



 Internet   
*for* Development

# World Development Report 2016

International Policy Workshop organized by the Federal Ministry  
for Economic Cooperation and Development (BMZ)

Berlin, November 6-7, 2014

# About WDRs

The World Development Report is produced on an annual basis and is the World Bank's major analytical publication. Each year it focuses on a particular aspect of development selected by the Bank's president. Each WDR is prepared by a team of staff and consultants, under the guidance of the Chief Economist.



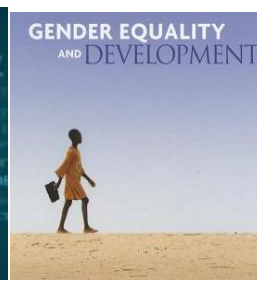
**2015: Mind and Behavior**



**2014: Risk and Opportunity**



**2013: Jobs**



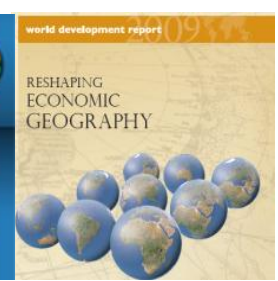
**2012: Gender Equality**



**2011: Conflict and Security**

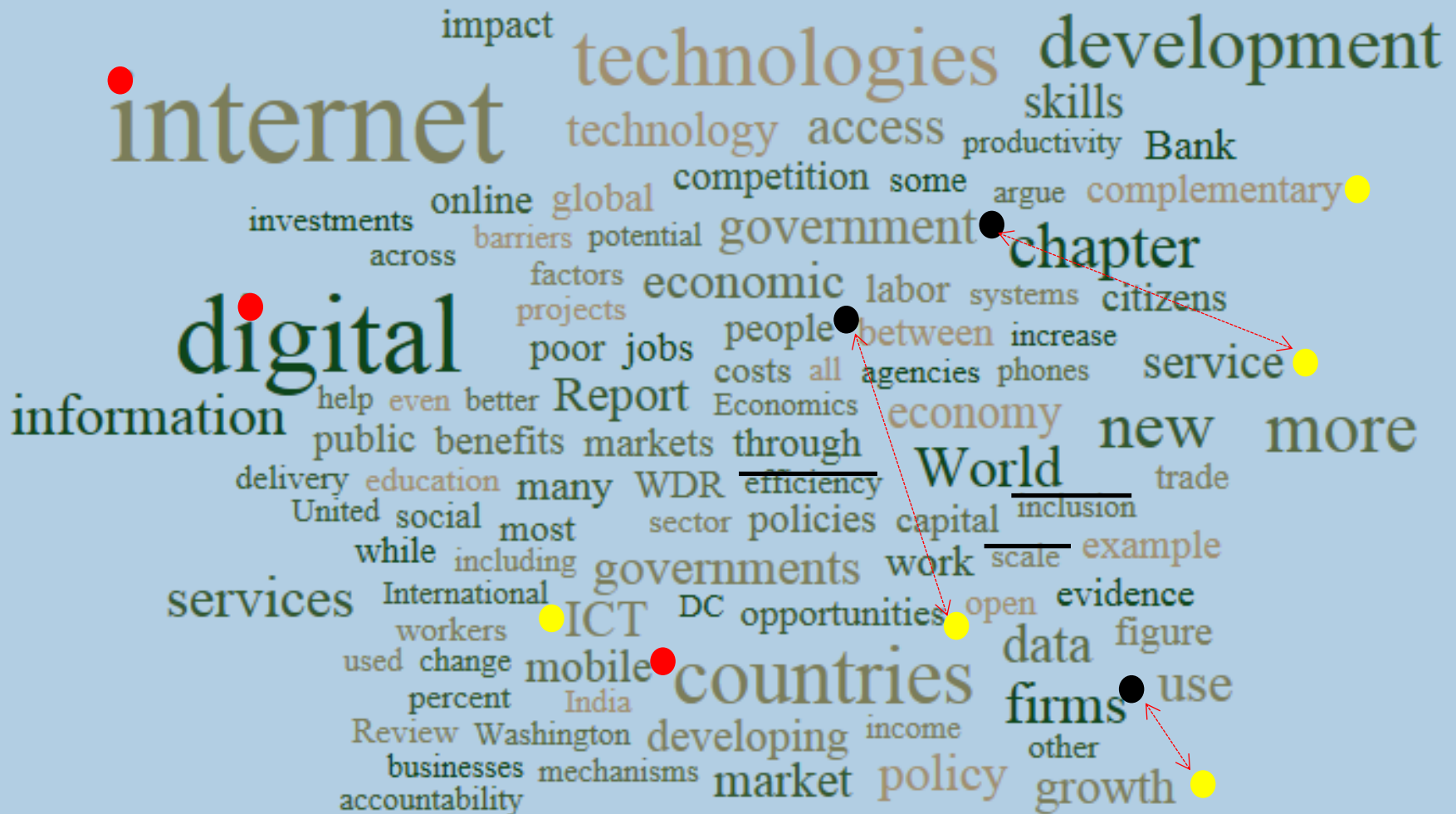


**2010: Climate Change**



**2009: Economic Geography**

# Outline of the 2016 WDR: Word Cloud



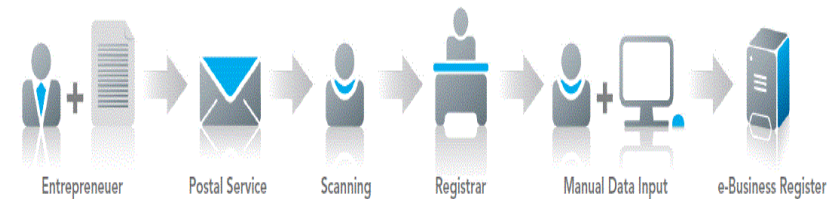
# Online government services (efficiency)

## Analog World

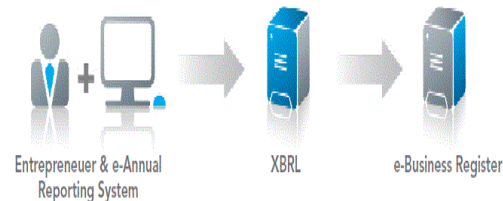
## Digital World



Before 3 months



Now 20 minutes



Botswana's per capita income: \$7,317  
Starting a business (Botswana): 60 days\*

