

# Higher Education, Innovation and Growth: International Good Practices

Chisinau

May 15, 2019



## **Agenda**

- 1. European and Moldovan Context**
- 2. Human Capital and Innovation**
- 3. Challenges in Research and Development in Moldova**
- 4. International Experience**
- 5. Recommendations for Moldova**



## European Context

**The EU has been growing and delivering to its citizens over the past 60 years:**

- Regional integration, innovation and strong firms: led Europe to account for 1/3 of the world GDP
- ... with less than 1/10 of the world's population
- After the global crisis of 2008-09, growth is back in full swing in Central and Southeast Europe



## European Context

**However, there are growing divides among EU member states:**

- Total Factor Productivity (TFP) growth varies: higher growth in Northern than in Southern Europe
- Regional discrepancies: lagging regions;
  - Low-income regions - BG, HU, PO, RO: GDP per capita below 50 percent average
  - Low-growth regions - IT, GR, PT, SP: GDP per capita not converging toward EU average



## European Context

### **Growing inequality -> long-term consequences for economic growth:**

- Children from low-income families will have fewer opportunities than those from more affluent households
- Unequal opportunities to build human capital: evidence shows a negative relationship between inequality of opportunities and economic growth



## European Context

### Rapidly changing world of work:

- Technology takes over tasks once performed by humans
- Jobs across EU: increasing cognitive and interpersonal tasks, compared to declining manual and routine tasks
- EU firms are among global leaders in driving and taking advantage of technological changes





## Country Context

### **Moldova has been growing over the past two decades:**

- From 1998 to 2008: high economic growth of 5 percent (annual average)
- 2008 – 2009: global crisis
- From 2010 to 2017: one of the highest growth rates in Europe at 4.5 percent

### **Poverty rate has declined since 2011:**

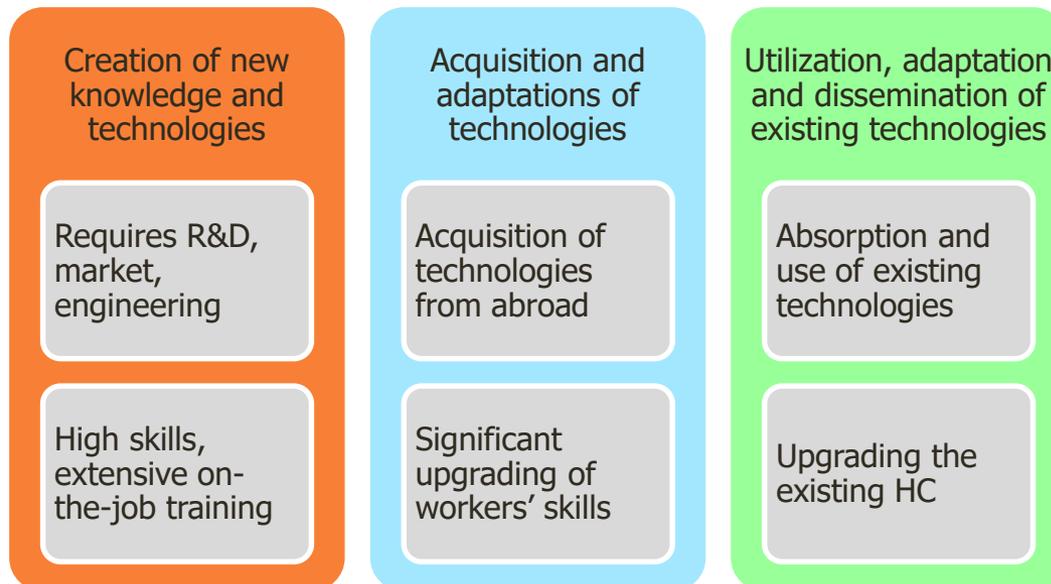
- 22 percent to 9.6 percent of the population, from 2011 to 2015





## Human Capital and Innovation

- Human Capital impacts a country's innovation capacity:
  - Education system's contribution to a skilled workforce and its innovation capacity
  - Firms' contribution
- Innovation:





