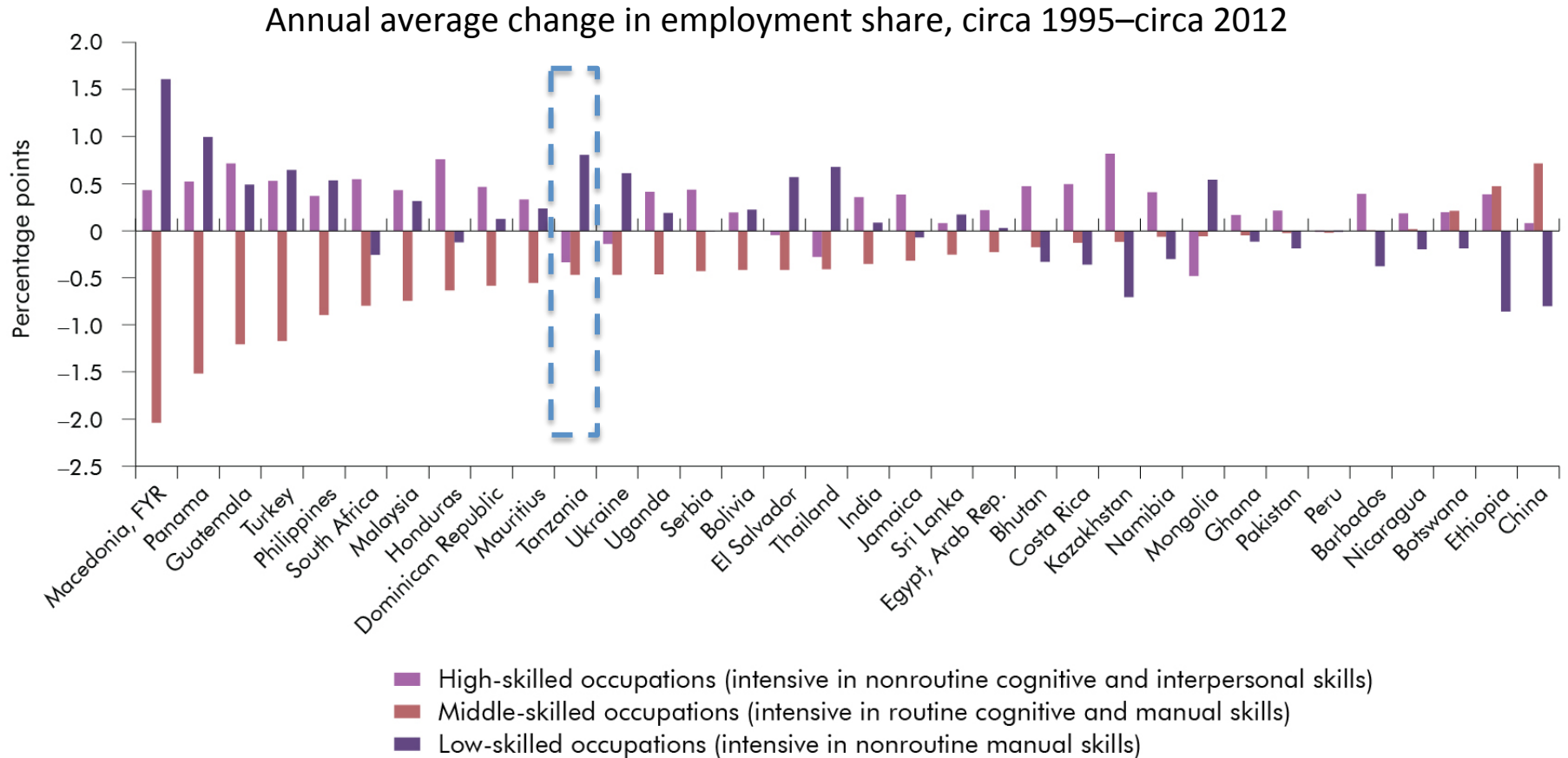
PRODUCTIVITY & CONSUMER SURPLUS

Africa: Respondents that agree with each statement on benefits and use of mobile phones, 2011–12



...but automation without **SKILLS**

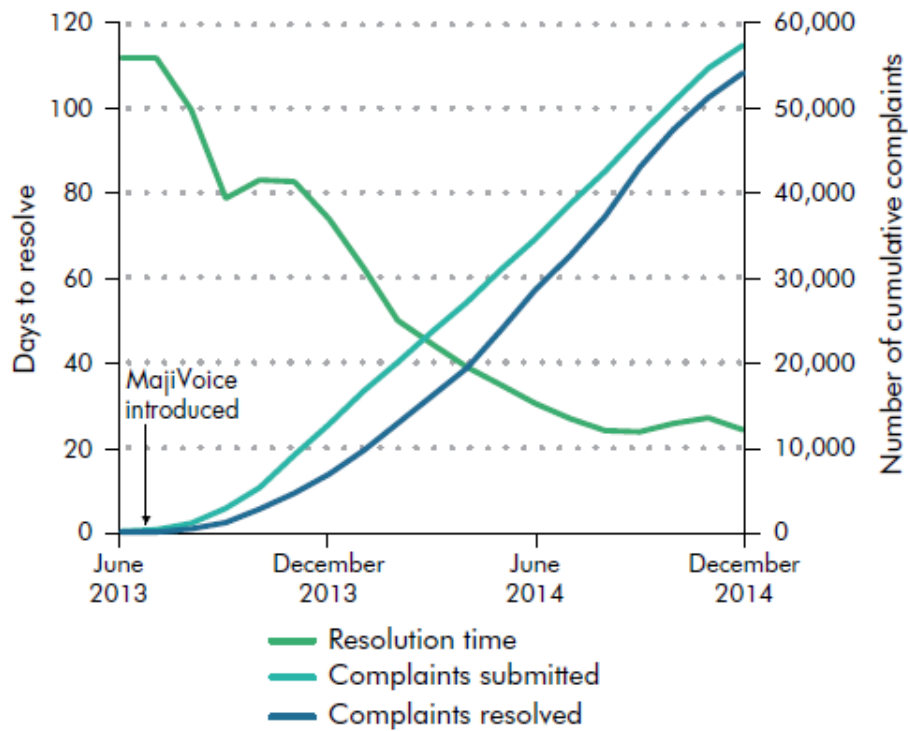
→ risks of polarized labor markets and greater inequality



Digital technology can improve service delivery...