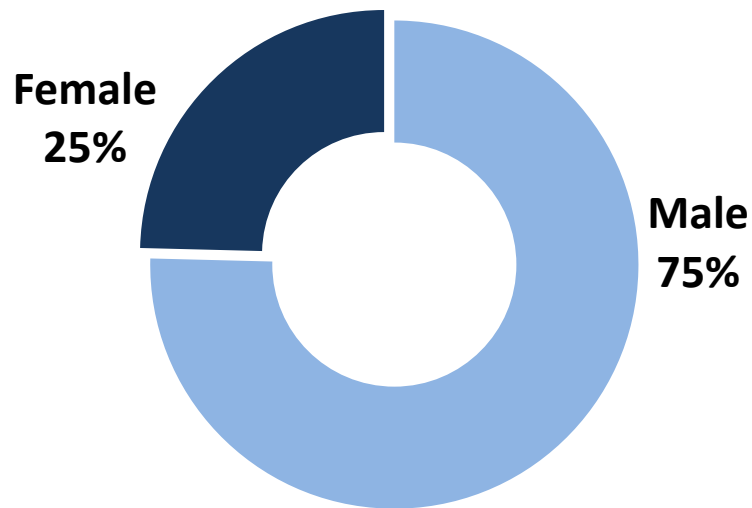
Estonia's per capita income: \$18,478  
Starting a business (Estonia): < 1 week\*

\* Doing Business Indicators, The World Bank

# Women in labor force (inclusion)

## Analog World

Total non-agricultural  
employment



## Digital World

Online work – Elance



### New / Expansion of Market

Souktel in Palestine – online job

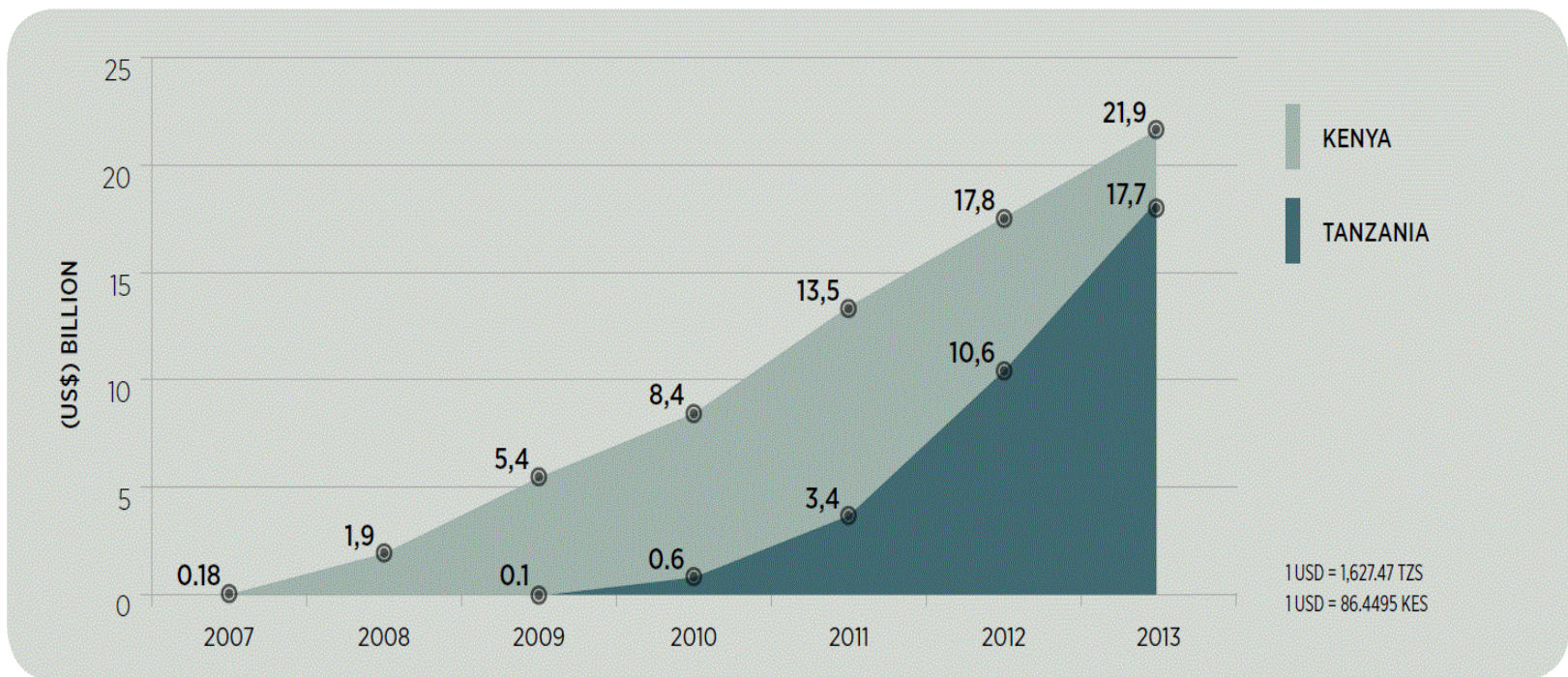
Aadhaar in India - biometric ID

Alibaba in China – trading platform

Uber and Airbnb – sharing economy

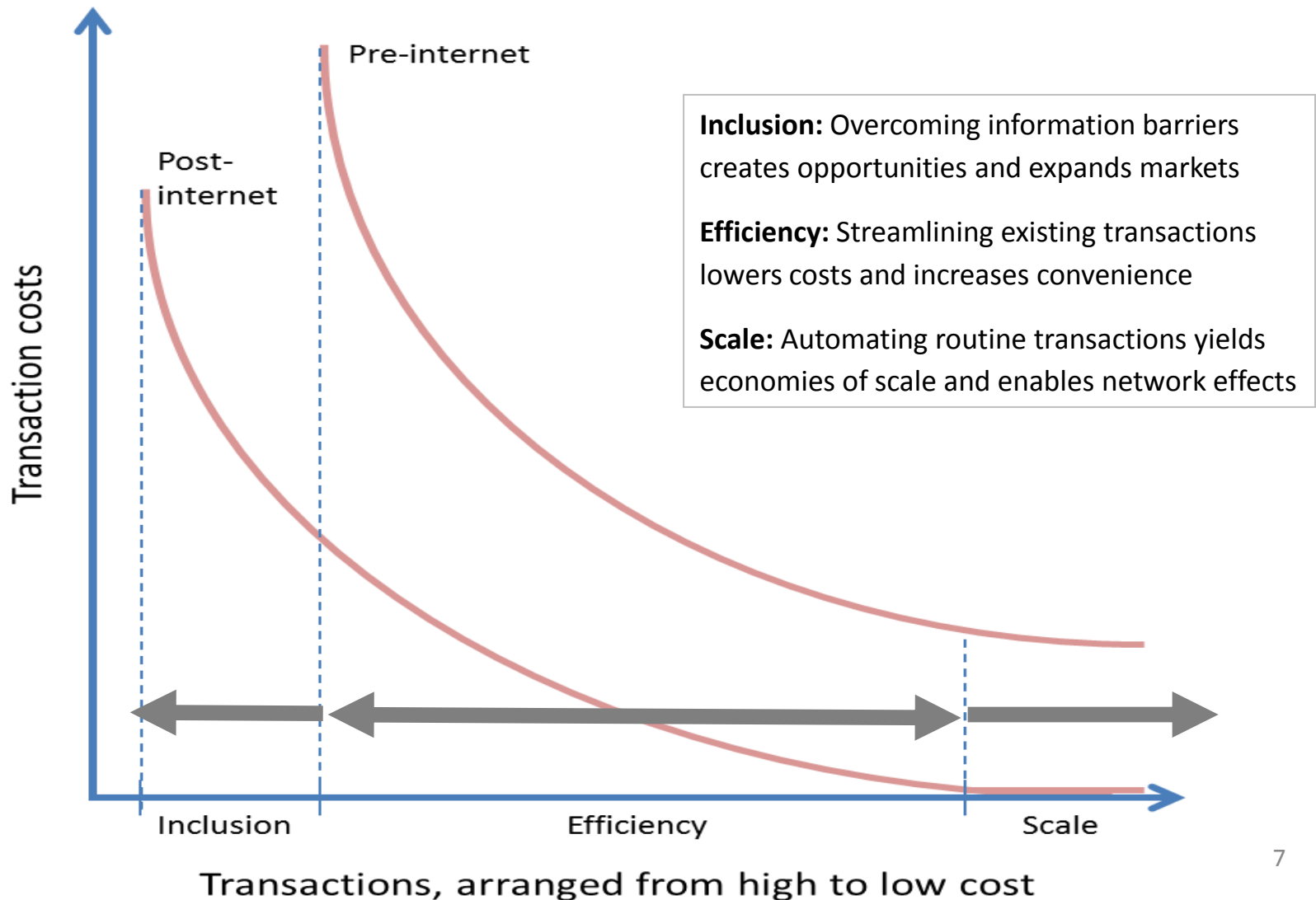
# Digital payment platforms (scale)

