Digital technologies have spread rapidly

The world, based on internet population (2014)

Digital revolution has brought many private benefits

A typical day in the life of the internet

- 186 million Instagram photos
- 152 million Skype calls
- 36 million Amazon purchases
- 2.3 billion GB of web traffic
- 803 million tweets
- 8.8 billion YouTube videos watched
- 207 billion emails sent
- 4.2 billion Google searches

But are countries reaping sizable digital dividends?

Are the benefits reaching everyone, everywhere?
Digital technologies are transforming **BUSINESS**

**DIGITAL MARKETPLACE**

Number of small & medium enterprises on Taobao (Alibaba): **5 MILLION & COUNTING**

**SOURCE:** [http://www.alizila.com/chinas-online-cowboy-rounds-buyers](http://www.alizila.com/chinas-online-cowboy-rounds-buyers)
Digital technologies are transforming **PEOPLE’S LIVES**

**DIGITAL PAYMENTS**

Number of mobile money accounts worldwide: **300 MILLION & COUNTING** (end of 2014)

Where mobile money accounts outnumber bank accounts

**SOURCE:** John Owens, Alliance for Financial Inclusion, June 2013.
Digital technologies are transforming GOVERNMENT

DIGITAL IDENTITY

Indians with digital identity: 950 MILLION & COUNTING

SOURCE: http://www.newindianexpress.com/cities/chennai/Trafficking-Victims-see-New-life-in-Aadhaar/2015/03/30/article2737396.ece
The main mechanisms to promote development

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

SOURCE: WDR 2016
Then why the deep pessimism surrounding the global economy?

Not because of digital technologies, but in spite of them

**SOURCE:** Total Economy Database, Conference Board; and WDR 2016 team; Christoph Lakner and Branko Milanovic 2013; Bishop and Hoeffler 2014.
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

SOURCE: WDR 2016 team based on Research ICT Africa and ITU data
2. Digital technologies tend to be:

- Productivity-biased
- Skills-biased
- Voice-biased

Limiting the aggregate gains from the digital revolution

**SOURCE:** WDR 2016 team based on Research ICT Africa and ITU data
3. Digital technologies hold benefits as well as risks

What are those complements?
Scale without COMPETITION

Analog economy

Digital economy
(4–5% of GDP; 1–2% of jobs)

Digital monopoly

Vested interests

Regulatory uncertainty

SOURCE: Eurostat, circa 2014, WDR 2016 Team
Automation without **SKILLS**

Annual average change in employment share, circa 1995–circa 2012

**SOURCE:** WDR 2016 team, based on ILO KILM (ILO, various years); I2D2 (World Bank, various years); National Bureau of Statistics of China (various years)
## Information without **ACCOUNTABILITY**

<table>
<thead>
<tr>
<th>CHANNELS</th>
<th>IMPACT</th>
<th>OUTCOMES</th>
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<tr>
<td>Informing citizens</td>
<td>High</td>
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<tr>
<td>Automating tasks</td>
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<td>GOVERNMENT CAPABILITY</td>
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<td>Citizens feedback</td>
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<td>Provider management</td>
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<td><strong>Free and fair elections</strong></td>
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<td>CITIZEN EMPOWERMENT</td>
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</table>

**Channels**

- Informing citizens
- Automating tasks
- Citizens feedback
- Provider management
- Free and fair elections
- Informed voting
- Collective action

**Impact**

- High
- Medium
- Low

**Outcomes**

- Service Delivery
- Inclusion
- Efficiency
- Innovation

**Source:** WDR 2016 Team, Pew Research
Race between technology and complements

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

Technology: *Index of quality of access to internet and related technologies.*

SOURCE: WDR 2016 team. For more details see figure 5.3 in the full Report.
The WDR 2016 proposes policies at three levels

SECTORAL  NATIONAL  GLOBAL
SECTORAL POLICIES

SUPPLY SIDE ISSUES

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

Making internet access universal, affordable, open and safe

Mobile cellular subscriptions in the Horn of Africa

Source: ITU.

[注] number of mobile operators in each country
Making internet access universal, affordable, open and safe

**DEMAND SIDE ISSUES**

- Protecting personal privacy
- Cybersecurity
- Censorship and content filtering

“On the Internet, nobody knows you’re a dog.”

“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)
Analog foundations for a digital economy

**EMERGING**
- Remove barriers to adoption
- Foundational skills and basic ICT literacy
- Mobile phone-based services and monitoring

**TRANSITIONING**
- Competition regulation and enforcement
- Prepare for careers instead of jobs
- e-government delivery and citizen engagement

**TRANSFORMING**
- Platform competition
- Facilitate lifelong learning
- Participatory policy making and digital collaboration

**NATIONAL PRIORITIES**

**REGULATIONS**
- that promote competition and entry

**SKILLS**
- to leverage digital opportunities

**INSTITUTIONS**
- that are capable and accountable

**SOURCE:** WDR 2016 team.
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
Digital development strategies need to be broader than ICT strategies

Understand the importance of analog complements

• 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