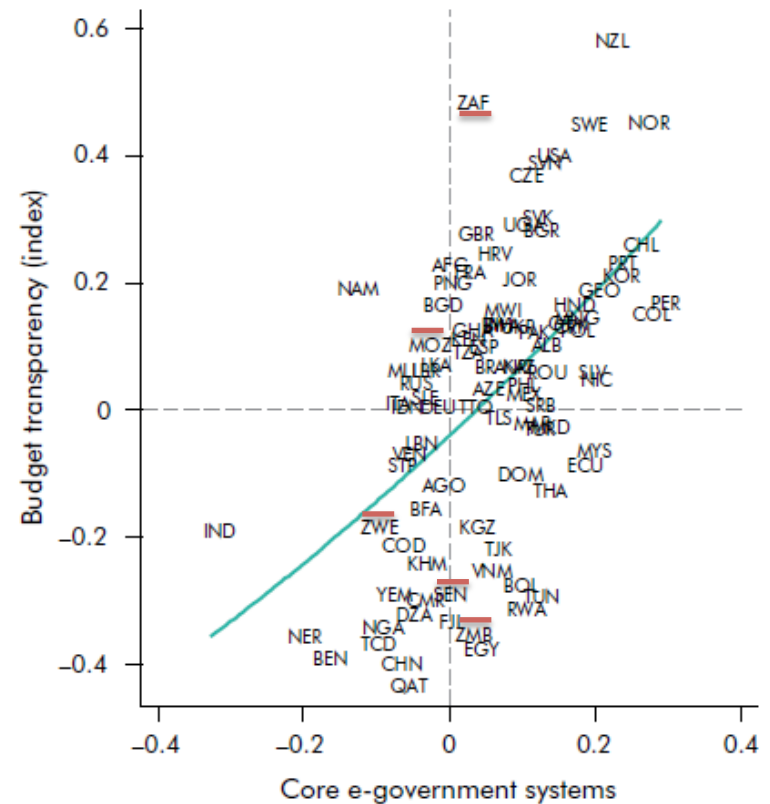
CAPACITY

Complaints were resolved quickly in the Nairobi water utility after the introduction of digital customer feedback



TRANSPARENCY

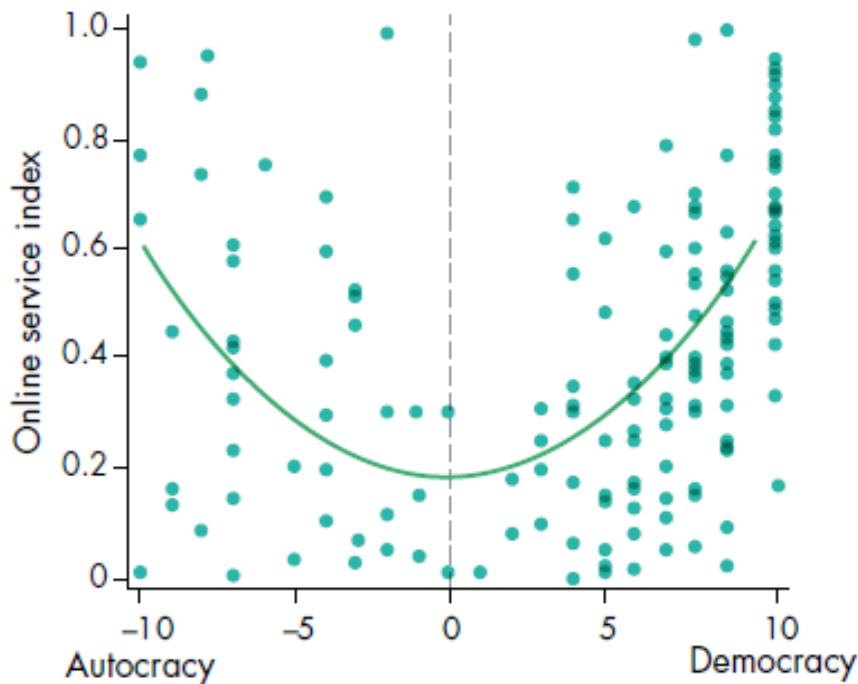
e-government systems increase the transparency of government budgets, 2014



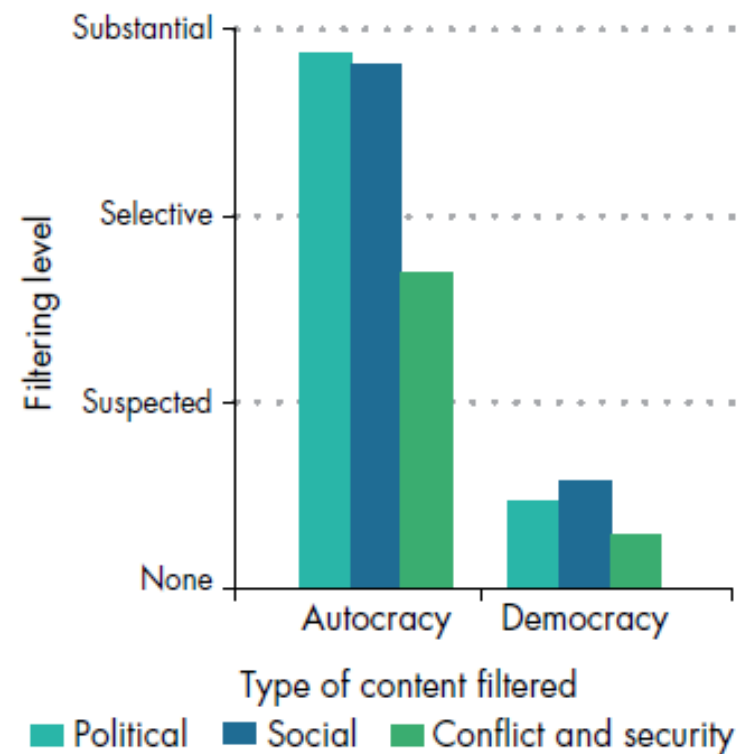
...but information without **ACCOUNTABILITY**