Mobile money, yearly transaction value



Other examples of scale: e-book, i-music, online news and entertainment, social media

# How the internet affects development: three mechanisms



# Risks from digital development

- + Substantial differences in internet use (businesses)
- + Falling shares of mid-level jobs linked to automation and changing skills requirements (people)
- + The internet is being used to restrict freedom and control dissidence (governments)

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- + 4 billion people without the internet
- + New problems of digital privacy, cyber security etc.



# The 2016 World Development Report will ask

- What has been the internet's impact on economic **growth**, on social and economic **opportunity**, and on the efficiency of public **service delivery**?
- What has allowed some **businesses, people, and governments** to benefit greatly from the internet—and others not?
- What policy reforms are necessary in **complementary sectors** like education or governance, in the **information and communication technology** sectors, and in the **development community**?

# Report structure

## Overview: Digital Development

### Part I : Diagnosis and analysis

- **Chapter 1:** Accelerating growth: Helping businesses to connect and compete
- **Chapter 2:** Expanding opportunities: Making the internet work for all
- **Chapter 3:** Delivering services: Connecting for a capable and accountable government

### Part II: Policy implications

- **Chapter 4:** Enabling digital development
- **Chapter 5:** Making the internet universal, affordable, open, and safe
- **Chapter 6:** Implementing development in a networked world

# Report structure

Mechanisms	Inclusion, Efficiency, Scale		
Objectives	# 1 Growth	# 2 Opportunities	# 3 Service Delivery
Benefits	<ul style="list-style-type: none"> <li>• Trade</li> <li>• Quality of capital</li> <li>• Competition</li> </ul>	<ul style="list-style-type: none"> <li>• Access to jobs &amp; inputs</li> <li>• Human capital</li> <li>• Consumer welfare</li> </ul>	<ul style="list-style-type: none"> <li>• Capacity</li> <li>• Accountability</li> </ul>
Risks	<ul style="list-style-type: none"> <li>• Divergence</li> <li>• Concentration</li> </ul>	<ul style="list-style-type: none"> <li>• Falling labor income shares</li> <li>• Inequality</li> </ul>	<ul style="list-style-type: none"> <li>• Elite capture</li> <li>• Wastage and abuse</li> </ul>
Policies	# 4 Enabling digital development: Competition policy, Skill development, Incentives		
	# 5 Making the internet universal, affordable, open, and safe		
	# 6 Implementing development in a networked world		

# Some Emerging Cross-cutting Messages

The internet has made the world smaller and the world economy bigger but that it also risks making societies more unequal and life more intrusive.

- ✚ Opportunity, not disparity
- ✚ Complement, not (only) substitute
- ✚ Empower, not control

# The internet and development: some conjectures

- ✚ Has the internet meant the death of distance? Has the world become “flat”?
- ✚ Will automation lead to massive unemployment and social instability?
- ✚ Has the internet democratized information and ideas and empowered the poor?
- ✚ Has the internet facilitated direct democracy and peer-to-peer capitalism, attenuating big government and big corporations?
- ✚ Is the digital revolution fundamentally different from past industrial revolutions?

# Background papers

- Economics of the internet
- Lessons from economic history
- Development impact of social media
- Future of digital information technologies
- Sectoral studies: Agriculture, Education, Energy, Financial markets, Gender, Health, Labor markets, Poverty measurement, Risk management, Urban management.
- Enablers: Digital finance, Digital identification systems, Big data

# Questions

- Do we cover the right issues under growth/opportunity/service delivery?
- Do the concepts of inclusion/efficiency/scale cover the most relevant topics?
- How do we strike the right balance?
  - between optimism vs. risks
  - between backward (evidence) vs. forward looking (prospects)
- Advice on creative approaches to strengthening complementary factors (competition, skills, incentives)
- “Fresh” case studies