## Challenges in Research and Development in MD

- Moldova's research infrastructure is obsolete
- Few industry-science linkages





## Challenges in Research and Development in MD

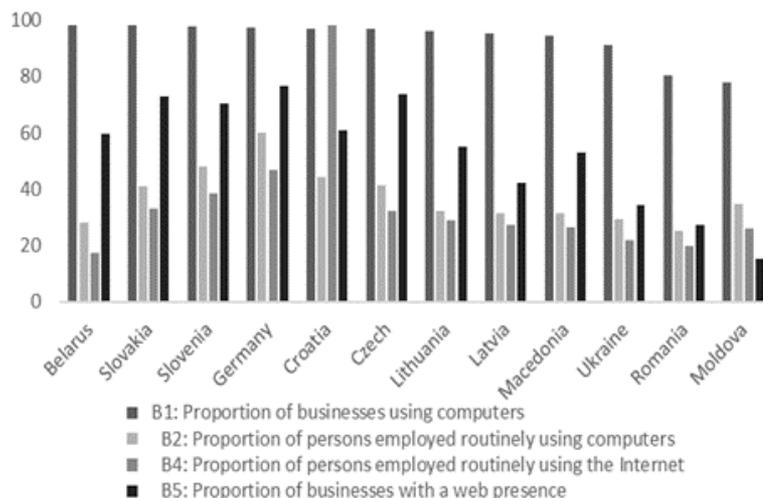
- Spending on R&D dropped from 0.6 percent to 0.3 percent of GDP (from 2005 to 2017)
- Emigration and brain drain -> low number of researchers per million inhabitants
- Number of doctorates per thousand inhabitants (25-34 years) is less than 20 percent EU average
- Low number of foreign students and researchers
- Research infrastructure is underdeveloped



# Challenges in Research and Development in MD



- Production of intangible assets and exports of high-tech products is highly correlated with private investment in HR, R&D, and ICT infrastructure
- Not many Moldovan firms use ICT in day-to-day operations
- Not many Moldovan firms have web presence (less than 25 percent of German firms and 50 percent of Romanian firms)