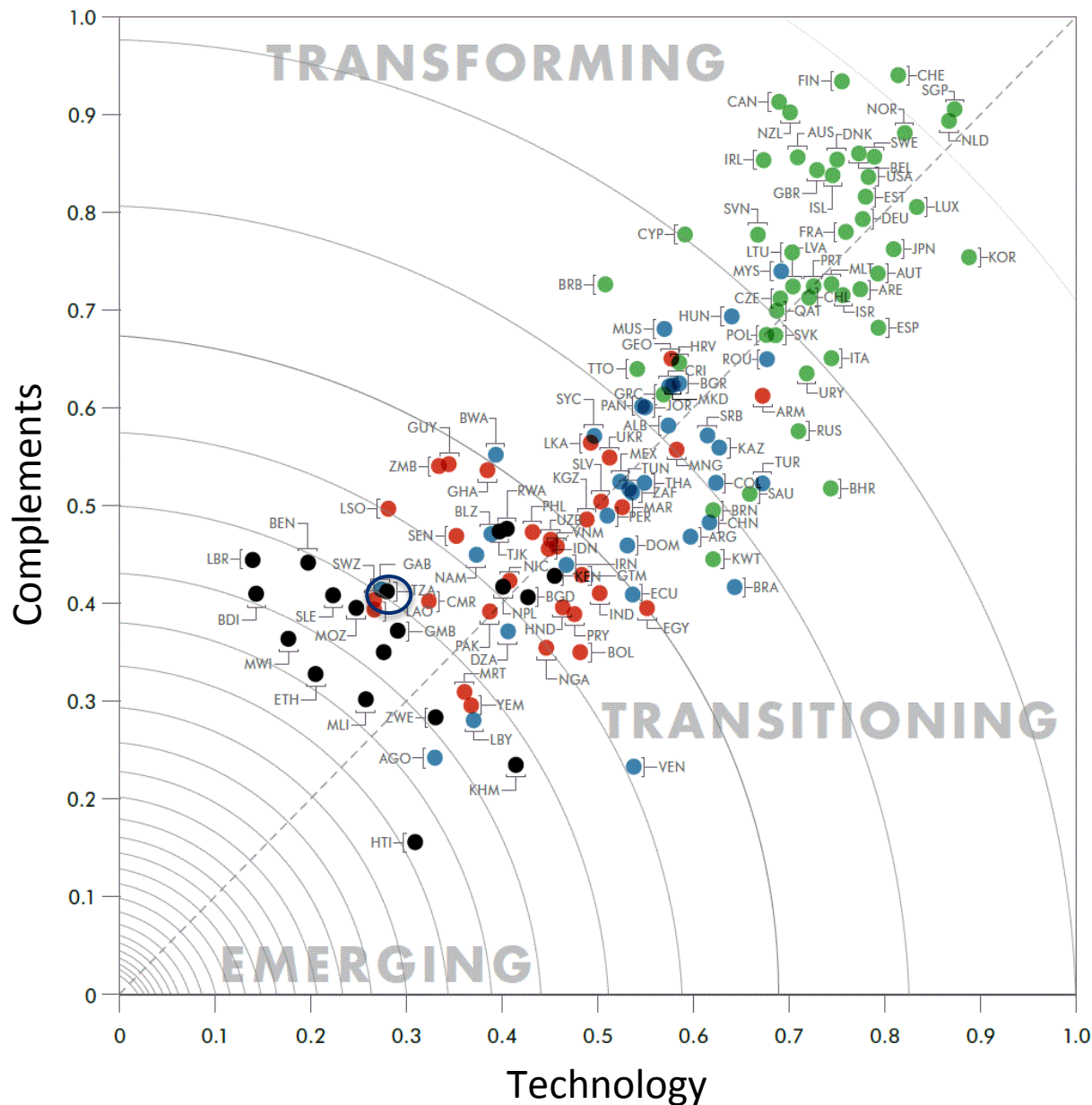
→ risks of greater state control and elite capture

a. e-government provision, by government type



b. Internet filtering, by government type





Race between technology and complements

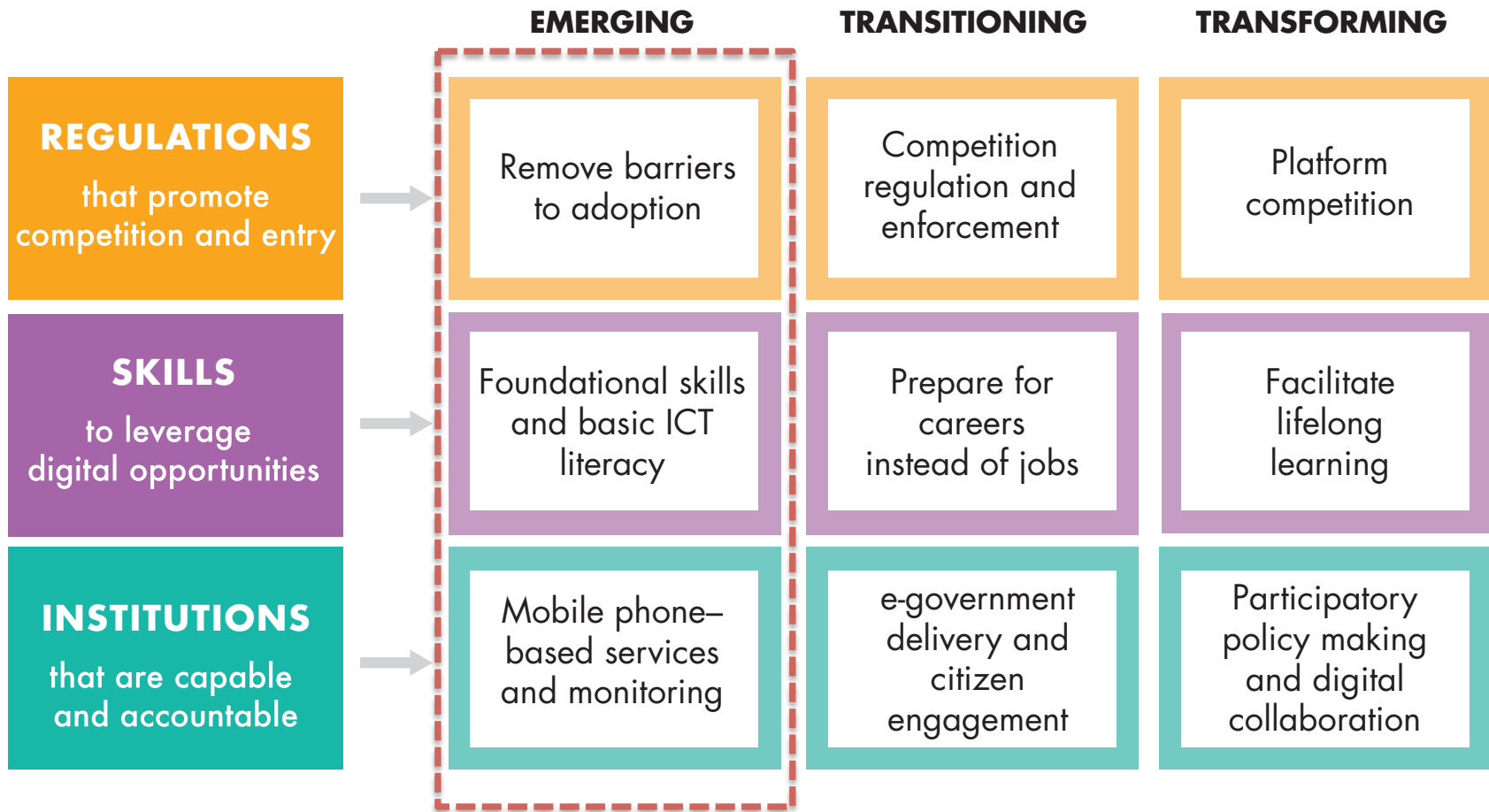
- High-income
- Upper-middle-income
- Lower-middle-income
- Low-income

Complements: Index of quality of institutions, skills and regulations.