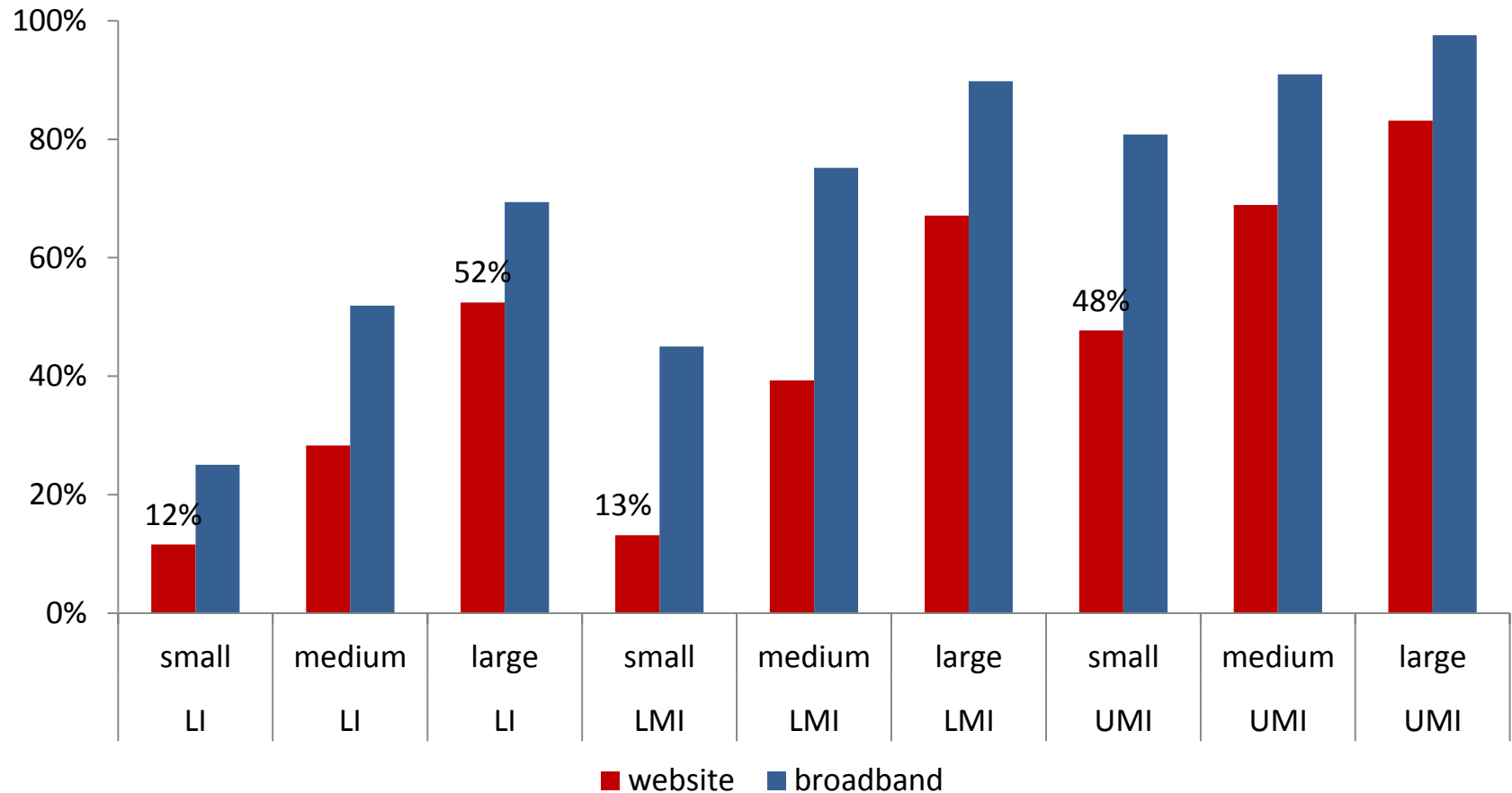
[www.worldbank.org/wdr2016](http://www.worldbank.org/wdr2016)