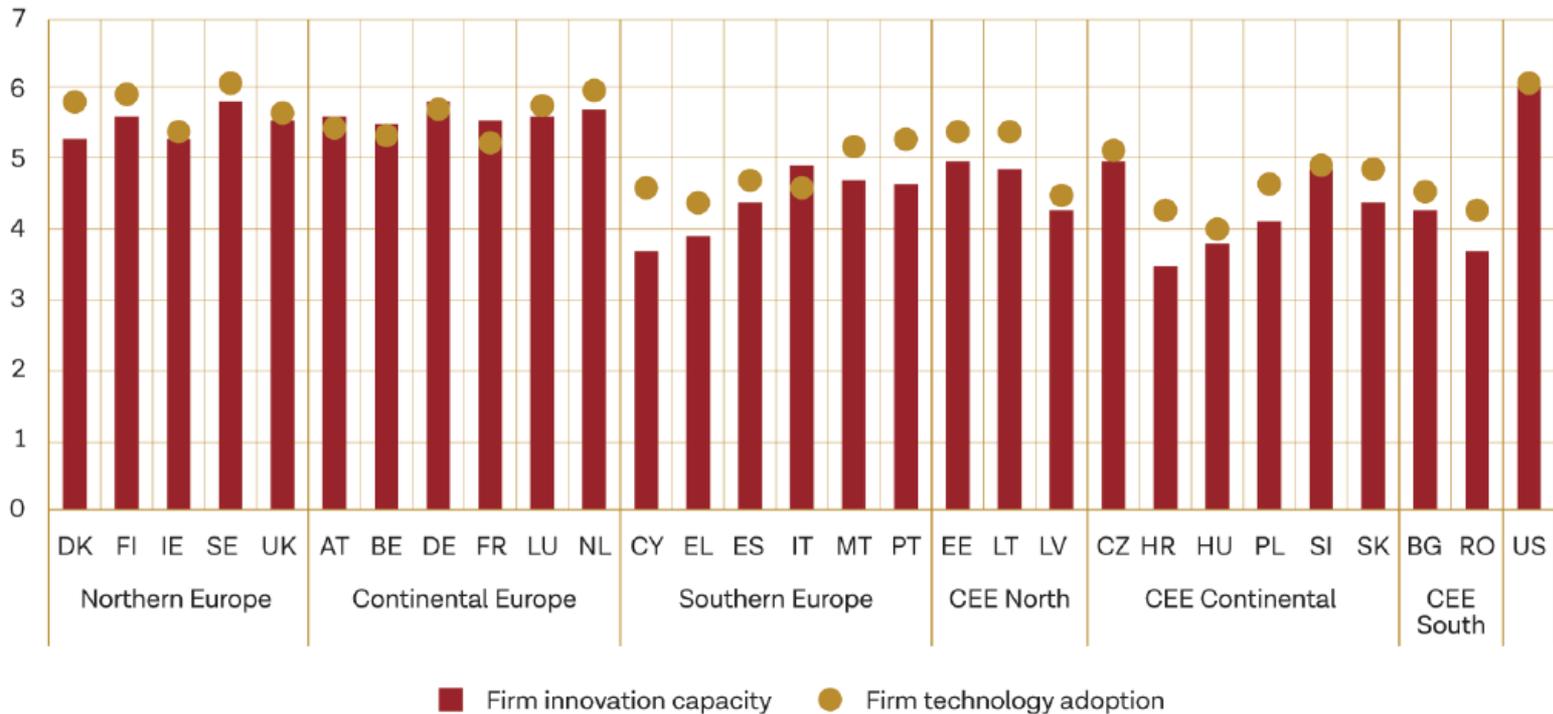
Source: UNCTAD



# International Experience

- **Northern European countries:**
  - Top innovators, high adoption of technologies, productivity leaders

Business executives in the North rate firm innovation capacity and technology high