Technology: Digital Adoption Index - businesses, people and governments.

NATIONAL PRIORITIES

Analog foundations for a digital economy



SOURCE: WDR 2016 team.

Digital development strategies need to be broader than ICT strategies

Connectivity + Complements → Digital Dividends

- Regulations that allow firms to connect and compete
- Skills that leverage technology
- Institutions that are accountable and capable

Match policies to the level of digital development

- Emerging: Lay the foundations by promoting digital adoption
- Transitioning: Enable everyone to take advantage of new technologies
- Transforming: Deal with the wicked problems faced in the new economy

The payoff

- Increasing digital dividends:
Faster growth, more jobs and better services

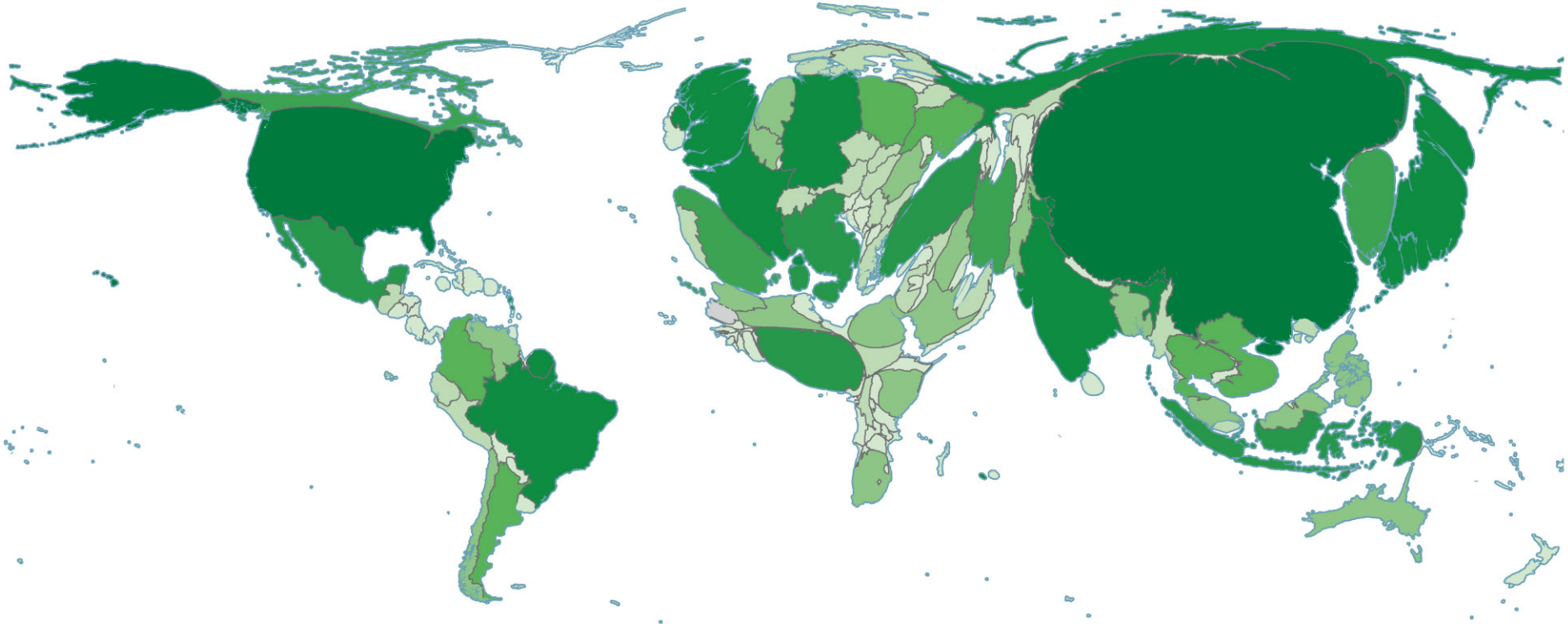
A group of people are silhouetted against a dark night sky. They are standing on a beach, and several of them are holding up their smartphones to take pictures of a bright, full moon in the sky. The scene is dimly lit, with the primary light source being the moon and the small screens of the phones.

www.worldbank.org/wdr2016

Back-up Slides

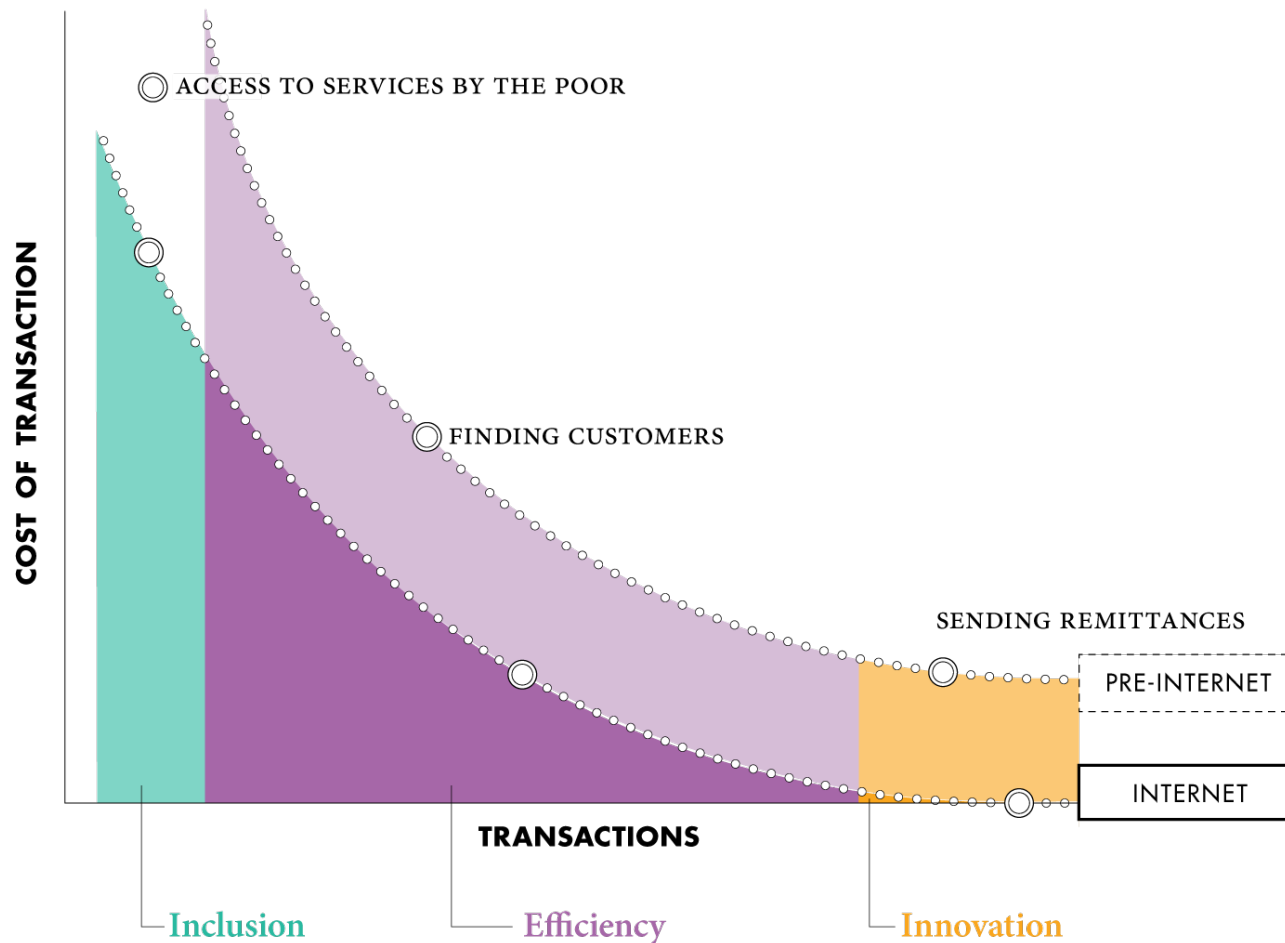
Digital technologies have spread rapidly