# Back-up Slides



# Substantial differences in internet access and use

Share of firms using broadband and website by country income group and firm size

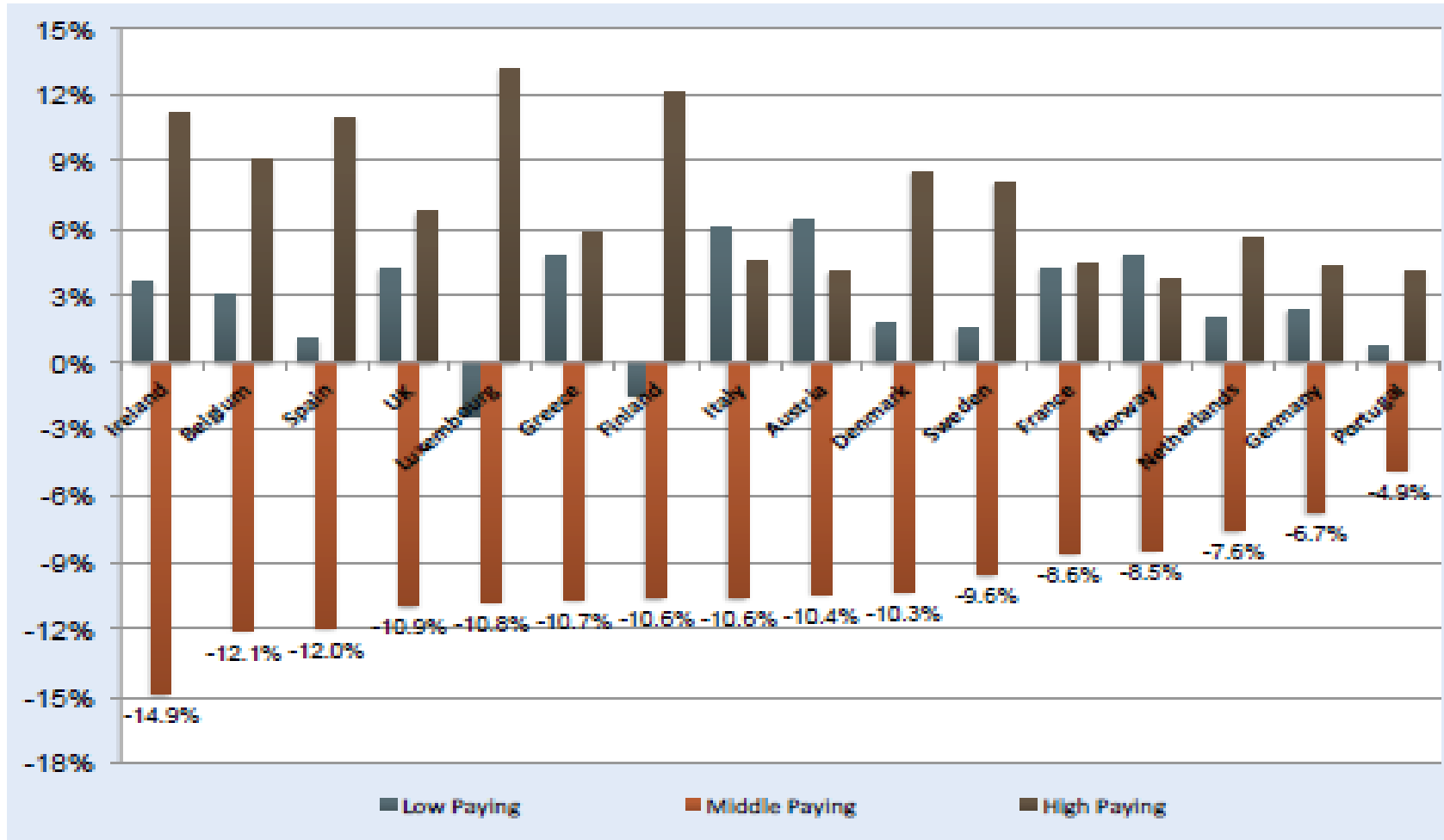


Source: World Bank Enterprise Survey

LI=low income, LMI=lower middle income, UMI=upper middle income

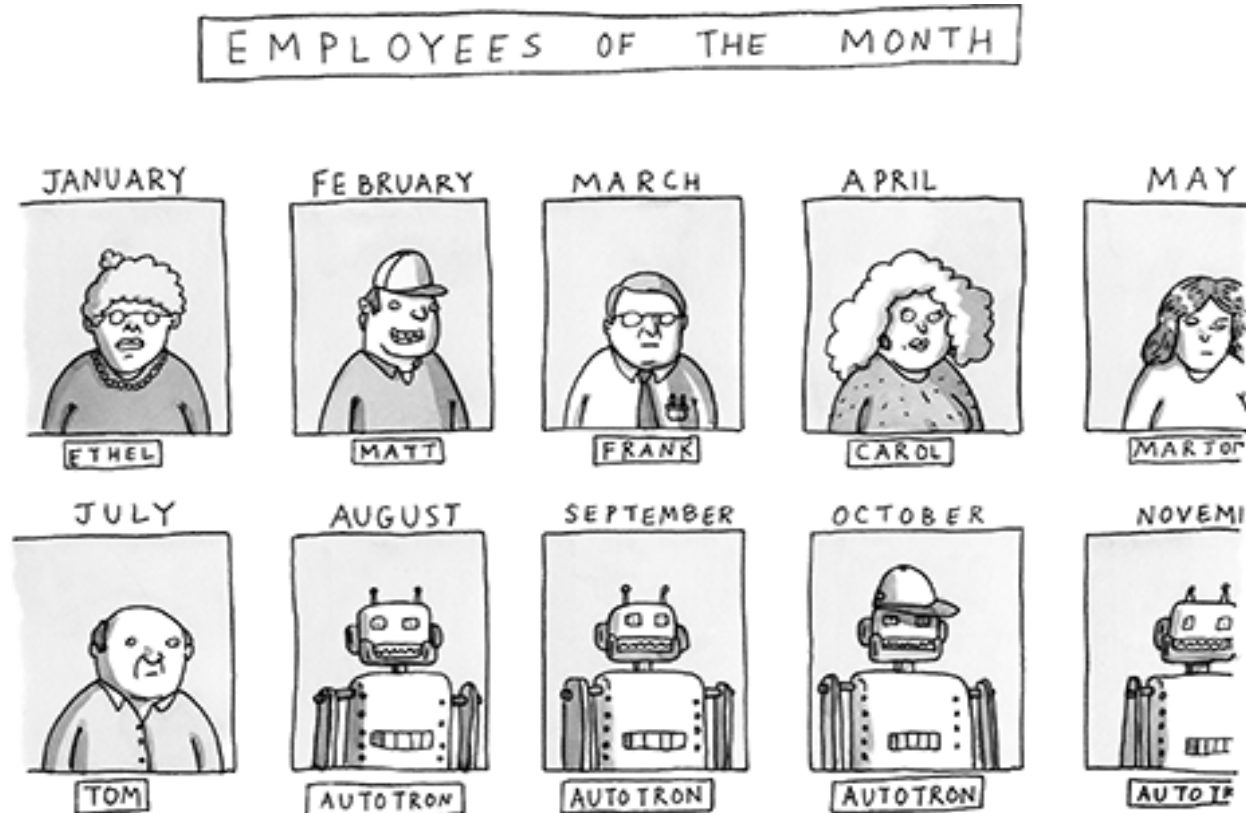
# Falling shares of mid-level jobs ...

Change in Occupational Employment Shares by Type of Occupation in EU Countries: 1993-2010



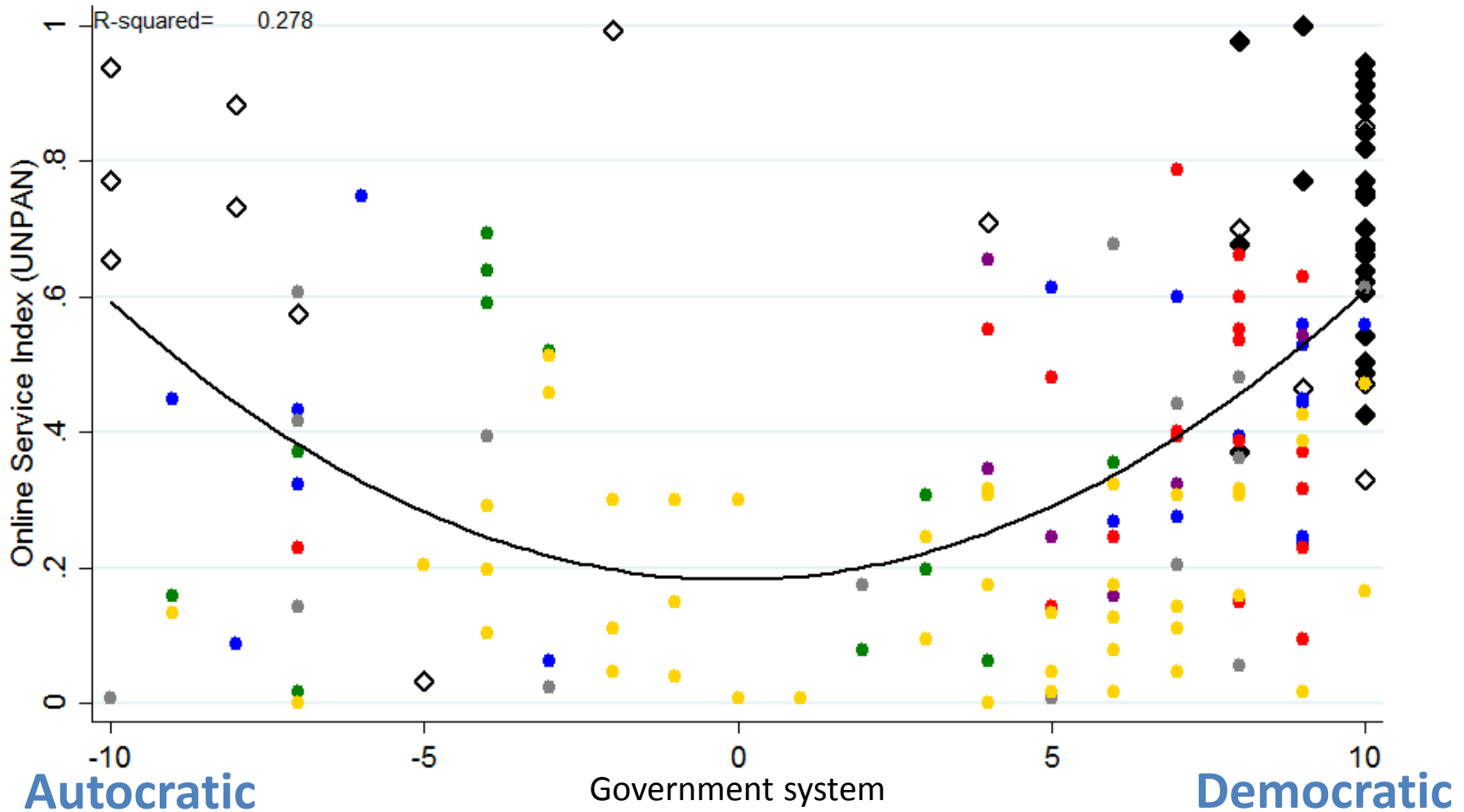
Source: Goos, et.al (forthcoming).