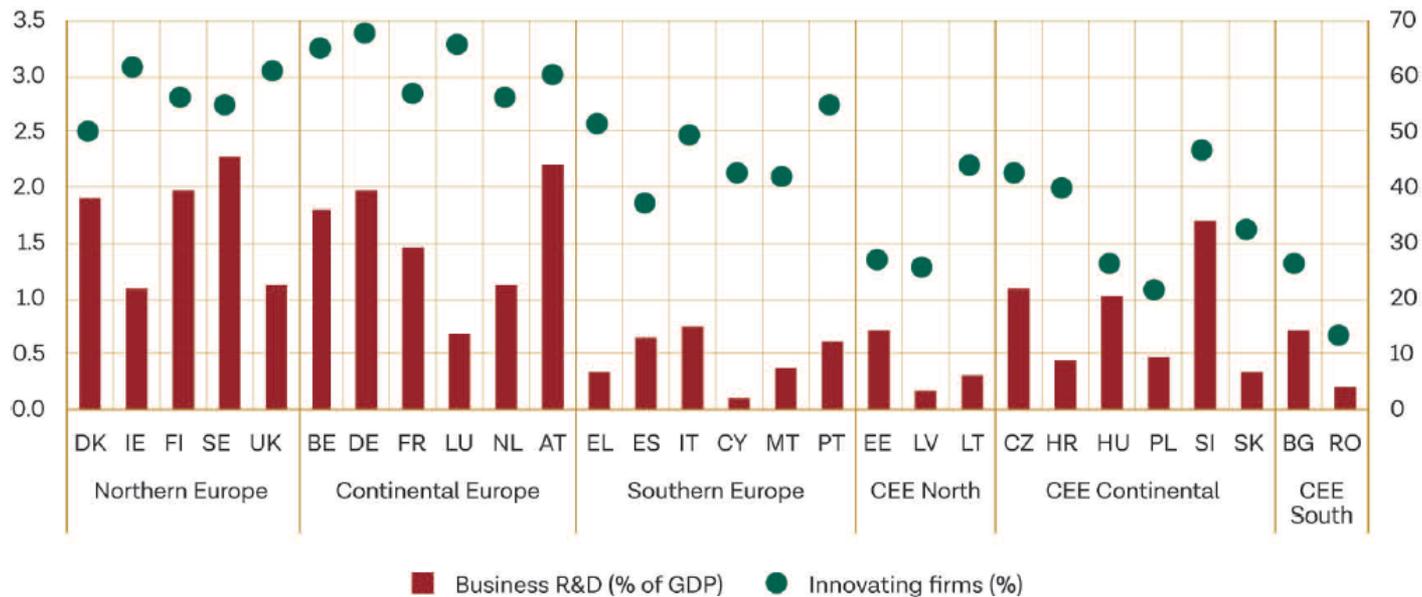
Source: Growing United Report, 2018



# International Experience

- **Northern European countries:**
  - Firms in Northern and Continental Europe innovate more **by adopting existing technologies**; they sell more online and use more sophisticated cloud computing services than firms elsewhere in the EU

Firms in the North innovate more...



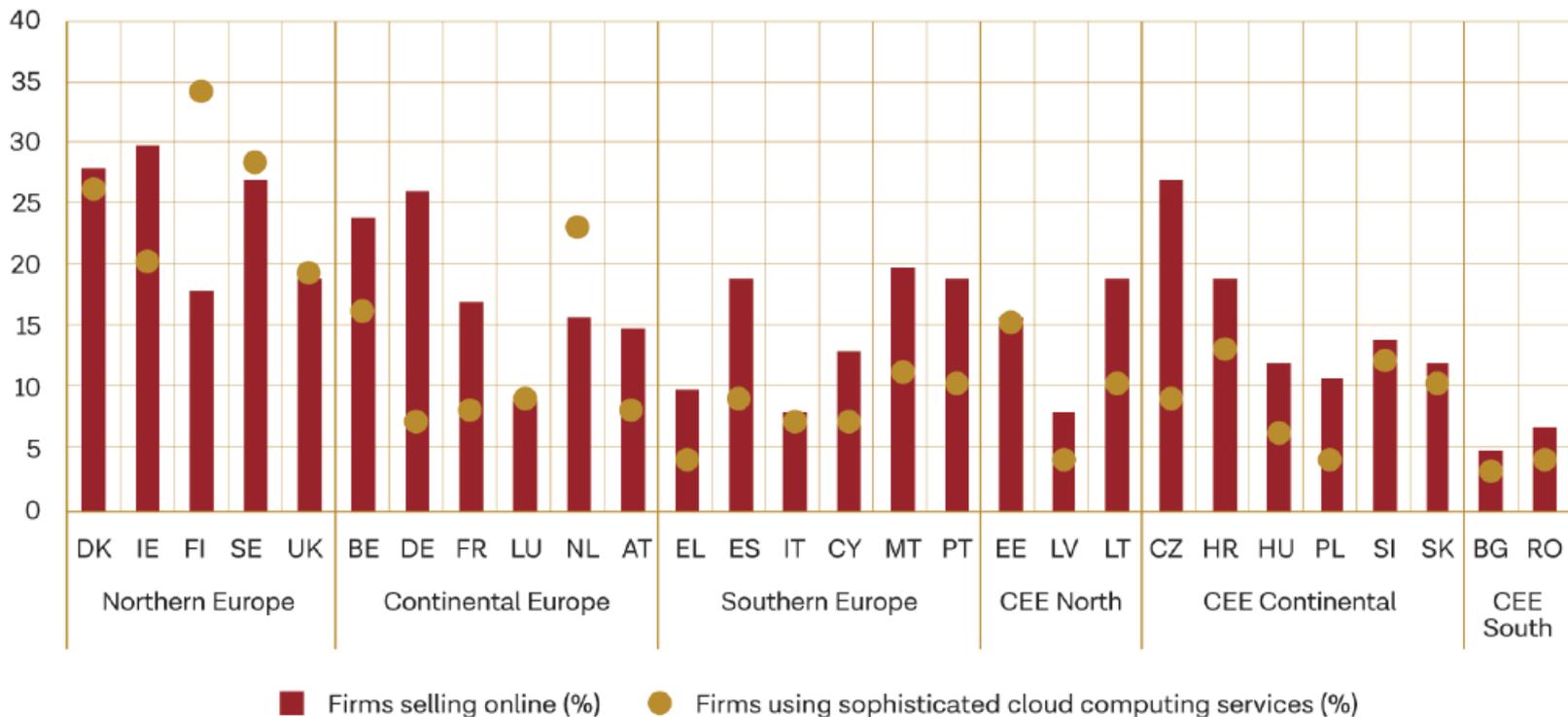
Source: Growing United Report, 2018



# International Experience

- **Northern European countries:**
  - Innovative firms use digital technologies intensively