The world, based on internet population (2014)

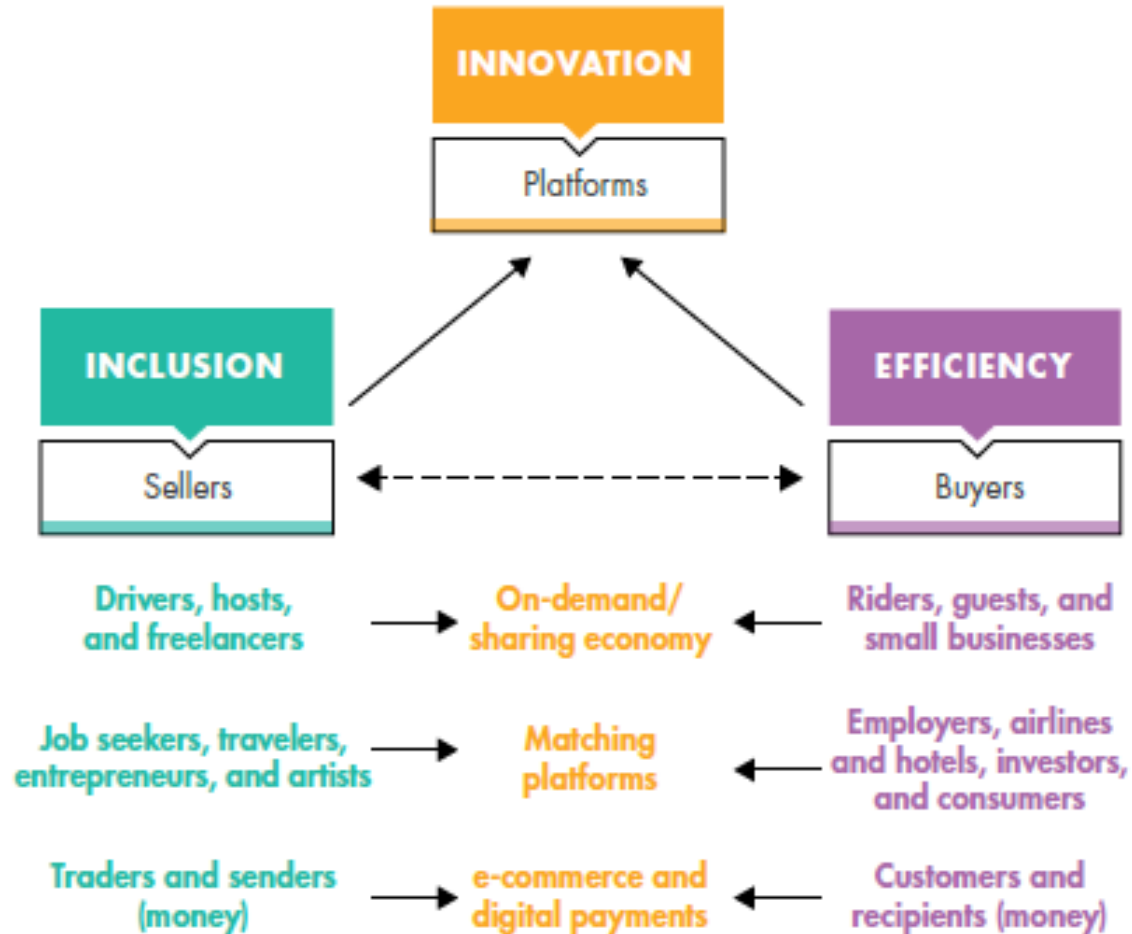


How the internet affects development

DECREASING MARKET AND NON-MARKET TRANSACTION COSTS



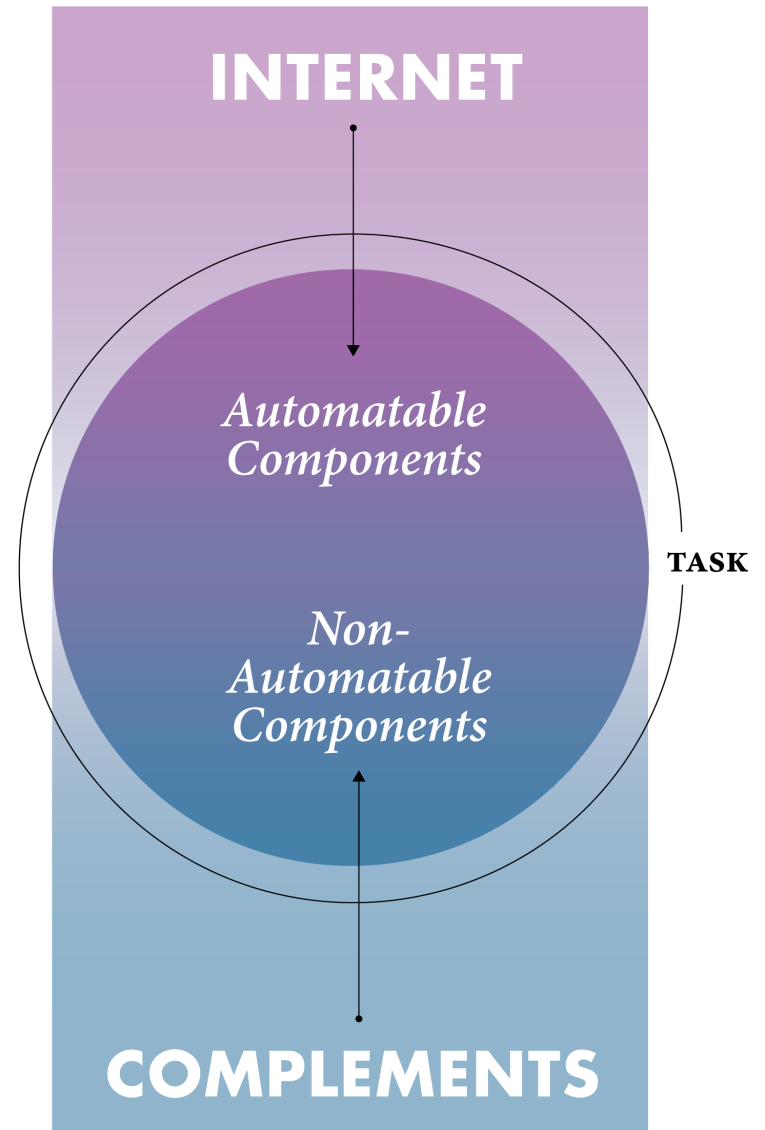
Many digital transactions involve all three mechanisms and a two-sided market