# ... linked to automation and changing skills requirements



Kanin







# High eGov scores even in countries that restrict other internet use



Source: UN Public Administration Network; Center for Systemic Peace

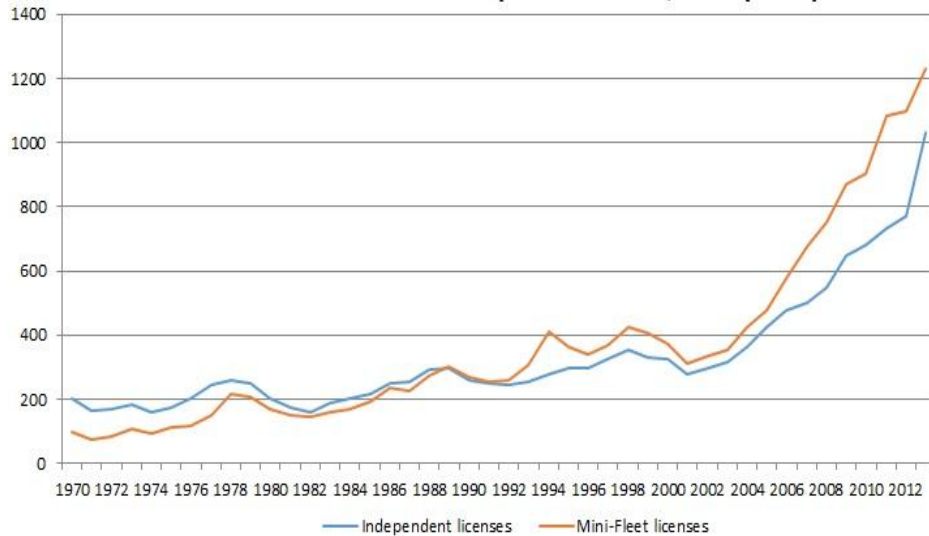
- ◆ High Income: OECD
- ◆ High Income: Non-OECD
- Europe & Central Asia
- Middle East & North Africa
- Latin America & Caribbean
- East Asia & Pacific
- South Asia
- Sub-Saharan Africa

# How the internet impacts development

Mechanisms	Pre-Internet	Post-Internet
<p>Inclusion (e.g., sharing economy)</p>		
<p>Efficiency (e.g., office worker)</p>		
<p>Scale (e.g., book vs e-book)</p>		

# Benefits of the Internet : Sharing Economy

Prices of New York medallions (thousand USD, 2013 prices)



Single-taxi medallion costs between 700,000\$ and 1,000,000\$ in large US cities.

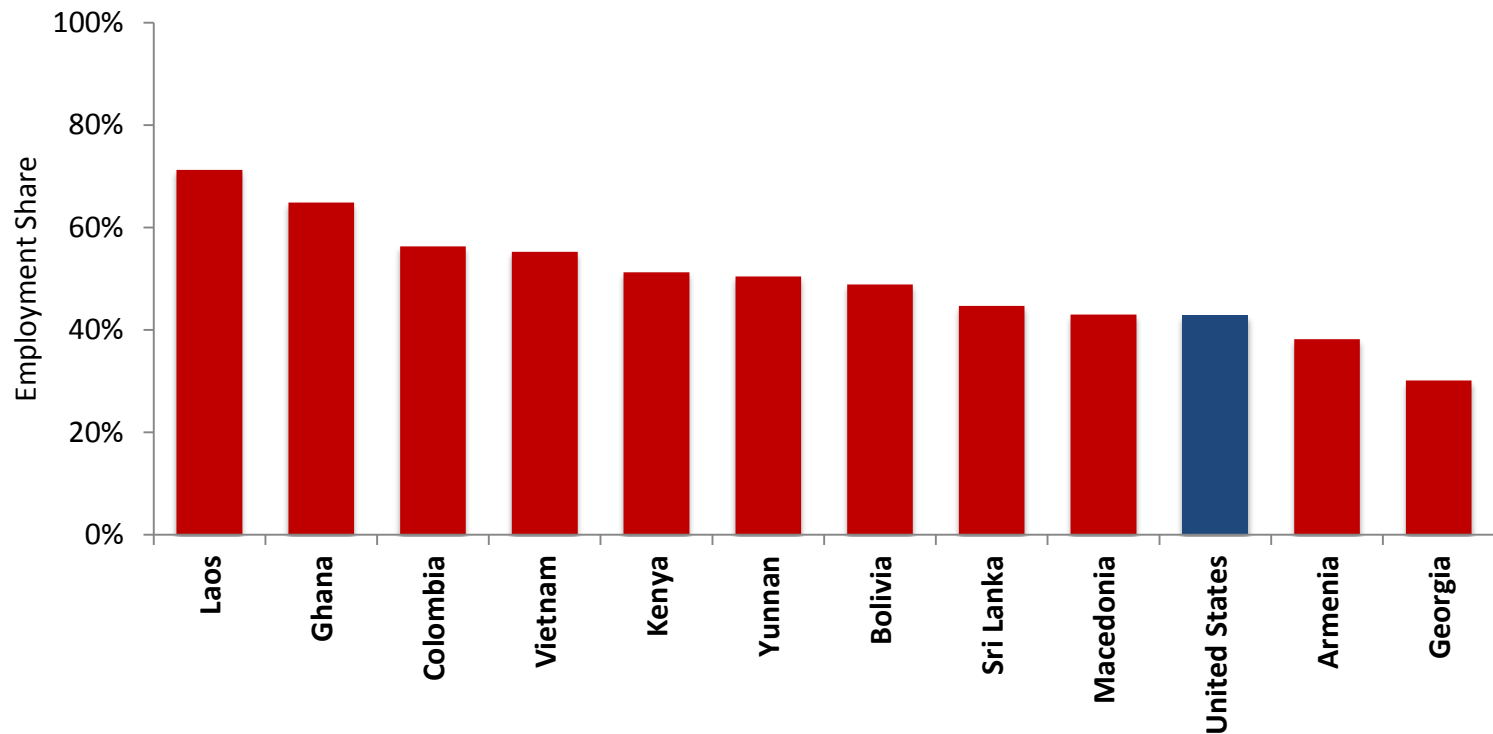
Taxi use in San Francisco, Uber's home city, declined by 65% between 2012 and 2014.