...and use new digital technologies more intensively

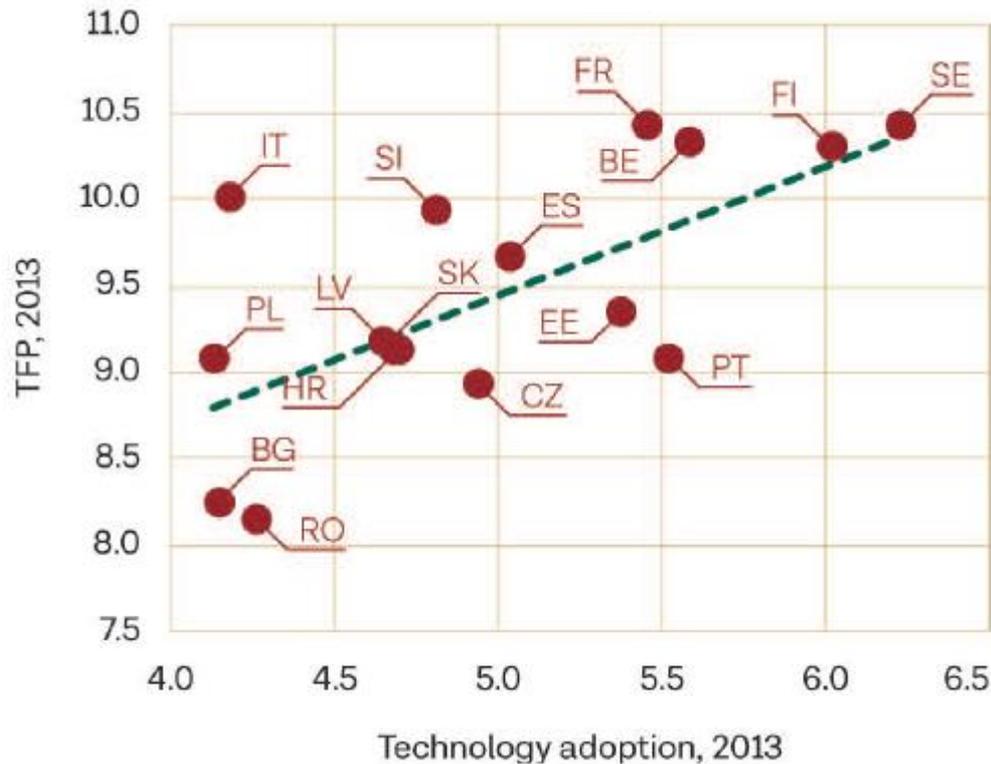


Source: Growing United Report, 2018



# International Experience

- **Northern European countries:**
  - As a result, Northern Europe economies are productivity leaders



Source: Growing United Report, 2018



## International Experience

- **Finland:**

- Top innovator in Europe; large investments in R&D; highest registration of patents; largest share of innovating firms cooperating with companies outside Europe
- Ownership: PM chairs a national research and innovation council
- National policies pro-innovation: public support for commercially targeted R&D (National Technology Agency of Finland)
- Matching grants and subsidized loans for technological development
- Publicly owned venture capital fund (public applied research institute)
- Basic research: through universities and AoS



## International Experience

- **South Korea:**
  - Incentives for fast increasing export
  - Innovation: strategic focus of firms for international competition
  - High private investments in applied R&D and technology upgrading
  - Public sector responsive to private sector needs



# What about Moldova?



## Recommendations for Moldova

Develop  
Human  
Capital

Improve  
Higher  
Education  
Quality

Increase  
Higher  
Education  
Relevance

Enhance the  
Governance

learning outcomes

basic cognitive  
skills

equity

develop NQF

improve QA  
system

revise curricula

promote  
participation of  
employers

partnerships

internationalization

revise regulations

incentives for  
firms

increase spending  
on R&D



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