But technology will
not be enough

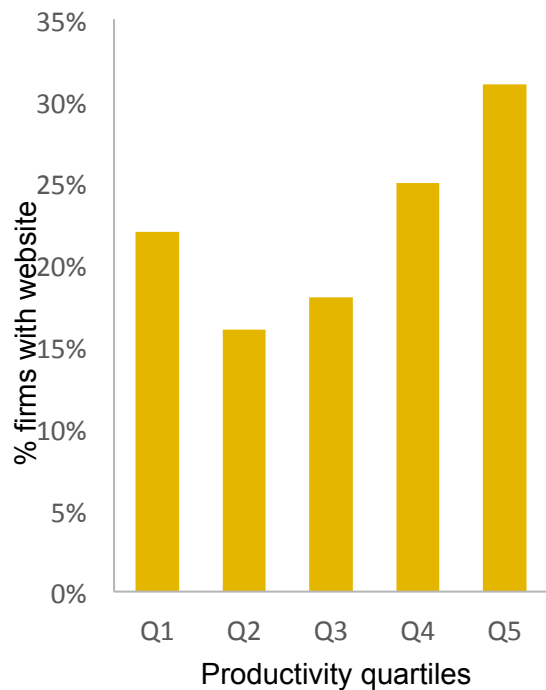
***“Be an expensive complement
(stats knowhow) to something
that’s getting cheaper (data).”***