Average monthly number of trips per cab (San Francisco)



# How many jobs will be automated away?

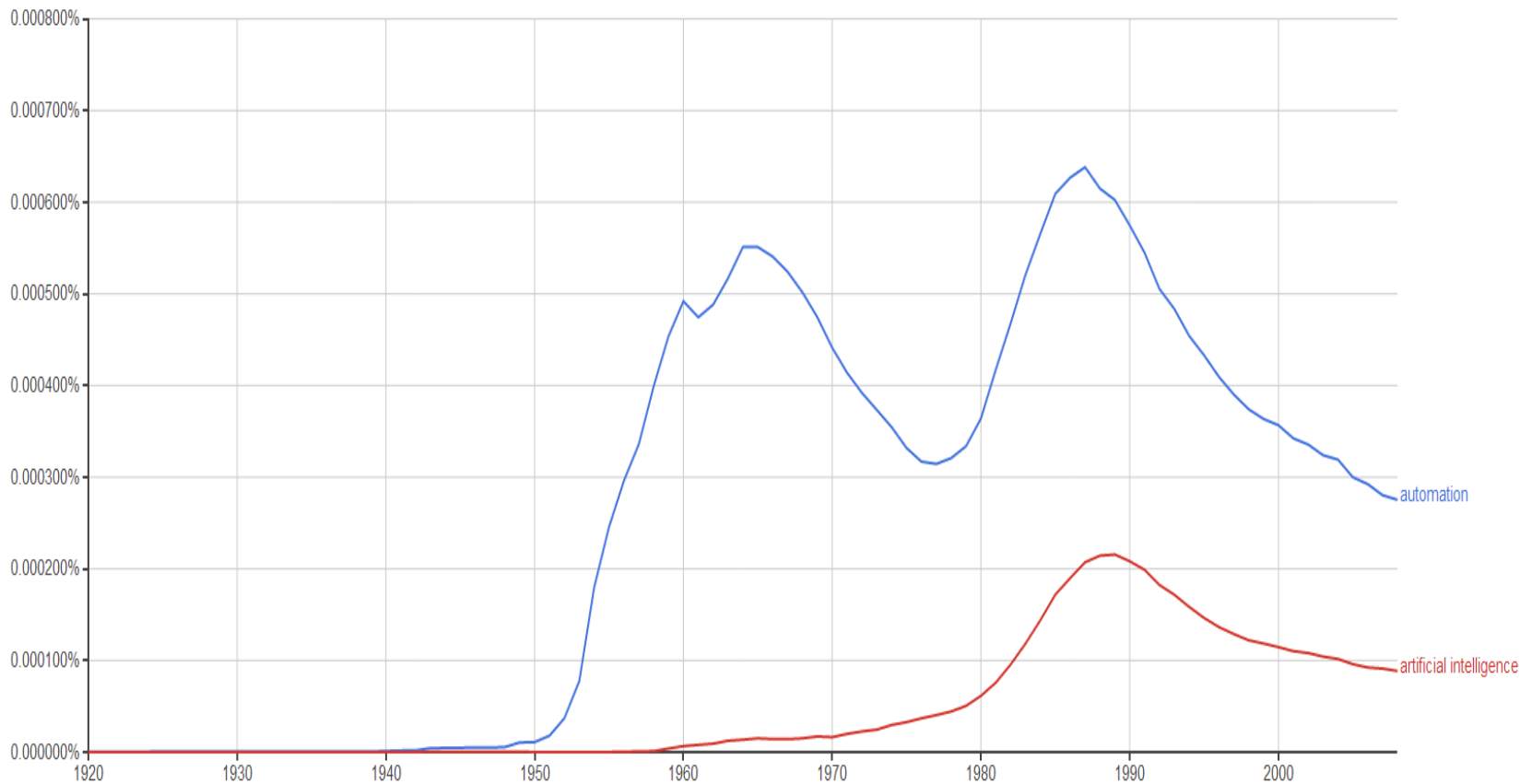
Share of employment in occupations with high probability of being computerized: Urban Areas



Technological feasibility and pace of technology diffusion (low labor costs and weak complementary inputs) limit extent of automation in developing countries

# Concerns about automation is not new

Share of books published in English with the phrases “automation” and “artificial intelligence”

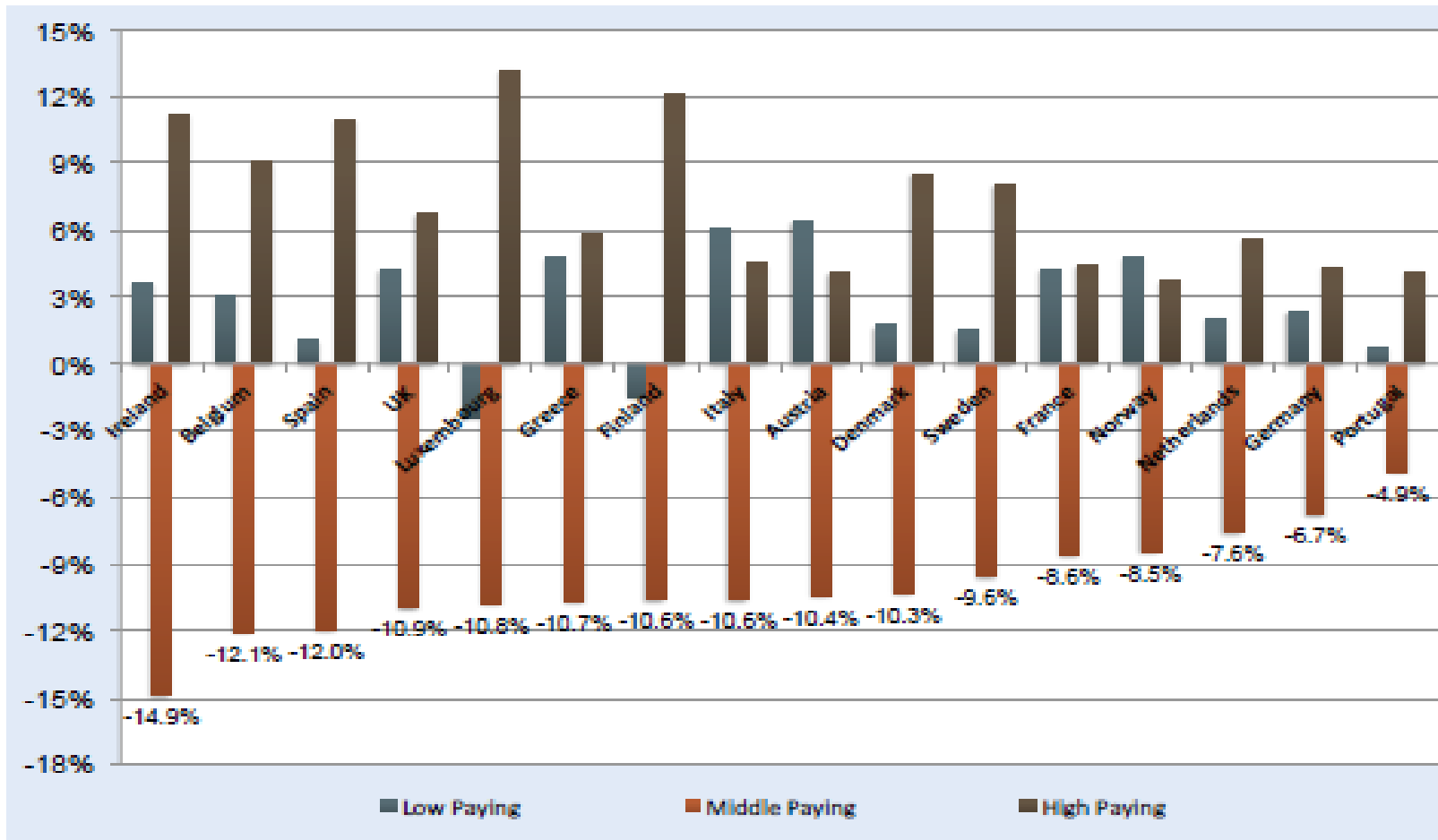


Source: WDR 2016, based on Google Books Ngram Viewer, accessed 08/25/2014.