—Hal Varian

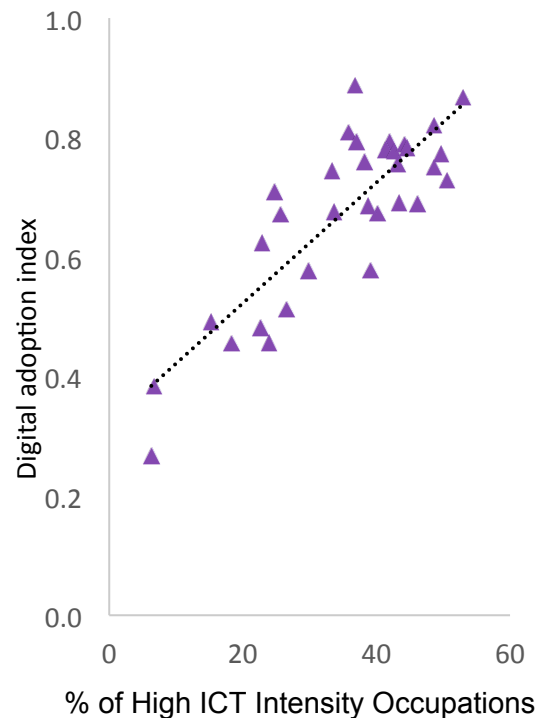


2. Digital technologies tend to be:

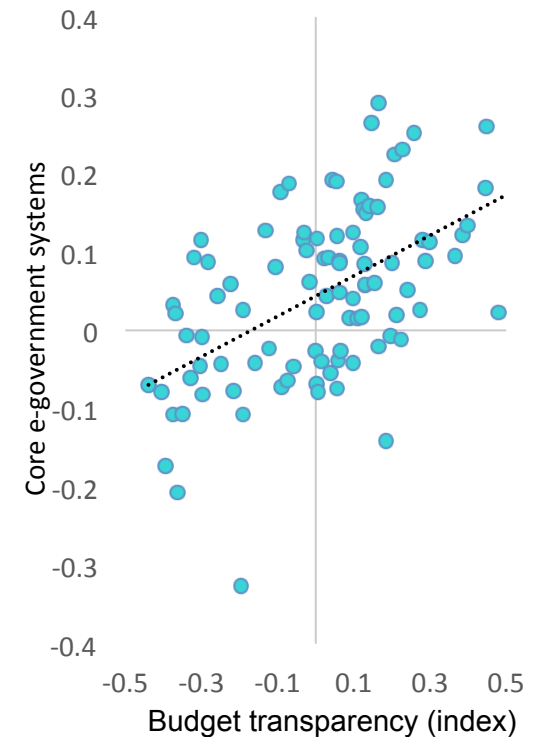
Productivity-biased



Skills-biased



Voice-biased

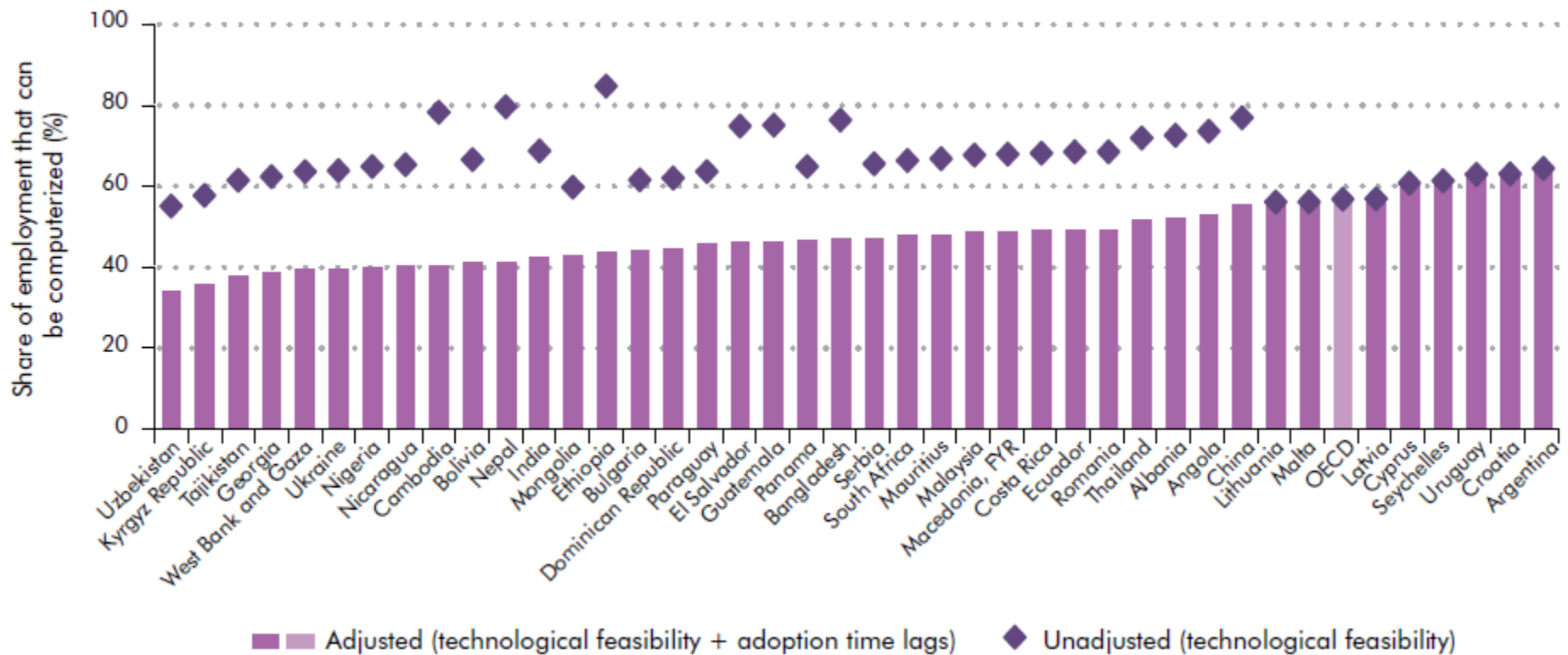


Limiting the aggregate gains from the digital revolution

Technology and automation

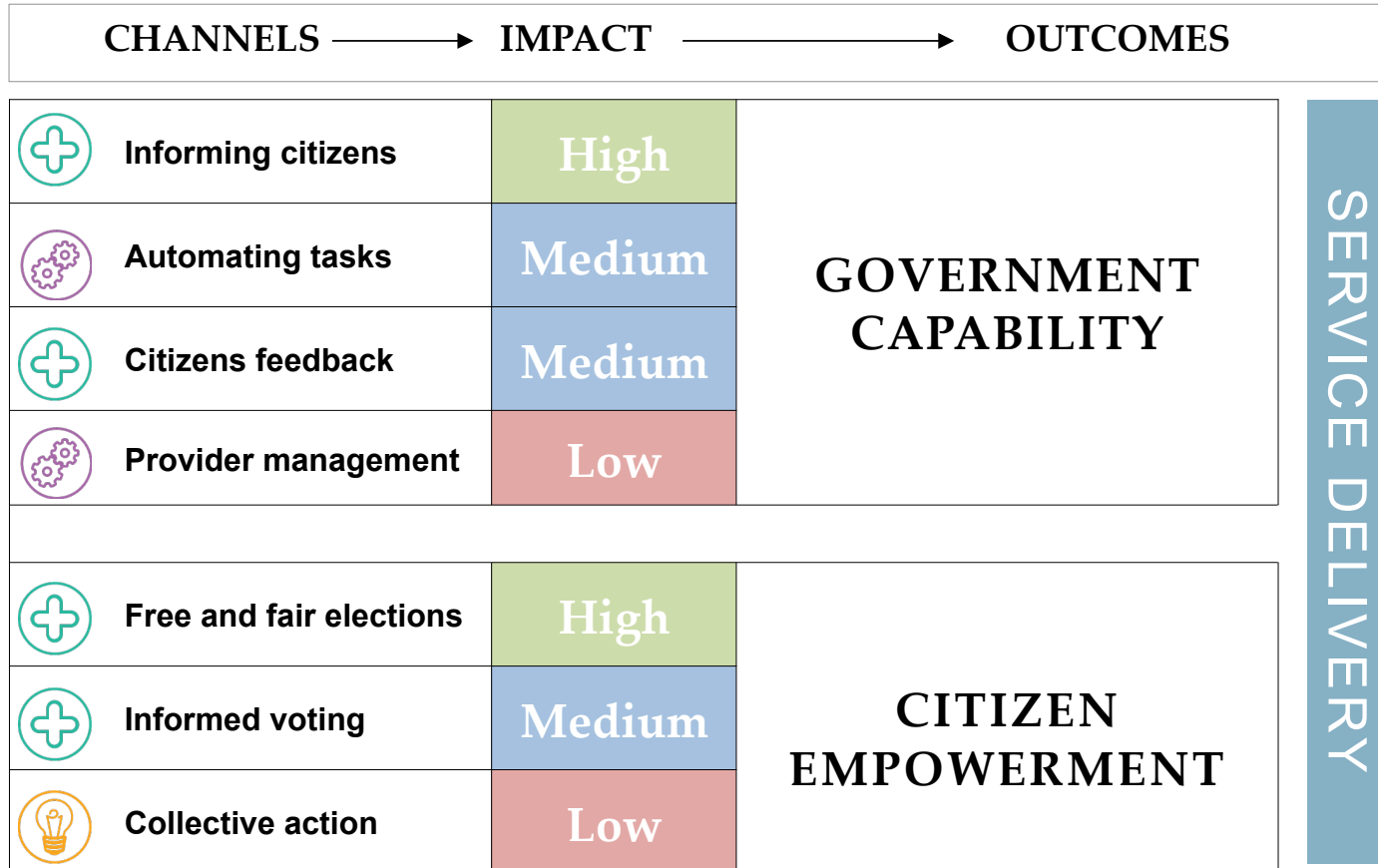
Implications for countries trying to industrialize through labor intensive manufacturing sector

Estimated share of employment that is susceptible to automation, latest year



Information without **ACCOUNTABILITY**

→ risks of greater state control and elite capture



INCLUSION



EFFICIENCY

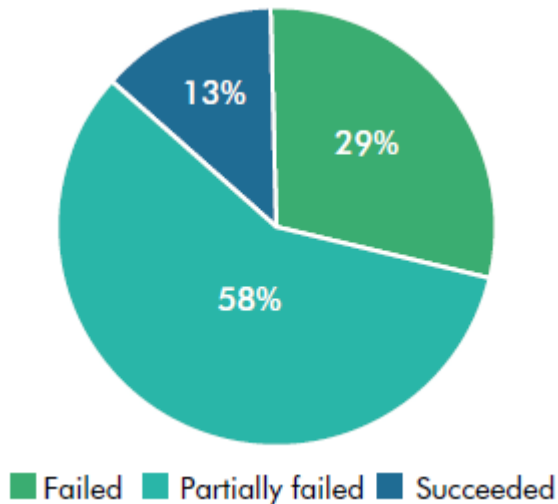


INNOVATION

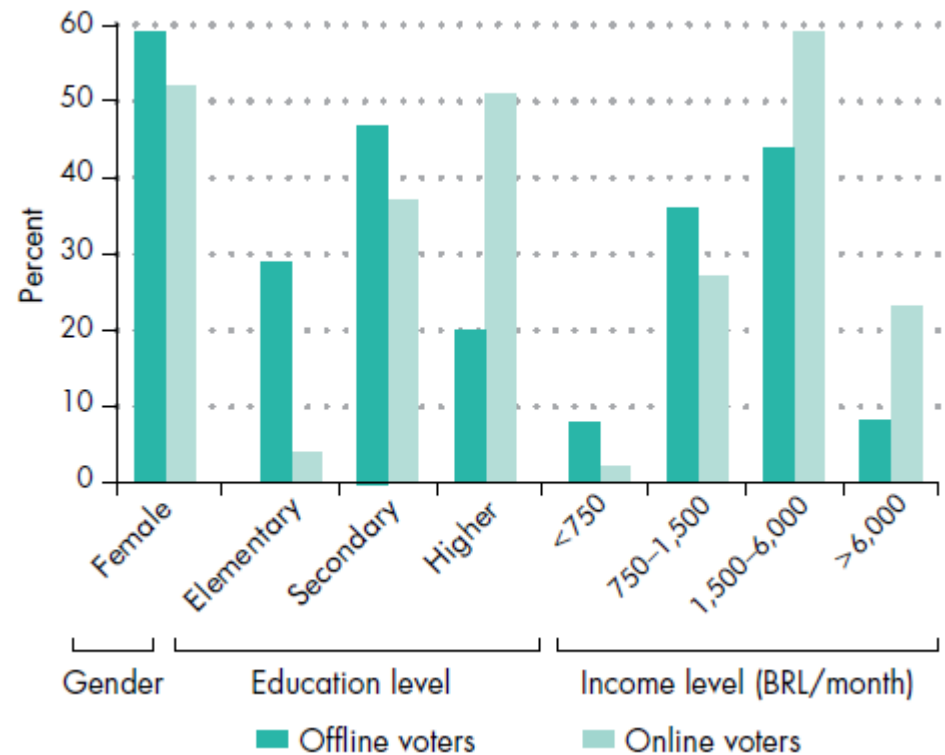
...but information without **ACCOUNTABILITY**

→ risks of fiscal waste and elite capture

Success rate of large public sector ICT projects



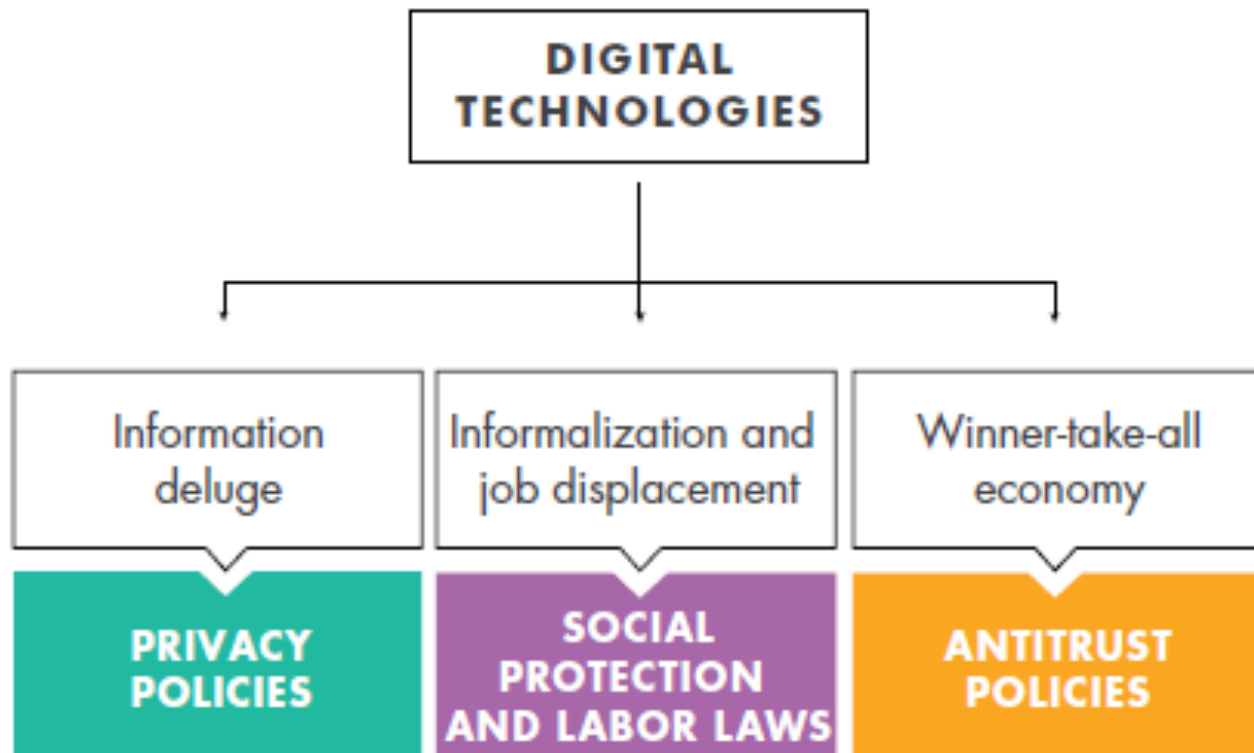
Profile of online and offline voters in a participatory budgeting vote in Rio Grande do Sul, Brazil, 2011–12



International consensus on cross-border issues

- A governance model for an open and safe internet
- Removing barriers to a global digital market
- Leveraging information for sustainable development
 - *Get wired*
 - *Build platforms*
 - *Go global*

Dealing with the downside risks of the digital economy



SECTORAL POLICIES

Making internet access universal, affordable, open and safe

DEMAND SIDE ISSUES

- Protecting personal privacy
- Cybersecurity
- Censorship and content filtering

1993



"On the Internet, nobody knows you're a dog."

2014

"Now Google and its like are surveillance machines that know not only that you're a dog but whether you have fleas and which brand of meaty chunks you prefer." (Economist)