# Changing distribution and characteristics of jobs

Change in Occupational Employment Shares by Type of Occupation in EU Countries: 1993-2010



# Gender and digital technologies: An illustration



## INCLUSION

- Flexible work arrangements; overcoming barriers linked to distance or lack of connections; aspirations
- BUT: Do these delay or accelerate first-best reforms?



## EFFICIENCY

- Those with high levels of education are well positioned to be or transition to occupations expanding and high-wage occupations
- BUT many gaps in terms of participation and use of technology, as well as in STEM education

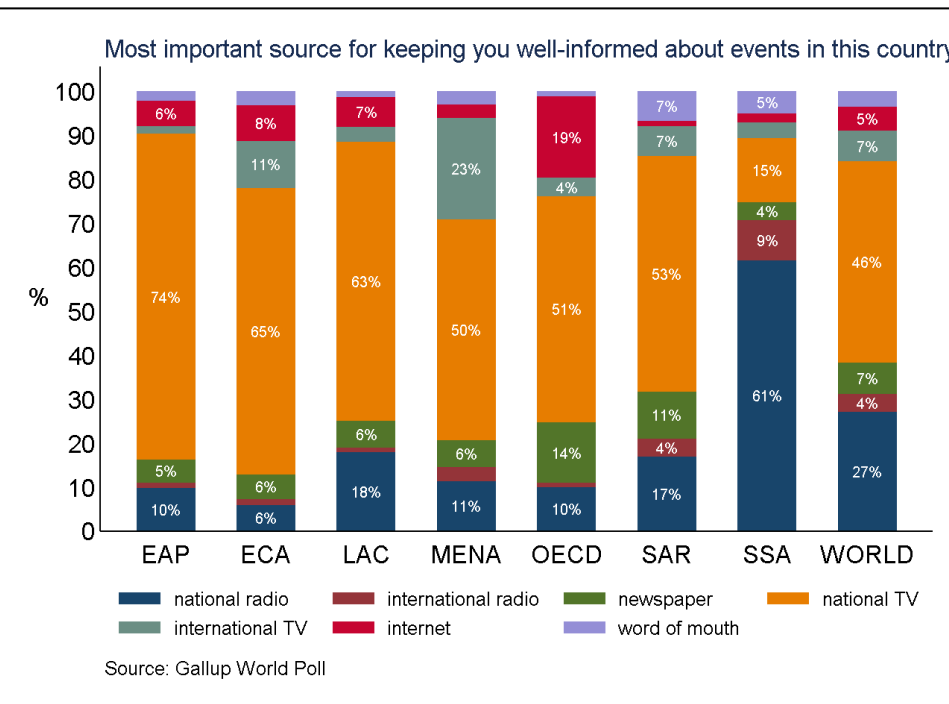
# High risk of failure of government ICT systems

- 20% to 35% total failures, and 30% to 60% partial failures of public sector ICT projects in developing countries
- Particular risk posed by large, complex projects: In the US, the average cost overrun is 25%, but one in six public sector ICT projects went over budget by 200%

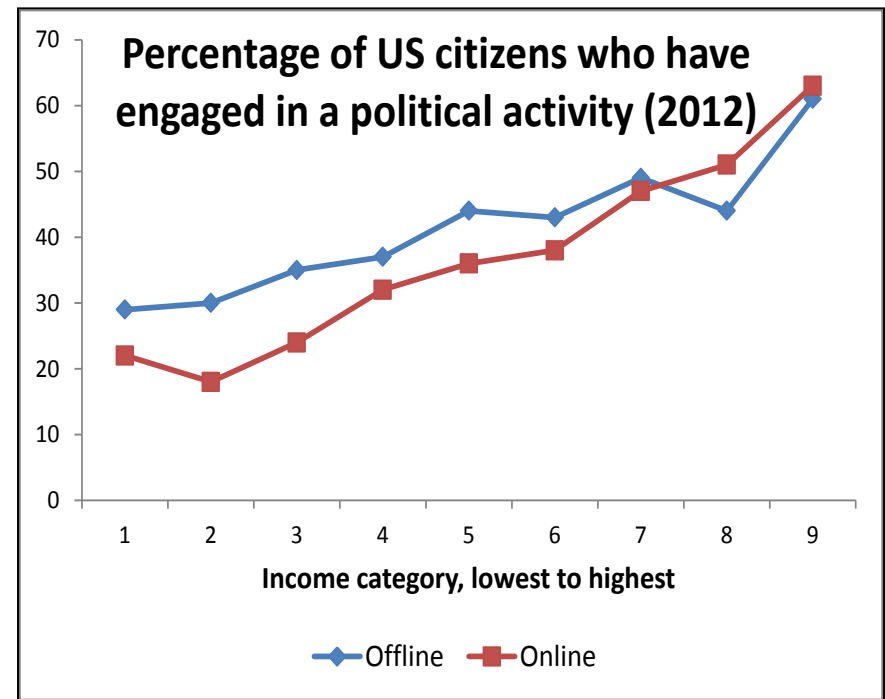


# Internet risks further politically excluding the poor

- The internet is a marginal source for news in poor countries
- Even in rich countries the internet can reinforce existing socioeconomic patterns of political participation



Source: Gallup World Poll (2014)



Source: Pew Research Center (2013)

# Open Access

## Lack of international consensus on internet governance

- Some countries favour a state-centric approach whereas others prefer a multi-stakeholder model
- Failure of WCIT (Dubai, 2012) demonstrated fractures between regions
- Barriers to cross-border data flow and restrictions on internet use have a significant economic cost

## The internet as an open access ecosystem

- The internet is providing a platform for entrepreneurship and innovation to flourish
- Converting connectivity into growth is not automatic: Some countries (eg USA, China) appear to have much greater absorptive capacity for broadband than others

## Open Data

- Opening up government data sets that can be freely reused and repurposed can promote efficiency, transparency and create economic opportunity
- An open data approach also creates better opportunities for governments to communicate with citizens and to enhance the science of delivery

## ICT clusters and national ICT strategies

- Internet-enabled firms often cluster together (eg Silicon Valley, app economy)
- Governments are generally not very good at creating ICT clusters, or picking winners, but they can help them along
- Governments with a national broadband plan or eGovernment strategy tend to do better than countries without them



# Safe access

## Privacy and data protection

- Differences in national approaches add costs for businesses trying to develop international markets
- Cross border data flows show large differences in data consumption
- “Right to be forgotten” raises new questions

## Cybersecurity and cybersafety

- Cybersecurity presents a significant and growing problem and threatens user confidence
- Security is a public good, but costs of protection are rising
- Protection of critical network infrastructures is a particular area of vulnerability in age of “internet of things”

